Institute for Public Policy Research



FAIRNESS AND OPPORTUNITY

A PEOPLE-POWERED PLAN FOR THE GREEN TRANSITION

> Final report of the IPPR Environmental Justice Commission

IPPR Environmental Justice Commission

July 2021

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ABOUT THE COMMISSION

The IPPR Environmental Justice Commission (EJC) is a landmark initiative building on IPPR's award winning work on environmental breakdown and its Commission for Economic Justice. The commission is co-chaired by Hilary Benn, Caroline Lucas and Laura Sandys, and they are joined by commissioners drawn from business, activism, academia, civil society, and trade unionism.

The central aim of the commission is to present an ambitious, positive vision shaped around people's experiences and needs, and develop a plan of action that integrates policy both to address the climate and environmental emergencies and to deliver economic and social justice.

The commission's final report will be published in 2021. Find out more at: <u>https://www.ippr.org/environment-and-justice</u>

NOTE

The IPPR Environmental Justice Commission presents its final report in order to stimulate vital public debate. Individual members of the Commission agree with the broad thrust of the arguments made in this report, but they should not be taken to agree with every word or recommendation. Commissioners serve in an individual capacity, and this report should not be taken as representing the views of the organisations with which they are affiliated.

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Because together we can do this 55

Juror from the South Wales Valleys citizens' jury

FOREWORD

The Environmental Justice Commission was established in May 2019 in recognition that action to address the accelerating climate and nature emergencies can be about more than staving off the worst; it can be about imagining a better world which we can build together. A future where people and nature can thrive; with resilient local communities, good jobs, successful low-carbon businesses; and where inequalities are reduced and opportunities offered to all. A future where progress is measured by the quality of life, security, and wellbeing of all citizens as well as the health of our natural world.

To realise this vision will require a new approach which understands the inextricable link between addressing the climate and nature crises with the necessary speed and ambition, and simultaneously tackling economic and social injustice. The transformation must be rooted in fairness – not only because the poorest communities are least responsible for these crises and invariably the worst affected, but because unless action to restore nature and decarbonise the economy is rooted in social and economic justice, it simply won't succeed.

We are proud to be co-chairs of this important commission that not only proposes ambitious policies to achieve net zero as soon as possible, but also examines the obstacles to a successful transition and identifies measures to overcome them. We recognise that the public has a veto; their concerns must be addressed, and their consent won. If the transition is managed poorly, or not managed at all, then it could threaten to make people's lives harder, including those who are already losing out from the current economic system. We cannot make changes that further embed unfairness in our society; on the contrary, this is an opportunity to put fairness at the centre of all we do.

A successful transition means that people must be at the heart of the policymaking process, and those most affected by change must be the ones to shape it. This approach not only builds deeper and broader public support which can endure short-term political cycles but also, as this report shows, deliver better and fairer outcomes too.

We have therefore put people at the centre not just of our recommendations, but also our approach to developing them. Since 2019, we have held deliberative workshops, listening exercises and citizens' juries around the UK with people from many different walks of life. Despite the pandemic, we have worked with citizens in Doncaster, Tees Valley and County Durham, London, the South Wales Valleys, Thurrock and Aberdeenshire. These communities were chosen precisely because they are likely to face different challenges as a consequence of the transition to net zero.

Throughout our work, we have also been able to engage with and hear from community groups, workers and their trade unions, businesses, civil society, and national and local politicians. We have spoken to policymakers from around the world, learning lessons – both from what has worked and what hasn't – from transitions in other countries. The learning from these many conversations is distilled in this report.

This is a profound moment of change. The effects of Covid-19 have brought into sharp relief the government's prime responsibility to keep the public safe from

the major shocks, challenges, and threats to our society. It has also reminded us of the scale and speed at which governments can act when the true nature of an emergency is recognised.

The threats posed by the climate and nature emergencies are orders of magnitude greater than even the worst that we have witnessed throughout these past grim months. If the pandemic has reminded us that far-reaching change to how our economies work is possible, history shows that we have been able to respond to crises by redesigning the economy, as we did in the aftermath of the second world war.

This final report of the Environmental Justice Commission argues for a similarly ambitious approach – one that can secure a cleaner, greener economy, and that is fairer and improves wellbeing too, restoring the health of people and the natural world. It offers a plan that is optimistic and practical, both honest about the challenges we face and committed to seizing this moment to improve lives and offer opportunities for all, ensuring – crucially – that no-one is left behind.

This report has been shaped by the views, wisdom and recommendations of the people we have engaged with across the UK over the past two years. We are immensely grateful to them all.



Hilary Benn MP



Ine Lives

Caroline Lucas MP



Laura Sandys

Co-chairs of the IPPR Environmental Justice Commission

INTRODUCTION

This final report of the Environmental Justice Commission sets out a vision for the future of the UK.

Part one defines the shifts needed in the UK's approach to addressing the climate and nature crises and makes the case for a 'new social contract', to deliver a transition that is both rapid and fair.

Part two, in five chapters, outlines the practical steps we propose. Each contains proposals on what we think needs to be done, when and by whom.

The commission's recommendations have been shaped by the experience, insights, and priorities of the jurors of our four citizens' juries held across the UK in 2020-21 (see box 'Listening to the public' and for a detailed overview of lessons from the citizens jury see chapter 8 'Notes from a small island').

A summary of the arguments and recommendations of the commission are set out in the accompanying summary report.¹

LISTENING TO THE PUBLIC

Beginning in 2019, the Environmental Justice Commission has held deliberative workshops, listening exercises and citizens' juries around the UK. From managing extreme weather events to transitioning away from high-polluting industries, we heard from communities across the UK facing significant challenges.

Tees Valley and County Durham is home to 60 per cent of the UK's energyintensive industry (Tennison 2017) and generates carbon emissions three times higher than the UK average (O'Brien et al 2017). It faces significant risks if the transition is badly managed but could benefit from jobs created in low-carbon industries. There's also potential to develop its substantial natural assets as a carbon sink.

"Even when people don't necessarily come from the same background and beliefs, we have similar thoughts about the importance of positive action and trying to change for the better."

Juror from the Tees Valley and County Durham citizens' jury²

In the South Wales Valleys there are lessons to learn from the area's poorly managed industrial transitions of the past. Investment and government action are needed to move away from high carbon industries and harness "the green lungs for the region" (MacBride-Stewart 2020), the rich green landscape of the valleys.

"It doesn't matter how knowledgeable you are about the subject beforehand, you can still contribute [to the citizens' jury] and you will be listened to."

Juror from the South Wales Valleys citizens' jury

¹ See: http://www.ippr.org/research/publications/fairness-and-opportunity

² All quotes are drawn from the reports of the citizens juries held by IPPR (IPPR 2021a, 2021b, 2021c and 2021d) or directly from the recordings of the juries themselves.

Thurrock, by contrast, sits on the Thames estuary 20 miles east of central London, and is part of Essex's commuter belt. Thurrock's economy is tied to its three international ports and the area acts as the industrial gateway to the South East. Consequently, carbon emissions from transport in the region are two-thirds higher than the national average (Transport East 2020). As well as being key to the economy, the estuary is also the focal point of Thurrock's natural assets, and active management and restoration of its salt marshes could sequester carbon and provide much needed flood protection (Laffoley and Grimsditch 2009).

Aberdeenshire is the 'oil capital of Europe', and Aberdeen has become central to discussions about the 'just transition' for workers in carbon intensive industries. More than 10 per cent of total employment in Aberdeen City and Aberdeenshire is currently in the oil and gas industry (over 24,000 jobs in total) (Emden, Murphy and Gunson 2020). Yet, across the UK, decommissioning oil and gas rigs, increasing wind power, carbon capture and storage and producing low-carbon hydrogen, could create around 275,000 jobs (ibid). Much of the infrastructure – such as pipe networks, port infrastructure and storage sites – and, crucially, skills and experience needed for these jobs can be found in the oil and gas sector already, giving workers a crucial role to play in the transition. There is also more to Aberdeenshire than oil and gas. With native pinewoods, bogs, sand dunes, mountains and coast, this diverse landscape is also home to over one-quarter of Scotland's arable farming areas (Aberdeenshire Council 2017).

Jobs in Doncaster and Yorkshire and the Humber, where we held a citizen workshop, are disproportionately reliant on carbon intensive industries, and South Yorkshire is regularly subject to major flooding.

These very different communities across the UK all recognised the extent of the challenges ahead, but each one provided optimistic, ambitious proposals for action, shaped by the unique characteristics of their areas.

From the opening sessions of our first citizens' jury in Tees Valley and County Durham in October 2020 through to the closing minutes in Aberdeenshire in March 2021, we have been overwhelmed by the good humour, openness and interest shown by every juror who took part. We have worked with 84 jurors over 1,600 combined hours of deliberation and developed over 100 recommendations. It has been a privilege to get to know the jurors and learn about their communities, their anxieties and their hopes for the future.³

3 More information about the citizens' juries carried out for the commission by IPPR can be found in the individual briefings (IPPR 2021a, 2021b, 2021c and 2021d).

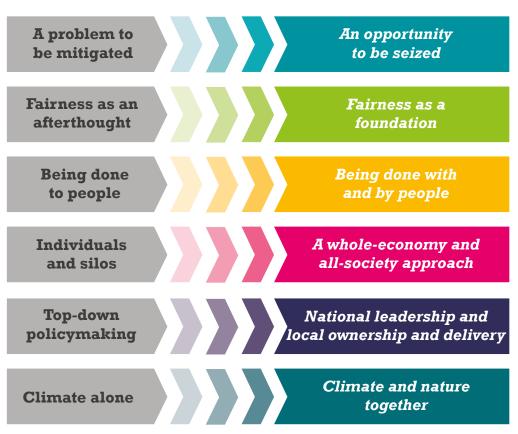


THE CASE FOR CHANGE: THE SIX SHIFTS



Listening to people's experiences and aspirations, we have heard about the many challenges that the UK faces and the anxieties of the people who face them, but we have also heard about the numerous opportunities that could be realised as the country enters this decade of profound change.

Drawn from the insights of jurors from our citizens' juries across the UK (see box in the introduction of this report), in this chapter we set out the **six major shifts that are needed in the UK's approach to addressing the climate and nature crises** if we are to maximise and fairly share the benefits and opportunities of the transition, minimise and share the burdens of the risks, and move at the pace that these crises demand.



SIX SHIFTS IN APPROACH NEEDED FOR A SUCCESSFUL TRANSITION

Source: Authors' analysis

1. FROM A PROBLEM TO BE MITIGATED TO AN OPPORTUNITY TO BE SEIZED

"There is an untapped treasure in the Valleys... There is a sleeping dragon here waiting to breathe fire into a recovery which will help the planet as well as the UK."

Juror from the South Wales Valleys citizens' jury

Despite the scale of the climate and nature crises – and the impacts, from flooding to extreme heatwaves, which are already with us – the UK must view these challenges not just as a problem to be mitigated, but an opportunity to be seized. The benefits of ambitious action are substantial for both the public and the environment – from the creation of decent jobs, to lower energy bills and significant public health benefits, to burgeoning wildlife and a healthier planet. All of the communities we spoke with across the UK recognised the challenges of the transition but also pointed to the huge potential of fully drawing upon the assets, skills and talent that lie in their communities.

"We have huge assets - from our local industry to the skills, talent and expertise of all who live in Aberdeenshire. There is a huge opportunity to build on these strengths, but we need a vision and a strategy to maximise them."

Aberdeenshire citizens' jury

Our existing economic system is driving both environmental damage and deep economic and social unfairness (IPPR 2020). In transforming our economy to deliver better outcomes for the environment we can, and must, also improve the quality of life for everyone.

2. FROM FAIRNESS AS AN AFTERTHOUGHT TO FAIRNESS AS A FOUNDATION

"No one can be left out. A fair response to the climate and nature emergencies needs to increase equality in society." Tees Valley and County Durham citizens' jury

The debate about *whether* we transition to a clean economy is largely resolved but the debate over *how* we transition has only just begun. The central question to that debate is how it can be done in a way that is *fair*; in the words of Chris Stark, head of the Climate Change Committee, it is "almost the only question" (Garman 2021). This is because, as we have seen with the 'gilets jaunes' protests in France, delivering the transition in a fair way is crucial to securing legitimacy for and efficacy of the transition and building enduring public and political support'.

"We need to make sure that all decisions that are made are fair at the point of decision-making and throughout their implementation." Thurrock citizens' jury

This message was reinforced over and over again by the people we spoke to and has been supported by the findings of similar processes such as the UK Climate Assembly.⁴

This is about more than just avoiding unfairness arising in the transition itself. It's also about addressing existing unfairness across our economy and society. The aspects of fairness that the people we spoke to were anxious to have addressed were as follows.

The distribution of costs for individuals, businesses, and the public purse

This includes taxation, everyday expenses like energy bills, as well as the price of purchasing sustainable food, and the cost of low-carbon goods and services such as energy efficiency retrofits.

"Action should not be regressive and make life harder for people already struggling. People should be supported to make the changes they need to."

Aberdeenshire citizens' jury

⁴ See: <u>https://www.climateassembly.uk</u>

The questions of fairness both within and between different places across the UK

This relates particularly to the distribution of economic investment, the impacts on new and existing jobs, and to who is most affected by the impacts of the climate and nature crises.

"We believe that the future should be inclusive and we recognise that those [places] who have been historically left behind may need additional support to prosper." South Wales Valleys citizens' jury

Aspects of fairness relating to gender, race, and disability

Jurors were conscious that some people, already disadvantaged by our current economic system, are being impacted disproportionately by the environmental crises and are at risk from badly managed policy responses too, as was underlined in our interim report (IPPR 2020).

"Inequality is a big issue." Juror from the Thurrock citizens' jury

Fairness for younger and future generations

Our jurors were acutely aware of the greater impact that the climate and nature crises will have on younger and future generations and wanted to ensure this was reflected in decision-making.

"I guess it's not going to have much of an effect on me. But I've got children and grandchildren and it is those who are going to be affected."

Juror from the Tees Valley and County Durham citizens' jury

Fairness internationally, recognising the varying responsibilities, historic contribution, and capabilities among different countries across the world

Those we spoke with saw the global role and cumulative contribution of the UK to the climate and nature crises and the need for greater responsibly for addressing the problem, as well as the economic benefits that the UK could accrue in taking a leadership role (Webb et al 2021).

"We need to take the rest of the world with us. If you lead the world then business will follow and that will attract investment. If we can build technologies that can be exported, this can create jobs." Juror from the Thurrock citizens' jury

3. FROM BEING DONE TO PEOPLE TO BEING DONE WITH AND BY THEM

"People need to feel that they are part of the change. We need to bring people with us and for it not to feel like we are having things done to us."

South Wales Valleys citizens' jury

Moving from an approach that is centralised and remote, to one owned and importantly informed by the public, will be crucial to a successful transition. People are experts in their own lives and aspirations. They have experiences and knowledge which are hugely valuable in designing better policy.

In addition, the transition is now moving from being conducted 'in the background' – through the way we generate electricity, for example – to one that will have a noticeable impact on people's everyday lives: people changing the boiler in their

home, changing their car, switching to public transport, or re-training for a new job. If government is to secure enduring public support, then it needs to take people with it on this journey.

4. FROM SILOS AND INDIVIDUALS TO A WHOLE ECONOMY AND **ALL-SOCIETY APPROACH**

"My concern throughout is that everything seems to lead back to individuals doing their bit, which is important, but change needs to start on a much wider scale than that." Juror from the Thurrock citizens' jury

The climate and nature crises require collective, systemic and interrelated action. Addressing them also needs system wide coordination, not leaving the public to do all of the heavy lifting.

Too often greater emphasis is put on what individuals must do than on creating the context that makes it easier for people to make the right choice for them and the environment. As our jurors argued, while we all have a role to play, we have to work together to change our systems too. People want a partnership between government, business, workers, civil society and the public. Every part of the economy and society must be involved in the transition if it is to be a success.

"We need a joined-up, collaborative approach if we are to see the scale of change required."

Tees Valley and County Durham citizens' jury

However, far from coordinating change across society, too often government fails to work effectively even with itself. Whether at a national, regional, or local level, government too often acts in siloes. Likewise, environmental, economic and social policies are often seen as separate and distinct, having little to do with each other. For example, the UK cannot credibly commit to delivering net zero and restoring nature, and then proceed to support or allow decisions such as building new deep coal mines which will increase global carbon emissions (Deben 2021).

5. FROM TOP-DOWN ALONE TO NATIONAL LEADERSHIP WITH LOCAL **OWNERSHIP AND DELIVERY**

"Local areas need to create their own plans and priorities based on their local assets. They will need the resources to see these plans through."

Tees Valley and County Durham citizens' jury

People want strong leadership from government and see that it can play a powerful role in coordinating a national effort, but it must be designed around empowered localities who own and deliver the tailored solutions.

The response to Covid-19 has shown the power of government and what can be achieved, if the political will is there. That does not mean, however, that the answer is a purely top-down approach. Different areas of the UK have different challenges, assets and opportunities, so a 'one size fits all policy' won't secure a transition that is either fair or effective. By contrast, designing policies with local circumstances in mind, through passing powers down to local communities, can help achieve better and fairer outcomes (Raikes 2020).

6. FROM CLIMATE ALONE TO CLIMATE AND NATURE TOGETHER

"Nature and the local wildlife kind of brings communities together for us all really, even though we live in very different areas throughout Wales."

Juror from the South Wales Valleys citizens' jury

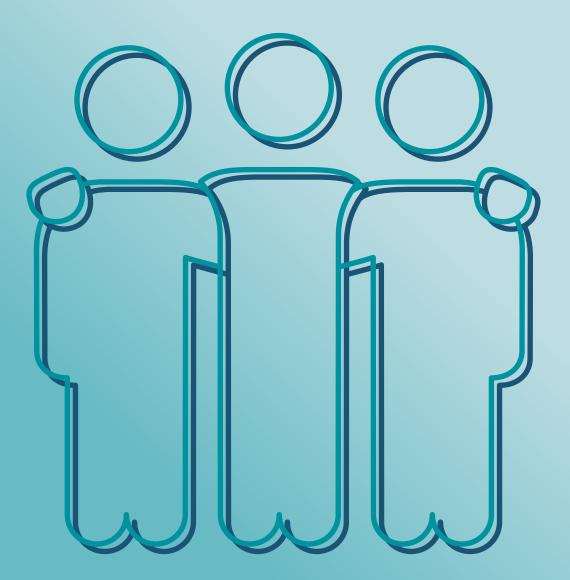
The need to address the climate crisis increasingly, and rightly, occupies time within political and policy debates. Yet the nature crisis is often treated as its 'poorer cousin', receiving significantly less attention and therefore fewer policy commitments, targets and less investment (Laybourn et al 2019). This matters for two principal reasons.

First, the nature crisis is both of equal importance and intimately linked to the climate challenge. The UK is one of the most nature depleted countries in the world (Hayhow et al 2016). Our destruction of nature actively accelerates global heating, but its repair can help to address it (Laybourn et al 2019). If we are to achieve net zero without sufficiently addressing our wider impact on nature, the consequences for our economy and society would still be profound.

Second, the great importance that people place on nature and access to green space is not reflected in our national conversation. The jurors want to put nature right at the heart of all climate policy and beyond.



A NEW SOCIAL CONTRACT



Drawing on recommendations from the jurors, we believe that now is the time for a new 'social contract for a fair transition'. The contract contains six principles, each of which responds to a shift.



A people's dividend

If we are to seize the opportunities of the transition then all people and communities across the UK must benefit, with the greatest return accruing to those who need it most. This is what we call the 'people's dividend'.

"There should be more community ownership of local assets, so that citizens have more control over and a greater stake in the decisions that affect them."

Tees Valleys and County Durham citizens' jury

The 'people's dividend' should include:

- universal access to free or affordable services that support sustainable action

 for example, free local decarbonised public transport
- the creation of mechanisms for direct 'dividend payments' to the public for example, revenue raised through carbon pricing or payments for household contributions to the energy grid

- the extension of community ownership so that local people have a stake in, • and control over, the transition - for example, community owned energy and nature assets
- good quality, well-paid jobs and a voice at work for example, a funded 'right to retrain' for those transitioning from high carbon industries
- increased access to nature and improved wellbeing for example, transforming neighbourhoods into greener, more social spaces.



The transition the UK is making must be fair. Our jurors provided a clear sense of what a 'fairness lock' for climate and nature policies could look like. This lock should move beyond a simple 'cost of living test' to one that is more reflective of the different costs and benefits that come with the transition.

"The cost of change – both financial and in how we live – has to be shared fairly."

South Wales Valleys citizens' jury

A fairness lock should guarantee:

- procedural fairness people are fully involved in decision-making, including those who are most disadvantaged
- the fair distribution of costs for consumers and the taxpaver including carbon pricing that protects those on the lowest incomes
- that all policies will be assessed for how they affect, and involve:
 - places and communities particularly impacted across the UK no place will be left behind
 - different people and communities including by income, age, gender, race, and disability
 - younger and future generations
- help is put in place ahead of change to allay anxieties and maintain public support - for example, households have the means to transition to low-carbon heating systems before regulations come into place
- that the UK makes a fair contribution internationally the UK recognises that there are varying responsibilities and capabilities to respond among different countries across the world.



The public want to be part of this transition. They want change brought about with or by them - not done to them.

"[The area] needs the input of local people with on the ground experience to share with those who have responsibility to make things happen."

Juror from the Thurrock citizens' jury

A people-first approach must ensure:

clear, accessible information about the transition is available to the public including a public communications plan and 'one stop shops' for support

- **the public have a clear role in the creation of plans** including through a permanent, national citizens' assembly for climate and nature deliberation and a leading role in local plans too
- local communities have greater ownership over the decisions that affect them

 including a nationwide commitment to participatory budgeting.⁵



Our jurors were clear that we need national leadership and a strategy to deliver the change needed.

"Action must reflect the urgency of the situation. We need to act now. Leadership has to be shown by government, but everyone is accountable for taking action and should feel part of making the changes that are required."

Aberdeenshire citizens' jury

However, the impacts of the transition will be different in different places. Communities, and their local leaders, have a better understanding of their local areas – the challenges, the assets and the opportunities – and they must be able to shape and deliver their own response.

"Local people need to be empowered to act. Every area is unique and a 'one size fits all' approach isn't going to work."

Tees Valleys and County Durham citizens' jury

In practice, this means:

- The UK government and devolved nations show leadership by developing plans and making investments to manage the transition, but devolving as many powers and resources as is possible
- **local areas and communities are able to shape and deliver their own response** through consistent, long-term devolution deals.



Our jurors wanted to see a joined-up approach across governments and their departments, and a partnership approach across the whole of the economy and society too.

"Decisions need to be joined up with different organisations working together to make the most of the resources and time we have. We shouldn't be acting in silos." South Wales Valleys citizens' jury

"We should involve workers and the businesses affected by these regulations in designing and advocating for them." South Wales Valleys citizens' jury

In practice, this means:

 for government, all policies, programmes and investment must be compliant with our collective climate and nature goals – including a net zero and nature rule to ensure no public money is spent on projects which make the problem worse

⁵ Participatory budgeting involves the public making decisions over how local budgets are spent.

- the innovation and job creation of the private sector, including small and medium-sized enterprises (SMEs#]';lkdvhjkjl;']#
- ';lkjhgfdsa m,./ are harnessed to help us achieve our goals with government providing an enabling environment through tax incentives, small business loans and regulation
- a partnership must be forged with wider civil society, workers and their trade unions, and businesses, particularly SMEs – including transition plans in carbon intensive industries, drawn up with workers, and engaging with small businesses.



Our jurors were clear about the high value they place on nature in their lives and the need to protect, invest in and restore it. They had a much broader conception of what a 'better life for all' looks like than the often-narrow focus in the national debate on measures such as GDP. To succeed, they believe we must move to a focus on wellbeing, the things that contribute to it, and that matter most to people.

"To bring people with us on this journey we need to see this not as a sacrifice but as a progression to a more sustainable way of life. We need to be positive in our response to these emergencies." Aberdeenshire citizens' jury

In practice, this will mean:

- putting nature on the same footing as climate including through the creation of a Nature Recovery Committee and similar legally binding targets for the environment
- recognising that a healthy and restored natural environment builds greater climate and economic resilience – for example nature supports sustainable agriculture, underpins productivity, and supports work-life balance
- placing a focus on wellbeing including introducing a Wellbeing of Future Generations Act and embedding the sustainable development goals as the preferred measures of success for all government policy.

WHAT'S NEXT?

The recommendations made in this report, cover areas where the UK government holds reserve powers and areas where responsibility is devolved across the four nations. The vast majority of our recommendations are relevant for the UK government and the devolved nations but in recognition of the different policy contexts, proposals will need to be adapted to suit the particular circumstances.⁶

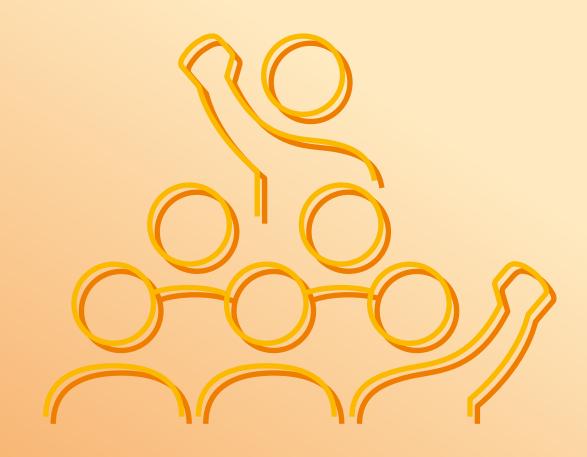
As part of its work, the commission has recognised that action to address the climate and nature crises will necessarily involve change in every sector of the economy. While the commission's work has been wide ranging, we have sought to focus on the priorities expressed by our citizens juries. Issues not covered by this report include the UK's energy mix, aviation and shipping, nevertheless we recognise their importance and the necessity for a fair transition.

The five chapters that follow apply the six principles of our social contract across our economy and society.

⁶ Where costings are presented, they are for the UK government and commensurate funding will be required to support those policies in areas where policy is devolved.



SHARING POWER



Responding to the climate and nature crises requires involving and empowering people in decision-making. It will mean sharing power.

The UK's legal commitment to reach net zero by 2050 is the latest possible date by which we need to have transformed the economy and much of the way we live. Across the country there is ambition to go much faster, with Scotland setting a legal target to deliver these changes by 2045 and Wales committed to "do all we can to get there sooner" (Welsh Government 2021a). At a local level, leaders across the country have set targets to reach net zero by 2030.

"We cannot address the climate and nature crises without the active support of the public."



There is now widespread political consensus on the scale of the challenge we face and willingness to set the targets that address it.

But this will not be a challenge that is met behind the scenes in the corridors of power in Holyrood, the Senedd, Stormont, or Westminster. The urgency of the changes required to our culture, economy and environment will need everyone's participation. We cannot address the climate and nature crises without the active support of the public.

The communities we have spoken to offer a vision of a better life for the future. This report is grounded in their optimistic, practical view on what could and should be possible if we make the right decisions now.

"Decisions on how to tackle the climate crisis and restore nature need to be guided by a broad range of experts and also the views of the people who will be affected by the decisions." Aberdeenshire citizens' jury

CHANGE CAN'T BE DONE TO PEOPLE; IT MUST BE DONE WITH AND BY THEM

The UK's efforts to reach net zero and repair the harms we have done to the natural world will fail unless the transition is done in partnership with communities and reflects their hopes and concerns. We do not have time to get this wrong. The public will not accept the change if it is not fair, or they do not perceive it to be. In practice, they have a veto on all climate and nature policies – a veto they can exercise at the ballot box or in the streets.

The gilet jaunes movement in France demonstrated the risk of public anger and resistance when policies do not take account of the potential economic and social impacts. Sparked by president Macron's proposals to increase fuel tax, protests spread across France and the policy became emblematic of a wider disconnect between policymakers and the challenges people face in their day to day lives (Martin 2019). These protests led Macron to state:

"What I want to make French people understand – notably those who say 'we hear the president, the government, they talk about the end of the world and we are talking about the end of the month' – is that we are going to treat both, that we must treat both." McNicoll 2018 In London and across the UK, low traffic neighbourhoods have been implemented as part of wider measures to improve public health and increase walking and cycling. Despite the evidence of their positive impact within the most deprived neighbourhoods (Aldred et al 2021), these schemes have provoked significant opposition, fuelled – in part – by anger at the perception that they benefit the wealthiest over the poorest in society (Ellson and Greenwood 2021). Many of these schemes have been quietly and successfully put in place with public support; however isolated examples⁷ have been used to tell a story of a lack of consultation and the potential for traffic to be pushed from wealthy neighbourhoods to the main roads, where those on lower incomes tend to live. The legitimate concerns of local residents are amplified by social and traditional media into a much wider rejection of schemes which, if done right, could change how we travel in a way that delivers tangible health and social benefits.

FAIRNESS CAN'T BE AN AFTERTHOUGHT

There is widespread UK public support for more ambitious action on climate and nature. More than two-thirds of the public want to see the UK as a world leader on climate change (Global Witness 2020). In France, the gilet jaunes have gone on to campaign for green measures such as mandatory building insulation (Martin 2019). The issue is not the public's appetite for change; it is one of public trust and an approach to making policy that too often people feel is disconnected from their priorities.

The scale of action being taken in the UK on the climate and nature crises has to increase but, without careful management, the impacts and opportunities will not be fairly shared. The places that face significant risks, and the people who live there, should therefore be at the heart of polices and plans.

It is because of this that the commission set out to put the views of the public at the heart of our own approach to defining what a fair response to the climate and nature crises looks like. Through our citizens' juries we have supported four very different communities to deliberate on these issues and they have told us how decisions need to be made in order to ensure that action both in their area and across the UK reflects the urgency of the climate and nature crises, addresses inequality, and delivers tangible benefits in people's lives.

THE JURIES' WELLBEING FRAMEWORK: A VISION FOR A BETTER LIFE FOR ALL

Central to each jury's deliberations was a shared understanding of the things that matter most to them. Each jury was supported to develop their unique definition of wellbeing, with every juror encouraged to share the things that they felt contributed most to their wellbeing and the links between this and their local community and environment. Despite their diverse backgrounds and life experiences, there was much common ground both within and between the juries.

In the closing sessions of each jury, the groups finalised this framework into a powerful statement of a future they believe is possible.

7 Including the Lee Green and Hither Green scheme in Lewisham, which was changed after significant public anger (Chamberlain 2020).

"The issue is not the public's appetite for change; it is one of public trust."

THE COMBINED WELLBEING FRAMEWORK OF THE ENVIRONMENTAL JUSTICE COMMISSION'S CITIZENS' JURIES

We believe in a better life for all. This means a future where everyone:



Source: IPPR analysis of IPPR 2021a, 2021b, 2021c and 2021d

EMPOWERING THE PUBLIC

WHAT DID OUR JURORS SAY?

All four juries spent significant time talking about how we make decisions on tackling the climate and nature crises.

They were concerned that current approaches are not working and that the wrong things get prioritised. For them, the key implication of this is that progress would be too slow to successfully decarbonise and restore nature.

The juries told us that urgent action is needed and that this needs to cut across traditional local and national governmental siloes and support a shift in business-as-usual practices. Without this kind of coordinated effort, led by government and

involving all parts of society, they concluded that the changes would not go far enough in making it easier for people to live in ways that were compatible with reaching net zero.

The jurors also hope for more than just avoiding the worst outcomes; they see the opportunity to make changes that improve health and wellbeing and make people's lives easier. They were clear, however, that these benefits will not be achieved by chance, they will need to be central to how all decisions are made.

The jurors were clear that when we talk about investment it is not always about finding new money, it is about the way we choose to spend what we already have. The approach we take should support every pound being spent by publicly funded organisations, from the local school or hospital to national government departments, to be part of our response to the climate and nature crises and contribute to wider social and environmental goals.

Source: IPPR analysis of IPPR 2021a, 2021b, 2021c and 2021d

Our juries told us that being empowered to engage in decision-making and creating change is one of the cornerstones of a good quality of life. People need to feel that they are part of change, that they have a sense of ownership over the actions taken and are committed to what comes next; they want to see that decisions will improve things for them and the people they care about.

"Genuine, meaningful consultation is crucial to ensure that decisions are fair for local people. People should be involved before decisions get taken and kept informed. When people are asked to have their say they must be listened to and not overruled, otherwise trust is lost." Aberdeenshire citizens' jury

At the moment, most people do not feel like they understand how to engage in decisions that affect them. In the year ending March 2020, only just over onequarter of people (27 per cent) said they felt they could influence decisions affecting their local area (DCMS 2020). Participation in local elections is low, as is trust in politics overall. More than twice as many people say they 'almost never' trust governments than trust them 'most of the time' (34 per cent compared to 15 per cent, Curtice et al 2020). Our jurors told us that they want to be better informed of opportunities to engage in democratic processes beyond the ballot box, and that they want clearer and more transparent information about the policies and plans that affect them.

We heard that people want decisions to be taken with the community, rather than actions being done to them. Communities understand the assets and opportunities available within their area (Webb et al 2021). They are also united by shared threats from the local impacts of the climate crisis and degradation of nature, and face common challenges of changing local industries as the UK shifts to a low-carbon economy. For example, in Aberdeen the oil and gas industry is a key part of the local economy, employing more than 10 per cent of workers in the region (Emden et al 2020). However, the impact of the Covid-19 pandemic, in conjunction with a longer-term shift towards renewable energy, has also affected the wider jobs market and local economy (ibid). The challenges, and opportunities, of a transition away from oil and gas are felt by everyone. The whole community therefore has a stake in these decisions.

Giving people power

Our proposed social contract for a fair transition, drawn from the insights of our jurors, makes clear that people want and need to be at the heart of decisions that will affect their lives and those of future generations.

The first step is giving people the information they need to understand the climate and nature crises. In 2020, the members of the Climate Assembly UK recommended a set of principles that should underpin the UK's path to net zero and gave the most support to a principle around education and information sharing (Climate Assembly UK 2020). For our jurors it was often a revelation to see and hear the relationship between their local area and issues that they had only heard about in the abstract or in the context of national or global news stories. If people are to change their behaviour and play a meaningful role in decision-making, the UK needs a better approach to communicating these issues.

"it was often a revelation to see and hear the relationship between their local area and issues they had only heard about in the abstract or in the context of national or global news stories"



"Awareness of the severity of the issue is essential. There are many people who aren't aware of the change that is needed. Much of the information we see is about the global situation. We need to hear more about the impact this will have locally and what role people can play in making change happen." South Wales Valleys citizens' jury

Government must treat the provision of high-quality and accessible public information on the climate and nature crises as seriously as it does public health campaigns. During March to June 2020, the height of the first lockdown, Public Health England spent more on advertising than any other organisation (Sweney 2020) and almost 21 million people have now downloaded the NHS Covid-19 app in England and Wales (Statista 2021). **The UK and devolved governments should develop a new public communications plan for the climate and nature crises and the public policy response to them.** Success would mean everyone having access to information on national commitments, and the progress made to achieve these, as well as locally relevant information that put both the necessary lifestyle changes and polices into context.

If you walk through the average town centre or high street in the UK, you would not know that a climate emergency has been declared or what action is required to address it. Communities are seeking to address this gap themselves through establishing Climate Emergency Centres in vacant premises that provide space for people to share ideas and resources (Climate Emergency Centre 2021). Local authorities, backed by central and devolved governments, should support 'one stop shops' for climate and nature action and provide the resources to make these a key part of the UK's approach to engaging with the public. Alongside accurate, up to date information on our progress in tackling the climate and nature crises, such centres could give access to the information, advice and financial support that people will need to make the required changes in their lives to address these crises – including information on the GreenGO scheme set out in chapter 5.

"Children and young people should learn about nature, climate and the changes that they will see in their lifetimes within schools... Young people will be the most affected and they have to feel part of shaping this greener future."

Aberdeenshire citizens' jury

Change is required in our education system. Young people are demanding greater understanding of the challenges they face and the actions they can take to address them (Teach the Future 2021). Schools will need to provide them with the knowledge of the causes of the climate and nature crises and an understanding of its implications for all aspects of their lives. All governments should include the climate and nature crises as an explicit subject in the core curriculum. Teachers will need the training and resources to teach about these crises well, with a focus on solutions and with sensitivity to the mental health support required to help younger people with eco-anxiety. A specific subject will allow these issues to be tackled in the detail required but these topics should also be explored across the curriculum, including looking at our relationship with nature through language studies and art. These changes within schools should be supported by more opportunities for children of all ages, particularly those living in nature-deprived areas, to visit a diverse range of nature-rich sites – as the Landscapes Review made clear: "All children should be helped to develop pride in their national landscapes, their environment and its biodiversity" (DEFRA 2019). Young people have been challenging decision-makers to deliver a fair response to the climate and nature crises, and education will be vital in supporting them to be involved in all deliberations on their future.

Engagement with the public must become the norm across all policymaking. There is no one size fits all approach to deliberation and policymakers need guidance to ensure that they are implementing the right approach on the right question in the right place. For deliberative approaches to renew public trust in decision-making and to continue to grow in popularity, they have to be shown to be effective (Liao 2021). New standards for public engagement and deliberation should be put in place across the UK, based on Scotland's National Standards for Community Engagement. These standards provide the public, private and voluntary sectors a clear understanding of what high-quality public engagement looks like and emphasise the need for community engagement to be inclusive, with those who face barriers to participation being supported to take part (SCDC 2021). New UK-wide standards should go further than the existing National Standards in Scotland by embedding a clear set of principles for the use of deliberative processes in-line with emerging best practice including a clearly defined purpose, a directly accountable decision-maker committed to acting on the conclusions and transparency throughout every stage of the process (Bellantoni et al 2020).

Local communities bring practical knowledge and experience from all walks of life and can provide valuable insights into how policies and plans could play out at a local level. Our citizens' juries show the value of bringing people from different backgrounds together to learn from one another, share experiences and consider whether the ideas they hear through the process feel fair. The people who have been involved in deliberative events strongly support their use in decision-making and through their involvement gain confidence and desire to engage with other opportunities to shape decisions.⁸

"The people who are most affected by a decision should be at the core of the decision-making process. This helps mitigate unfair, unintended, consequences." South Wales Valleys citizens' jury

8 The initial evaluation of Climate Assembly UK, for example, shows that 90% of members 'strongly agree' or 'agree' that 'assemblies like this should be used more often to inform government and parliament decision-making' (Climate Assembly UK 2020). The same evaluation found that 88% of assembly members 'strongly agreed' or 'agreed' that 'I feel more confident to engage in political decision-making as a result of being involved in this citizens' assembly' and that 'taking part in this citizens' assembly has made me want to be more involved in other aspects of decision-making' (bid).

No plan for addressing the climate and nature crises should be prepared without public involvement. Climate assemblies and citizens' juries are becoming established as key tools in a more deliberative and democratic approach to policymaking. So far, in 2021 alone there have been deliberative events focussed on the response to the climate crisis held in Blaenau Gwent, Bristol, Jersey, the London Borough of Lambeth and North of Tyne, and a national assembly in Scotland (Involve 2021). Since 2019, 15 juries and assemblies have been completed, including in Brighton and Hove, Lancaster, and Oxford (ibid). However, one-off events are not enough and should be complemented by a commitment to an ongoing role for the public to assess progress against the recommendations that they are making.

Building on the work of Climate Assembly UK, the government should establish a permanent UK Climate and Nature Assembly with a statutory right of consultation on climate and nature policy. The membership of such a citizens' assembly would be refreshed regularly and be drawn from all four nations of the UK. Alongside its role in shaping future policy, this assembly would play a vital role in holding the government to account for delivery through support of both the existing Climate Change Committee and the proposed Nature Recovery Committee described in chapter 6.9 A permanent citizens' assembly would ensure high standards for deliberation are maintained, avoid duplication and siloed working across government departments and provide an efficient way of engaging the public in the key decisions we identify throughout this report - including the future of fuel duty and road user charging (chapter 5) and the balance between rights and responsibilities for the public in accessing nature (chapter 6). The governments of Northern Ireland, Scotland,¹⁰ and Wales should mirror this approach.

"There should be citizens' juries in all local areas informing decision-making."

Tees Valley and County Durham citizens' jury

Local and regional governments must ensure a role for the public in both informing climate crisis and nature recovery action plans and in monitoring their progress. The specific approach will differ based on a local an understanding of what works in engaging the public in their areas. However, we argue that highquality, deliberative approaches will play a crucial role in achieving local buy-in and support for change. Establishing a permanent citizens' assembly at local or regional level would provide an ongoing way of engaging the public in both the response to the climate and nature crises and other key local decisions.

CASE STUDIES: BRISTOL'S CITIZENS' ASSEMBLY AND NEWHAM COUNCIL'S CITIZENS' ASSEMBLY

Bristol City Council's assembly on recovering from Covid-19 provided a clear case for bold action on the climate crisis. Their conclusions include the need for financial support for homeowners to make changes to their homes, the ambition to provide better alternatives to cars and action to address health inequalities.

⁹ This is in line with the recommendation from Climate Assembly UK that an independent body should monitor and ensure progress on net zero and be supported by citizens' assemblies (this received 89 per cent support from assembly members) (Climate Assembly UK 2020).

¹⁰ To provide the appropriate focus and scrutiny we suggest a permanent citizens' assembly focussed on climate and nature is required alongside the Scottish government's commitment to deliver annual events on a range of other topics.

Newham has become the first authority in England to establish a permanent citizens' assembly. The topics the assembly engages with will be chosen by residents of the borough, with a group of 50 residents then randomly recruited to hear more about the issue and agree the possible solution. The conclusions are then presented to the council for consideration.

Sources: Bristol Citizens' Assembly 2021 and Newham Council 2021

Involvement in decision-making should act as a catalyst for the public to take action in their neighbourhoods. In order for the peoples' dividend we set out in part 3 to be realised, all parts of the UK should replicate Scotland's commitment of a minimum of one per cent of local funding to be allocated through participatory budgeting.¹¹ High-quality participatory budgeting gives communities the power to realise their own ambitions, and contributes to tackling poverty through the sharing of opportunities, power and wealth (Scottish Government 2021). It can increase people's trust in local decisionmakers, their sense of belonging to their community, and improve social determinants of health (Pennington et al 2018). Participatory budgeting will support people to play an active role in shaping their communities in line with the ambition for more opportunities to be accessible within 20-minute neighbourhoods and anchor towns, as outline in chapter 6. If such a commitment had been in place in England in 2019/20, then over £940 million¹² would have been allocated in this way (MHCLG 2021a) - representing a shift towards a new, more trusting and two-way relationship between the public and decision-makers. This approach is not just relevant to local authorities; all public bodies should consider how they can embed participatory budgeting in their decision-making, for example by schools creating opportunities to involve parents and pupils within the allocation of their budgets.

"Different voices need to be heard and brought together, and it takes a proactive approach to ensure this happens."

Tees Valley and County Durham citizens' jury

Governments at all levels must have a tangible way of ensuring a 'fairness lock' on all climate and nature decision-making. The Wellbeing and Future Generations Act (see below), the permanent Climate and Nature Assembly and participative budgeting, are means of ensuring fairness. Beyond these, those currently most exposed to environmental harms - from poor access to green space to high levels of pollution - need their voices amplified in the decisions that affect where they live. The UK's commitment to the sustainable development goals includes a promise to 'leave no one behind' and to deliver on this pledge by "listening and responding to those left furthest behind" making clear that "every country... has a responsibility to empower and address the needs of its most vulnerable citizens" (FCDO 2019). To deliver on this governments should define the most disadvantaged communities and put in place a proactive requirement for them to be supported to participate in decision-making on the response to the climate and nature crises. This will require extra resources to be allocated to engaging with these communities to ensure those most affected by the impacts of these crises and the policy responses put in place to address them have their voice heard in decision-making. As with Massachusetts' new climate law, this definition

¹¹ As per recommendations from the evaluation of Scotland's participatory budgeting programme this target must sit alongside guidance and support for authorities to ensure it delivers the transformation in relationships between people and government that leads to the public becoming genuine partners in decision-making (Hagan et al 2019).

¹² This figure represents 1 per cent of total local council service expenditure in England in 2019/20 (which includes local council spending on areas such as education services, highway and transport services and environmental services).

should relate to specific neighbourhoods (Commonwealth of Massachusetts 2021) and should take into considerations such as income, education level, disabilities, race, and gender.

Involving people in the decisions that affect them goes beyond the actions of governments; it should inform the governance of all institutions and companies. Our recommendations for increased public engagement in the financial system and an increased role for workers' voices are detailed in chapter 4.

VALUING WHAT MATTERS

Delivering benefits to people's lives requires a shared understanding of what success looks like. This requires rethinking our assumptions on what the economy is for and how we measure its success.

GDP growth continues to be used as the primary measure of how well our economy is doing (IPPR Commission on Economic Justice 2018). This is despite widespread acknowledgement that it fails to take into account damage to the environment, fails to measure wellbeing and is no longer linked to earnings. After the financial crisis of 2008, GDP growth did not lead to higher incomes for the majority of the population and average living standards stagnated, even as growth was restored: "a rising tide no longer lifts all boats" (ibid).

Such narrow thinking is not confined to annual Budget statements by the Chancellor of the Exchequer. Indeed, economic appraisal is currently the basis for many government policy decisions. The primary tool used to assess transport projects, for example, prioritises economic considerations such as journey times over emissions: efficiency over the environment (Borrowman et al 2020). Meanwhile, the planning system which should protect the environment and deliver social goods, such as high-quality, affordable housing, instead prioritises housebuilding targets, regardless of the affordability of the homes built, and protecting profits for developers (Murphy 2018).

The failure of this growth-focussed thinking is increasingly recognised. The Welsh and Scottish governments are part of a global movement working towards shaping their economies to deliver "human and ecological wellbeing" (Wellbeing Economy Alliance 2021). Thinking across generations, as is supported by the Wellbeing of Future Generations Act in Wales and within the Future Design movement in Japan, leads to decisions that are better for the environment and are more compatible with long-term wellbeing (Krznaric 2020).

Many different measures of wellbeing and progress have been proposed but among the most consistent internationally recognised standards are the sustainable development goals (SDGs). These 17 goals provide a framework as applicable for shaping global action to end social injustice as in the work of local councils to improve the quality of life for their residents (LGA 2020). Recent assessments of UK performance against the 143 SDG targets showed there is much still to be done in implementing these within domestic policy – with gaps in policy or inadequate performance for 57 per cent of them, and 15 per cent where there is little to no policy in place to address the target, or where performance is poor (UKSSD 2018). The UK government's approach to embedding these goals within 'single departmental plans' is a welcome step but is not up to the task of driving progress across interlinked policy areas.

CASE STUDY: M4 RELIEF ROAD

The proposal for the M4 relief road, a 13-mile motorway around Newport, was scrapped by the Welsh government over environmental concerns that meant it was incompatible with the Wellbeing of Future Generations legislation. The road, which would have cut into the biodiversity-rich Gwent Wetlands, would not have aligned with Wales' carbon reduction targets and did not further the act's goals of supporting the resilience of ecosystems and a healthier Wales.

Source: Future Generations Commissioner for Wales 2019

Changing how we measure success

"Decisions should prioritise wellbeing and nature over profit." Thurrock citizens' jury

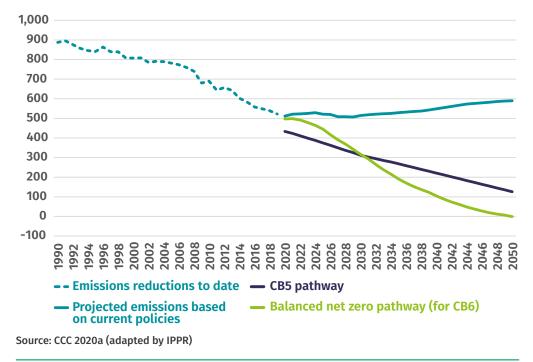
Our citizens' juries told us what they believed it means to lead a good life where they live. They prioritised wellbeing goals such as health, security, connection to others, access to nature and feeling in control of their own lives. They pointed towards a new set of objectives and conditions by which to measure success. Meeting their expectations will require leadership from all parts of society, focussed first on addressing the climate and nature crises with the urgency it requires.

"This is now the time for action. We are used to policy and plans taking a long time to come to fruition. For us to have hope we need to see faster action on these emergencies."

South Wales Valleys citizens' jury

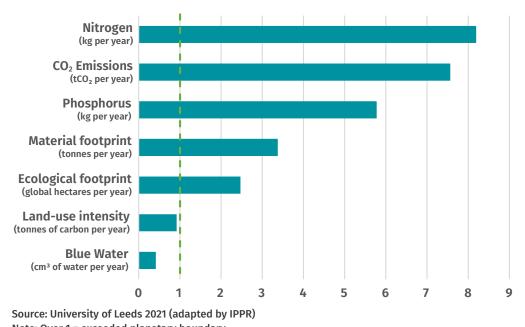
FIGURE 3.1: THE GOVERNMENT IS NOT ON TRACK TO MEET ITS 5TH CARBON BUDGET, LET ALONE THE STRICTER 6TH CARBON BUDGET

Predictions of current emissions reduction trajectory compared to pathways for the 5th and 6th carbon budgets



While the UK has made progress reducing emissions, we are not on track to meet the fifth carbon budget pathway,¹³ let alone the stricter sixth carbon budget pathway (figure 3.1). The UK's record on nature is even poorer – the UK has been described as one of the "most nature-depleted countries in the world" and its level of consumption disproportionately impacts the global environment, including through water and nitrogen use, deforestation, and its overall ecological footprint (figure 3.2). If everyone consumed the same amount per person as the UK, we would need 2.5 Earths to sustain ourselves (IPPR 2020).

FIGURE 3.2: THE UK EXCEEDS ALMOST EVERY PLANETARY BOUNDARY BENEATH WHICH THE WORLD CAN OPERATE SAFELY



Factor by which the UK exceeds seven key planetary boundaries (as at 2018)

Note: Over 1 = exceeded planetary boundary.

"Decisions should aim to create a better tomorrow for those after us." South Wales Valleys citizens' jury

The UK needs a fundamental rethink of the priorities that govern the decisionmaking frameworks of our governments and institutions. If progress is to be measured by the quality of life and wellbeing of all people and the health of our natural world, then we need to end our reliance on economic growth as a proxy for success. People want to see policies that raise hope for the future, particularly for young people (Webb et al 2021).

"It gives me hope to know that my generation (I'm 17 years old) is being considered and thought about when thinking of ways to improve where we live, and are actively given a voice when changes are being made." Juror from the South Wales Valleys citizens' jury

The Wellbeing of Future Generations (Wales) Act 2015 is a model for how to bring consideration of the aims of the sustainable development goals

¹³ Five yearly emissions caps which the UK must stay within to meet our 2050 net zero target.

into a wider range of public decision-making.¹⁴ Scotland has also made progress in this area through embedding wellbeing within its National Performance Framework, and, together with Wales, is part of the Wellbeing Economy Governments partnership.¹⁵ **The UK, Northern Ireland, and Scotland governments should introduce their own Wellbeing of Future Generations Act and establish their own Wellbeing of Future Generations Commissioner or Commission**. These acts would provide the legal basis for embedding the principles of the sustainable development goals into decision-making across all nations and tiers of government as well as ensuring appropriate resources are put in place for their independent scrutiny and advocacy. The acts would include clear measures of success for all public policy that focus on wellbeing and fairness, not just economic growth.

A fair transition starts with ensuring that nature is put on equal footing with net zero. The UK government should define and adopt the environmental limits within which the economy must operate and provide statutory targets across a full range of environmental impacts. Modelled on the UK's target of reaching net zero by 2050 and the recently announced 2030 target for reversing wildlife decline (DEFRA 2021) these legally binding targets would support the conservation and restoration of all natural systems, including ecological resilience, soil fertility and air quality. As we discuss in chapter 7, these budgets should also include a target to halve the UK's global environmental impact by 2030. The Nature Recovery Committee (see chapter 6) would oversee these targets, providing advice and budgets modelling how to achieve them, and the Office of Environmental Protection should be provided with the powers to enforce them and hold the government to account for breaches. These targets could be incorporated within the proposed Wellbeing of Future Generations Act or the government's environment bill.

Through this wider account of our environmental impact, we should also address the gaps in our approach to reducing the UK's carbon emissions. Current legal targets do not include emissions from goods consumed in the UK but produced overseas, even though these consumption emissions are 50 per cent higher than our 'territorial' emissions (CCC 2020a) and have not declined anywhere near as steeply (IPPR 2020). A new target for consumption emissions should be introduced with the Climate Change Committee asked to advise on the best means of doing so for the UK as a whole and across the devolved nations.

"As well as action for nature, [there] needs to be a halt on activities damaging nature – new roads and developments. Positive steps can't mean damaging things is allowed." Juror from the Thurrock citizens' jury

Decisions should have a positive outcome for climate and nature, or at least do no harm. Our jurors were clear that harm should be prevented rather than offset, wherever possible. To ensure this, **the UK**, **devolved and local governments should adopt a new 'net zero and protection of nature rule' and embed this within all decisions on spending and investment**.¹⁶ Within central government, such a rule would apply to the Budget and Comprehensive Spending Reviews. It would also strengthen existing

14 The act requires public bodies in Wales to account for the long-term impact of decisions, to work better with people, communities, and each other, and to prevent persistent problems such as poverty, health inequalities and climate change (Future Generations Commissioner for Wales 2021).

15 Which currently includes Scotland, New Zealand, Iceland, Wales and Finland. It was founded in recognition that 'development' entails delivering human and ecological wellbeing (Wellbeing Economy Alliance 2021).

"harm should be prevented rather than offset"

¹⁶ WWF UK outlined the design of a 'net zero test' within their response to the Comprehensive Spending Review (WWF 2020a) with the same principles being equally relevant to the protection of nature.

guidance on assessing greenhouse gas emissions within the Green Book by ensuring all spending decisions, across all government departments, contribute to meeting legally-binding environmental targets. Such a rule will ensure that all projects, policies, investment and spending, taxation measures, regulations and legislation are in line with the above obligations as well as broader environmental commitments that will be enshrined in the government's environment bill.

The scale of change required will go far beyond government action and the public sector. Businesses, and the way they are governed and the basis upon which they make decisions, will also need to adapt. Increasing numbers are already signing up to initiatives that lock in their commitment to "balancing profit and purpose" in a way that will deliver "positive impact for their employees, communities and the environment" (B Lab 2021). To meet the expectations of the public, **companies should change their governance structures to include new objectives and an approach to decision-making and monitoring performance that is in line with wider societal goals, including increasing wellbeing and addressing the climate and nature crises. The UK government should also consider amending the duties of company directors to make this a legal requirement.¹⁷**

EMPOWERING LOCAL LEADERSHIP AND COMMUNITY OWNERSHIP

WHAT DID OUR JURORS SAY?

Jurors frequently reflected on the need for an accountable Westminster and devolved governments to work hand in hand with local governments.

Among the biggest concerns was that new priorities and responsibilities could be passed to local councils without the expertise and funding to be able to act on them. There was also a sense that although many councils, and their councillors, may be committed to supporting nature and taking climate action, all authorities will need to play their part.

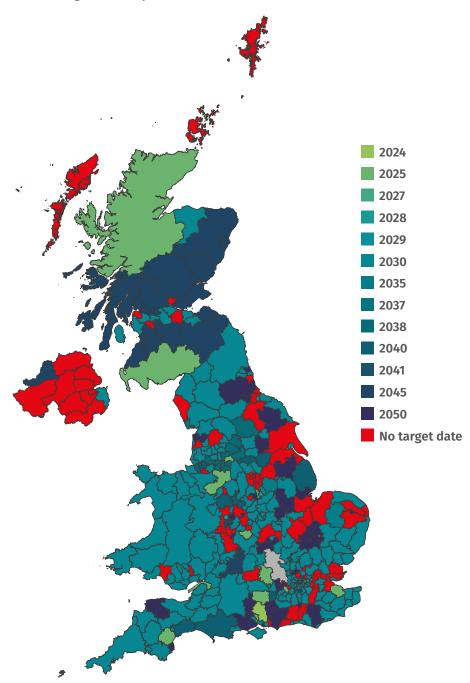
Our jurors were excited by stories of community groups that are taking action in local areas through renewable energy projects, restoring woodland or making better use of disused land in the city. They saw this as a sign of what was possible if more power and opportunity were given to people to develop local solutions that meet the needs of their area and inspire others to take part.

The scale of the crises will require action from governments at every level, from national, to regional to local. It was clear to our jurors that trying to lead this effort solely from Westminster would not be effective or address the underlying challenges that communities face in different parts of the UK. The impacts of these crises will vary across the country, and as we discuss in part 3, the opportunities that come from acting will differ too. A new approach to sharing power that provides people and places with the ability to take action locally must be adopted if we are to ensure that all places can benefit from the shift to net zero and the restoration of nature.

¹⁷ A similar proposal was made by the IPPR Commission on Economic Justice (2018).

FIGURE 3.3: MANY NET ZERO TARGET YEARS ARE FAR MORE AMBITIOUS THAN THE NATIONAL 2050 TARGET

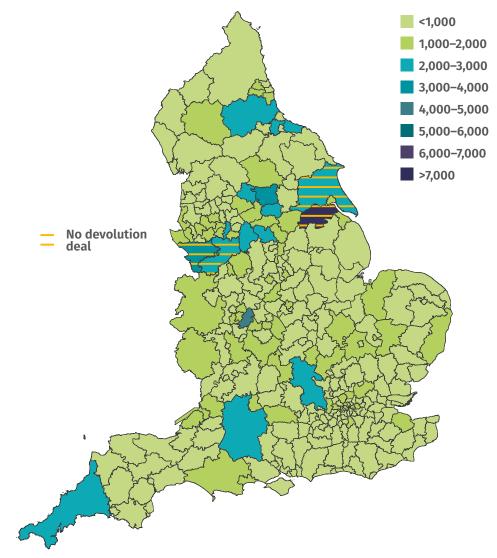
Net zero targets as set by local authorities



Source: Aether 2021; Office for National Statistics licensed under the Open Government Licence v.3.0. Contains OS data © Crown copyright and database right (2021). <u>https://www.ons.gov.uk/methodology/geography/licences</u>

FIGURE 3.4 SOME OF THE MOST CARBON INTENSIVE AREAS ARE NOT COVERED BY A DEVOLUTION DEAL

Emissions by region and local authority, including industrial areas in North Lincolnshire and East Yorkshire, as well as areas of the North West outside the Greater Manchester Combined Authority and Liverpool City Region areas, such as Cheshire West and Chester (as of July 2021)



Source: BEIS 2020a (adapted by IPPR); Office for National Statistics licensed under the Open Government Licence v.3.0. Contains OS data © Crown copyright and database right (2021). https://www.ons.gov.uk/methodology/geography/licences

Already, over 75 per cent of English councils have now declared climate emergencies. Many local authorities have set net zero targets that are far more ambitious than those offered by central government (see figure 3.3). For example, Newcastle City Council's *The Net Zero Newcastle: 2030 Action Plan* presents a view of how the city can achieve its ambition to be carbon neutral within the next decade, 20 years ahead of the UK government's targets (Newcastle City Council 2020).

However, such ambition is hampered across England by a deficit of powers, resources and skills to take action (Borrowman et al 2020), and some of the most carbon intensive areas are not covered by a devolution deal. This includes

industrial areas in North Lincolnshire and East Yorkshire, as well as areas of the North West outside the Greater Manchester Combined Authority and Liverpool City Region areas, such as Cheshire West and Chester (figure 3.4).

Due to their responsibilities for areas such as housing and transport, local authorities have powers or influence over only one-third of emissions in their local areas (Evans 2020), however, this can vary a lot between authorities. Supporting them to reduce those emissions is crucial if the UK is to reach net zero. At the same time, providing them with the resources to lead the delivery of locally designed plans, rather than attempting to implement changes nationally, makes for more effective policy, not least because they "understand their local communities, environments and businesses" (Borrowman et al 2020).

CASE STUDY: THE DIFFERENCE A DEVOLUTION DEAL CAN MAKE

Combined authorities' powers vary greatly depending on the local devolution deal.

Greater Manchester Combined Authority has used its limited transport powers to make impressive progress in developing a local transport system that takes a region-wide approach, reflects how people live and work and gives people a range of options beyond the private car, thereby reducing carbon emissions and increasing fairness (Sustrans 2020). In Tees Valley, 90 per cent of the working population have jobs within the combined authority area and 65,000 cross a council boundary to work (TVCA 2021). However, it has been unable to tailor a transport system to this population as it does not have power over the local roads network or established joint working with Highways England (Webb et al 2021).

People are also far more likely to engage in action to tackle the climate crisis if it is framed as an opportunity to improve their local area and boost their local economy (Twigger-Ross et al 2015). Community participation has been shown to increase the speed of action, build momentum and mobilise more people to get involved. Where it shows tangible and immediate benefits, community projects inspire people to do more and further enhance the community's capacities and capabilities (Webb et al 2021). This capability building also increases a community's resilience by making it better able to cope with future shocks such as adverse weather and flooding and the impacts of global warming experienced at a local level. For example, responses to events such as flooding are more effective when community flood planning integrates local knowledge with support from local government (McEwen and Jones 2012, McEwen et al 2018).

Despite lacking powers in some areas, local government nevertheless has a significant role to play in stimulating local community action. For example, they can designate the use of the land and buildings they own for green projects, provide planning support for community-run developments and priority bidding for community groups for land or buildings, and proactively communicate information on community rights, funding opportunities, resources, and support networks (Webb et al 2021).

CASE STUDY: AMBITION LAWRENCE WESTON

In Lawrence Weston, north west Bristol, 70 per cent of residents say that they struggle to pay heating and electricity bills. In response, communityled Ambition Lawrence Weston have developed a solar energy farm at the edge of the Lawrence Weston estate, the income from which supports them to achieve their wider objectives of alleviating poverty and making the area an even better place to live. Following this success, they are now seeking to build a 4.5MW, 150-metre-high onshore wind turbine which would generate enough electricity to power 3,850 homes and bring in an income for the community of between £50,000 and £400,000 a year, depending on borrowing costs, in addition to saving 1,965 tonnes of CO₂ per year.

Source: Webb et al 2021

SUPPORTING LOCAL ACTION

"We need some top-down leadership on climate and nature... This should involve long-term target-setting and these targets should then be used to monitor the progress made by government and businesses, allowing them to be held accountable if targets are not achieved." Aberdeenshire citizens' jury

The UK and devolved governments have a powerful role to play in coordinating action across the nations. As recognised by the CCC: "Some national coordination and a framework for local delivery of the UK net zero target is required that allows for flexibility in how emissions reductions are delivered at a local level, while recognising that some decisions might benefit from co-ordinated scale" (Evans 2020). Working closely with local leaders, the **UK and devolved governments should agree frameworks for developing action plans at a local level, including an agreed central methodology to monitor and report on emissions**, as recommended by the Green Alliance (Borrowman et al 2020). This coordination should extend to providing toolkits and guidance. Such plans could be coordinated by the Net Zero and Fair Transition Delivery body recommended in Part 3.

Alongside this, government will need to make collaboration on decarbonisation much easier. As Green Alliance have called for, there should be **a single point of contact within UK government focussed on local authority decarbonisation** (Borrowman et al 2020). This could be a joint unit of the Department for Business, Enterprise and Industrial Strategy and the Ministry of Housing, Communities and Local Government.¹⁸ This will make it far easier for local authorities who are currently required "to engage with multiple central policymakers, initiatives and funding pots with different objectives, distributed across government" (ibid).

"More decisions should be made at a local level and the uniqueness of each place should be recognised in the decision-making." South Wales Valleys citizens' jury

The UK is one of the most centralised nations in the developed world despite significant evidence that more devolved economies deliver better outcomes (Johns et al 2020). The benefits of devolution extend well beyond the realm of climate and nature. The evidence suggests that devolution can deliver better decision-making, greater accountability, and improved integration and coordination across policy areas (Sow and Razafimahefa 2015; Johns et al 2020).

¹⁸ A similar approach should be followed in the devolved nations.

TABLE 3.1: EXPANDING POWERS OF ELECTED MAYORS, COMBINED AUTHORITIES AND LOCAL GOVERNMENT COULD DELIVER FURTHER ACTION ON CLIMATE AND NATURE

Policy area	Applied tiers	Benefits
Industrial strategy – the UK government's Plan for Growth	Greater London Authority, combined authorities, and local authorities	Gives local leaders more power to align existing powers to shape skills with future economic development. Would be able to use existing power over skills, training, and apprenticeship funding to support initiatives such as housing retrofit or training in future low-carbon industries. Can attract significant investment for businesses and industries to develop new low- carbon technologies.
Public procurement and carbon budgeting	Greater London Authority, combined authorities, local authorities	New public procurement policies can ensure that major infrastructure projects and public services are delivered through the sourcing of low-carbon goods and services. Assigning carbon budgets that sit under a national carbon budget will allow local areas to at the very least meet the minimum expectations on cutting emissions while power to set more ambitious targets will allow many authorities to go faster and further in their drive to net zero.
Stewardship of natural assets	Combined authorities and local authorities	Provision of enhanced powers to safeguard and regulate future planning and development to ensure that England's natural assets are preserved and recognised as a crucial tool tackling the climate and nature crisis while also improving public health outcomes. This will need to be carried out in partnership with other agencies including Natural England.
Fiscal devolution	Greater London Authority, combined authorities and local authorities.	 Would provide devolved authorities to use local taxation and budget powers to incentives decarbonisation. This could include: reforms of council tax that include property energy efficiency in the taxation process setting congestion charges budgets that match areas of devolved responsibility to avoid situation where leaders have the authority to act but lack the budgets to make a difference.
Transport	Combined authorities and local authorities (powers already enjoyed by Mayor of London and other areas to a certain extent)	Devolved transport powers and funding to local transport bodies, while ensuring region wide bodies like Transport for the North have powers to shape inter-regional connectivity between major areas. This would allow public bodies to control transport, including buses, and design new and improved low-carbon transport plans.
Spatial planning	Mayor of London, Combined authorities and local authorities	Giving leaders new powers to not just improve the supply of genuinely affordable homes in their area but also ensure that future developments commit to developing existing natural assets and promoting low-carbon transport solutions would help deliver more environmentally and socially just housing outcomes than those offered by England's overly centralised and develop-led planning system.

Source: Authors' analysis

With active government support, every nation and region across the UK can benefit from, and contribute to, a fair transition. While this will require setting out a national delivery plan with national funding, as mentioned above, many activities to decarbonise the economy and restore nature will require local delivery. In recognition of their significant convening powers, both within and outside political structures, and their ability to stimulate community action, **all local areas should be offered the powers and resources to play their part in achieving net zero and support nature to recover as part of a new devolution framework**¹⁹. This should include powers over economic strategy, public services (such as skills and welfare), taxation, transport, and spatial planning. Table 3.1 identifies the policy areas where powers could be devolved to support regional and local action.

However, devolution must go beyond just empowering combined and local authorities; it must also share power and resources with communities directly.

"Priority should be placed on encouraging community, cooperative, and worker ownership, as part of all projects. These might include community or cooperative energy projects." Tees Valley and County Durham citizens' jury

The UK government should set a target to significantly increase the proportion of community-owned low-carbon assets. As part of this, one-third of all onshore renewables in England, such as wind turbines and solar panels, should be under community ownership by 2030. To support this the government should learn from Denmark's 2009 'Promotion of Renewable Energy Act' (IEA 2014) that enshrined a 'right to invest' to support local citizens' to take at least a 20 per cent stake in all onshore windfarms. Similar targets should be put in place to support increases in the community ownership of land for tree planting and agriculture, renewable heating sources, housing, and local transport. Scotland's Community Empowerment (Scotland) Act 2015 could provide an appropriate starting point for a new legislative framework that gives communities the powers to take ownership of a wide range of local assets. Workers in community-owned businesses require high-quality working conditions and decent pay, to ensure this such schemes should adopt the fair work standards set out in chapter 4 in consultation with trade unions.

"The action [local and national government] take must be inclusive and responsive to the needs of local communities." Thurrock citizens' jury

As others have argued, empowering communities should involve legislating for their rights, giving communities the right to organise and have their decisions respected (Kaye 2020, Webb et al 2021). New community rights legislation should be introduced by the UK government and include a new Community Right to Own or Manage. This would extend the existing Community Right to Bid, within the Localism Act, to cover a larger definition of community value and support communities to buy or lease unused or underused local assets from both the public sector and private investors.

"Approaches to funding needs to harness community spirit and use the strong networks and cohesion already present. This could also have a positive impact on wellbeing, increasing community connection." South Wales Valleys citizens' jury

¹⁹ The framework for devolved powers and the funding settlements required to support this is defined by IPPR in *Forging the future* (Webb 2021).

Communities need more resources to lead the response to the climate and nature crises in their areas and take a greater stake in their local economies. Government-led funding designed to 'level up' areas of England has been challenged for allocating investment unfairly (Bounds and Parker 2021) and do nothing to put power in the hands of the public. The approach taken to providing resources to communities should learn from the work of independent endowments such as Big Local and Power to Change. The UK government should create a single new, independent and permanent Thriving Places Fund that is endowed by the government, and the National Lottery, with at least £1.5 billion over the next three years.²⁰ This fund would be devolved and distributed locally. The fund would provide support, grants and loans that encourage ambitious responses to the climate and nature crises, create local jobs in the zero-carbon economy and make it possible for more people to live locally to the things they need (a key part of changing how we travel, detailed in chapter 5). The fund would also support our proposed community right to own and manage. The fund should seek to increase the investment available by attracting support of private investors as well as providing opportunities for members of the public to invest in bonds linked to climate action.

²⁰ Our proposal sits between the amounts allocated to Big Local and Power to Change (£150 million) and the proposal for up to £5 billion for a Community Wealth Fund argued for by the Alliance for a Community Wealth Fund Alliance (Local Trust 2018). Such a fund could be provided with further funding after three years, linked to its ability to raise additional funds from the public as well as commercial and philanthropic investors.



TRANSFORMING OUR ECONOMY



For a fair transition to succeed, the UK must transform its economy to better serve people and the planet on which we live. It presents perhaps the greatest opportunity in our history to create high-quality jobs, improve wellbeing, level up across the UK and give workers and affected communities a greater say and a stake in their futures.

But this will not happen by chance. In this chapter, we make the case for government delivering a comprehensive economic strategy that steers public and private innovation and investment to focus on reducing emissions, repairing nature, and increasing wellbeing. Such a strategy must encompass every part of the economy.

The UK must increase investment for net zero and nature across almost all sectors. This means a step-change in public investment, which the public view as crucial to encouraging and removing barriers to action by regional and local government, businesses, individuals, and communities.

There will be a big role for private investment too. At the moment, investment is more likely to be directed at polluting activities which are too cheap rather than clean activities which are too expensive. Carbon prices can shape economic activity and raise revenue, but they are not a silver bullet. Timing, fairness, and a stake for everyone are crucial.

Government should work in partnership with business. Our jurors believe that businesses and investors have a big role to play in meeting net zero and restoring nature and should be provided with the incentives to act – but there should also be penalties and regulation introduced for those that do not.

Partnerships must also extend to workers and their trade unions. Workers must be given a greater voice and stake over their futures, particularly those who will be directly affected by the transition. The UK needs to equip its workforce with the skills for new and different jobs that sustain people and the natural world. The net zero and nature rich economy of the future will need specialist skills from machine learning for energy networks, to installation, repair, and maintenance for low-carbon heating, to tree planting and woodland and forest management. Government at all levels must focus on the education, training and skills needs of workers of all ages, at all points in life.

Our recommendations are grounded in the optimistic but practical view of the communities we engaged through the work of the commission. Success will mean that investments for climate and nature improve quality of life, that any costs are fairly shared, and investment decisions are made as close to, or by communities, as often as possible.

WHAT DID OUR JURORS THINK?

The clear consensus of our jurors was that government must step forward and offer a comprehensive economic strategy, an area where many jurors felt the government was currently falling short.

They expressed anxiety about whether the UK is moving fast enough in addressing the climate and nature crises and whether the government is investing even close to enough given the scale of the challenge.

The jurors had nuanced views on how to balance incentives and penalties to support and encourage action by the private sector. They were mindful that many firms large and small across the UK face considerable risks if the transition is badly managed, even if there were many opportunities available to them and the wider economy as a whole. Overall, the jurors were clear that they want it to be more cost effective for businesses to benefit rather than cause harm to the environment.

The jurors were concerned not just about job creation but also whether enough support was in place to help workers who may be affected by the transition and will need to retrain, and whether young people entering the job market for the first time were receiving the right kind of training.

They were worried about jobs being lost in already struggling areas and wanted to see the opportunities and benefits spread fairly across the whole of the country.

THE CHANGE WE NEED TO SEE

Government leadership and a key role for business

There is a choice to be made over the coming crucial decade: should the government step back and leave decisions to the market, or should it be active and purposeful in setting the direction for the economy? Across all our juries we heard that government needs to show greater leadership.

"Leadership has to be shown by government but everyone is accountable for taking action and should feel part of making the changes that are required."

Aberdeenshire citizens' jury

Well-designed public policies can rapidly reduce costs by de-risking, and thereby stimulating, private investment and pushing us towards a cleaner and healthier economy. Most notably, Contracts for Difference – an agreement between government and developers guaranteeing a fixed price for electricity – have helped rapidly reduce the cost of offshore wind, even if, as is discussed below, the full employment benefits of deployment have not been fully realised (BEIS 2019a).

Outside of renewable energy, other sectors have been moving far too slowly due to a lack of sufficient government support and regulation. For instance, the UK is currently installing less than two per cent of the annual number of heat pumps that we need to meet net zero targets for buildings (Webb et al 2020). This is, for the large part, due to the government's failure to set a clear strategy, mandate legally binding targets and offer the necessary public investment for the decarbonisation of the nation's homes (ibid).

Without government-led investment in domestic supply chains, meeting net zero could also lead companies to move offices and investment out of the UK to

countries with more established supply chains. This would be a double loss as the UK would lose the opportunity to create a domestic manufacturing base and would instead import products that may have a higher carbon footprint than they previously had in the UK (Zenghelis and Rydge 2020).

Where the government currently does focus its attention, it is far too narrow. The government currently supports a relatively small range of sectors focussed on 'frontier' technological innovation and certain exporting industries (IPPR Commission on Economic Justice 2018). Tackling climate change and restoring nature – while tackling other economic issues such as increasing productivity and maximising job opportunities – spans the entire economy and therefore demands a whole-economy response.

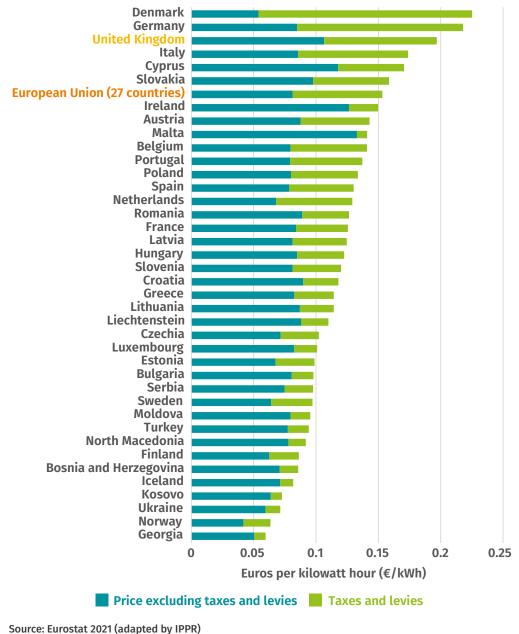
The importance of public policy in supporting business

Without clear government support, there are several common challenges to reaching a net zero target that businesses face across multiple sectors of the economy. These include the following.

- **Policy uncertainty.** The absence of a clear direction in government policy undermines investment, which in turn undermines the creation of new jobs and damages the ability of businesses to plan for the skills they need in future. The need for greater long-term policy certainty is routinely cited as crucial to the investment decisions made by industry, particularly against the backdrop of uncertainty caused by Brexit. According to analysis by Bloomberg New Energy Finance, investment in renewables in the UK dropped by 63 per cent (£8.3 billion) between 2015 and 2017, the largest drop of any country in Europe (Louw 2018). The falling costs of renewables only accounts for some of this fall, with the stop-start nature of policy support being seen by developers as one of the leading causes (Vaughan 2018).
- International competition. Many industries, such as steel and cement, operate within a highly competitive global market and have consequently narrow profit margins (Bataille 2019). Any low-carbon innovation that would increase the price of products, in the absence of a supporting policy environment, could lead to loss of revenue. It could force industry to move abroad, leading to job losses and increased imports from countries where environmental policies are laxer (known as 'carbon leakage').
- **Price uncertainty.** One of the major factors putting pressure on carbonintensive industries is the cost of energy. As figure 4.1 shows, compared to other European countries, the UK has the third highest non-residential electricity prices, which squeeze businesses – particularly in energy-intensive industries – to operate under tighter margins. This is largely due to the Climate Change Levy and the Emissions Trading Scheme (ETS), both of which tax nonresidential electricity and gas use. As many industries pursue electrification to decarbonise their processes, reforming these taxes to reduce electricity prices will be an important factor in maintaining competitiveness (CCC 2020a).
- **Upfront costs.** In a highly competitive global market, investment in innovation must be commercially viable, long term and low risk. However, high upfront costs mean such innovation will be challenging, particularly for SMEs who do not have the same cash reserves. In the construction industry for example, the sector is dominated by a few large companies and several SMEs who are much less likely to meet existing buildings standards, let alone have the ability to follow a new Future Homes Standards for housebuilding (Watkins and Hochlaf 2021). Similarly, in the oil and gas sector, around 60 per cent of companies operating on the UK Continental Shelf are smaller companies that are likely to lack the investment needed to meet their decommissioning obligations (Emden et al 2020).



Comparison of non-residential electricity prices between European countries, second half of 2020



Source. Eurostat 2021 (adapted by 11 h)

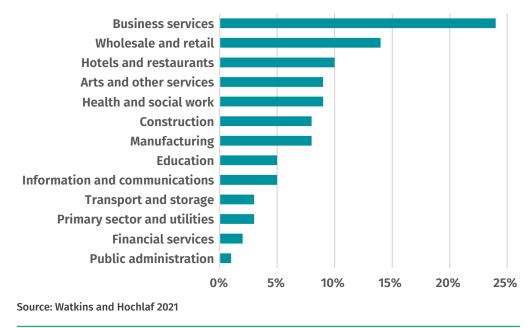
Skills gaps. The combination of an ageing workforce and labour impacts as a
result of Brexit mean that many high emissions sectors like retail,²¹ wholesale
construction and manufacturing already face skills shortages before even
considering existing jobs which will require upskilling as a result of a net zero
(figure 4.2). These skills gaps ultimately risk slowing down the decarbonisation
process for industries while also reducing the number of jobs to which existing
workers and new market entrants may apply. As is discussed below, there are

²¹ Retail emissions are high as they include both fuel and electricity use such as in office buildings and transportation of goods, as well as emissions from products manufactured in the retail supply chain.

a number of challenges facing the skills system which government will need to address to ensure that these skills gaps are filled.

FIGURE 4.2: SKILLS SHORTAGE VACANCIES IN HIGH EMITTING SECTORS SUCH AS RETAIL, WHOLESALE, CONSTRUCTION, AND MANUFACTURING RISK SLOWING DOWN DECARBONISATION EFFORTS

Percentage of employers reporting skills shortages by sector, 2017



• Effective leadership. While many businesses will face barriers of high upfront costs, others that do have capital available need to commit to investing it. This is particularly important since the current government's approach to meeting net zero targets is highly dependent on leveraging huge amounts of private capital to decarbonise. While clearly the enabling environment must be provided by government, business leaders will also need to engage proactively with government, unions and their own workforces to develop transition plans.

Invest in the net zero and nature-rich economy of the future

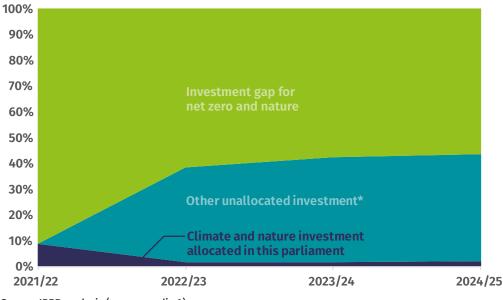
Nearly all estimates of funding required for nature restoration and the net zero transition point towards a sizeable gap in both public and private investment (CCC 2020a). Estimates vary, but for example, the CCC estimate that to reach net zero alone, UK low-carbon investment each year will have to increase from around £10 billion in 2020 to around £50 billion by 2030, continuing at around that level through to 2050 (CCC 2020a). These figures do not account for investment in nature recovery, for skills to support a fair transition or wider investment in clean public transport. These upfront costs, however, are more than outweighed by costs saved, benefits gained, and costs of inaction avoided (CCC 2020a; CCC 2019a; Stern Review 2006).

The public investment gap

"Action is urgent, and we need to accelerate the pace of change. We need to increase the scale of investment and for this to align with the urgency of change required." Aberdeenshire citizens' jury 62 per cent of people want higher government spending to address environmental issues (Green Alliance 2021a). Analysis by IPPR suggests that delivering net zero and restoring nature will require a step-change in public investment (see figure 4.3).²²

FIGURE 4.3: ALLOCATED ANNUAL PUBLIC INVESTMENT IN THIS PARLIAMENT IS LESS THAN 10 PER CENT OF THAT NEEDED ANNUALLY TO MEET NET ZERO BY 2050 AND REPAIR NATURE

Additional public investment committed compared with that needed to tackle the climate and nature crises



Source: IPPR analysis (see appendix A)

*Capital investment proposed by the government but as yet unallocated.

The private investment gap

Private investment also needs to increase if we are to secure a successful transition (CCC 2020a; Dasgupta 2021; Robins et al 2021; Miedzinski et al 2021; GFT 2018). The CCC estimate that up to £35 billion per year of spending will need to come from the private sector in the 2020s (CCC 2020a; PwC 2020).

Although a significant scaling up of public investment over the next decade will help secure private finance, giving businesses the confidence to invest, more will need to be done to lever in private finance.

Sending the wrong signals

Crucial drivers of investment in the economy are price signals, and, at present, activities which pollute and damage our natural world are too profitable and clean activities are not profitable enough (Burke et al 2020). 59 per cent of people support using the tax system to make environmentally damaging behaviour more expensive, with only 12 per cent opposing the idea (Green Alliance 2021a).

"It should always be more profitable to run businesses that are part of the solution, rather than those that contribute to the problem." Aberdeenshire citizens' jury

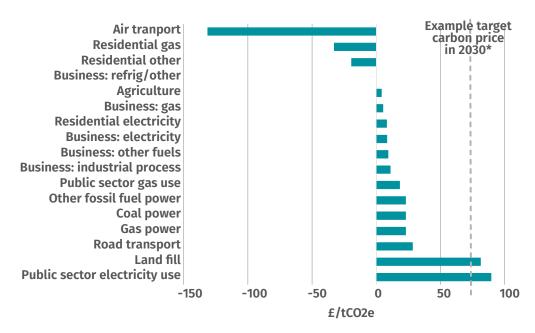
Some recent proposals to reform the UK tax system have suggested that a price of about £75 per tonne of CO₂ emitted across sectors (Burke et al 2020; Zero

²² More detail on IPPR's analysis can be found in appendix A.

Carbon Campaign 2020) would prompt investment decisions by households and businesses to shift their activities towards low-carbon products and behaviours (ibid). As we demonstrate below (figure 4.4), setting a uniform carbon price would have very different impacts across the economy, significantly increasing costs for some sectors.

FIGURE 4.4: SETTING A UNIFORM CARBON PRICE WOULD HAVE VARIED IMPACTS ACROSS SECTORS

Carbon price paths from today towards a uniform price in 2030



Source: IPPR analysis of Blyth 2018

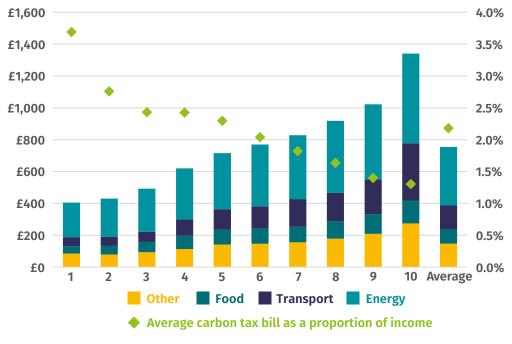
Note: The target carbon price is £75/tCO₂e, which is the the price suggested by Zero Carbon Campaign (2020), Burke et al (2019). For use of gas, electricity and air travel we considered the VAT exemption, in effect, a carbon subsidy since this incentivises increased consumption of fossil fuels over more net zero aligned technologies, such as heat pumps or energy saving technologies.

As our jurors made clear, there are considerable concerns about the fairness of higher carbon pricing, the time-period over which it is phased in and where revenue raised would be directed. As a share of income, higher carbon prices are likely to hit lower income households the hardest, especially given the increase in cost shown in figure 4.4. For those on the very lowest incomes, this could represent almost 3.5 per cent of their annual income (figure 4.5).

This is partly because lower income households spend a larger share of their income on essentials such as heating and transport, so any price increase will have a larger effect as a share of their income (figure 4.6). Though upfront costs of low-carbon technologies like heat pumps and electric vehicles are a barrier for many households, lower-income households are the least likely to be able to afford these technologies (Berry 2019). And some places will be harder hit than others. Rural households are disproportionately reliant on their cars and often require different kinds of heating (Burke et al 2019, Burke et al 2020). Poorer households also tend to have less insulated homes, meaning a carbon price on heating would affect them more.

FIGURE 4.5: A UNIFORM CARBON PRICE (OF £75/TCO₂E) WOULD HAVE VERY DIFFERENT IMPACTS ACROSS HOUSEHOLD INCOMES

Additional cost of carbon tax shown in absolute terms and as a proportion of annual income by income decile



Source: Burke et al 2020

There are also worries about how people will react to increasing carbon prices. For instance, car purchase decisions are only very weakly impacted by expectations of future fuel price rises (OECD 2008). Taxation and making people pay more for polluting activities needs to happen alongside a host of other policies to create the change needed. They must also be implemented with considerations of fairness front and centre. Current policy does not currently reflect this reality; for example low-income households currently pay disproportionately more towards low-carbon policy costs in the UK because there are levied through energy bills.

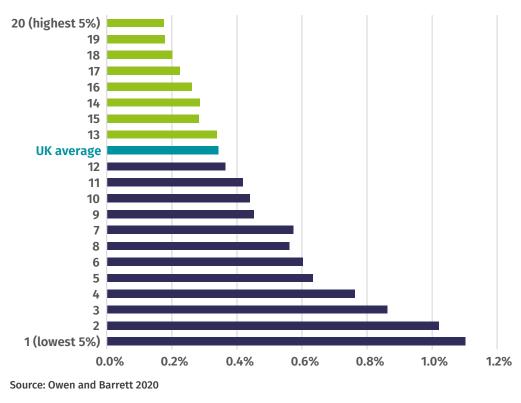
Mechanisms will need to put in place to protect those on lower incomes. For example, funding low-carbon policy through general taxation would reduce costs for 65 per cent of UK households (Owen and Barrett 2020). We outline how these challenges might be overcome later in this chapter and in chapter 6.

With these considerations in mind, environmental taxation can be a useful tool to reach net zero and there are already several examples that are helping to reduce emissions. For example, it has helped trigger the phase out of coal, which is now almost complete (Carbon Brief 2016). The government's plans for a UK Emissions Trading System are developing,²³ with an aim to expand both sector coverage and the cost of polluting. It has committed to this being more ambitious than the EU scheme from the start and to revising it to align with its net zero target.

²³ The UK Emissions Trading Scheme (UK ETS) is the UK's carbon emission trading scheme. It is a 'cap and trade' system which sets a limit on the volume of greenhouse gases that heavy polluters can emit and requires them to buy carbon credits, which can be traded, to cover their output. The UK ETS replaced the similar EU system following the UK's departure from the EU. It currently applies to only small number of sectors.

FIGURE 4.6: LOW-INCOME HOUSEHOLDS CURRENTLY PAY MORE FOR LOW-CARBON POLICY COSTS

Low-carbon policy costs as a percentage of total household income by income groups (2016)



Will the transition worsen existing inequalities or lead to 'levelling-up'?

Jurors' concerns regarding fairness extended well beyond the impacts of carbon pricing. Jurors expressed anxieties about whether the transition would worsen existing problems of unfairness.

"Urgency is needed in the creation of new job opportunities, which must be equitably distributed across the country. This needs to be supported by a clear strategy and monitored over time."

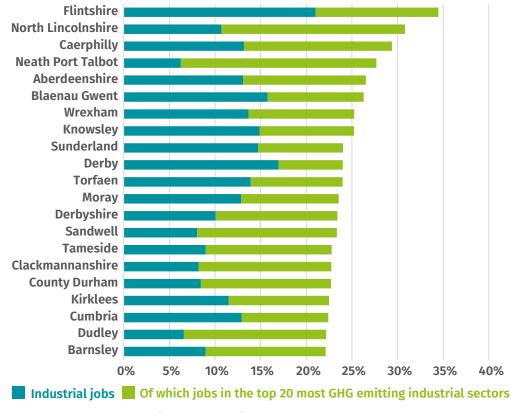
Aberdeenshire citizens' jury

Such concerns are unsurprising given that the transition presents uneven risks across sectors and areas of the UK. For example, a high proportion of jobs in industrial sectors (such as iron and steel, cement, petrochemicals, and waste treatment)²⁴ in the UK lie in high emission sectors and are particularly important to local (figure 4.7) and regional economies of Aberdeenshire, Tees Valley, Cumbria, Humberside, Merseyside, South Wales, Yorkshire and Derbyshire (figure 4.8).

²⁴ Industrial jobs are defined as jobs in manufacturing, construction, fuel supply, waste and waste water.

FIGURE 4.7: A LARGE PROPORTION OF INDUSTRIAL JOBS FALL WITHIN THE TOP 20 HIGHEST **EMITTING SECTORS IN THE UK ECONOMY**

Industrial jobs by local authority including the proportion of high emitting sectors²⁵ (2018)



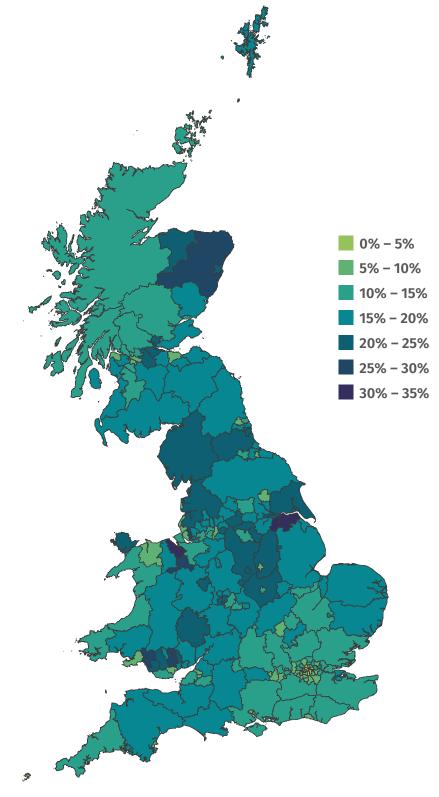
Sources: ONS 2020a and 2020b (adapted by IPPR)

Yet the net zero and nature transition to a cleaner, healthier future presents one of the biggest opportunities to create high-quality jobs in history. Our analysis suggests that the transition will create approximately 1.68 million jobs by 2035,²⁶ 780,000 direct jobs and 905,000 indirect jobs in sectors for clean products and services (figure 4.9).

These indirect jobs figures can provide a useful estimate of the ripple effects of investment into low-carbon technologies. For example, in electric vehicle (EV) manufacturing and charging infrastructure, job creation would not only involve manufacturing and assembly of EVs and charging points but would also create jobs in the manufacturing of components for EVs like batteries (Unsworth et al 2020). As we discuss below, provided government invests in the infrastructure to establish these supply chains, there is a real opportunity to increase the jobs potential through a fair transition.

²⁵ We define 'high emitting sectors' as the top 20 most greenhouse gas emitting sectors out of 66 industrial sectors. Examples of industrial sectors include cement, iron & steel, petrochemicals, waste treatment, oil extraction and refining and construction. We define industrial sectors as those in SIC code categories, A-F except for D, namely: agriculture, forestry and fishing (A), mining and quarrying (B), manufacturing (C), water supply; sewerage, waste management and remediation activities (E), and construction (F). In some cases, job projections only reach as far as 2030, meaning the number may well be even higher. 26







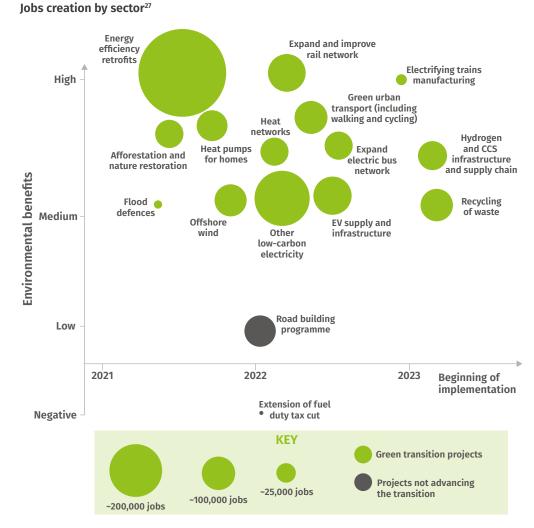


FIGURE 4.9: 1.68 MILLION DIRECT AND INDIRECT JOBS COULD BE CREATED IN CLEAN INDUSTRIES BY 2035

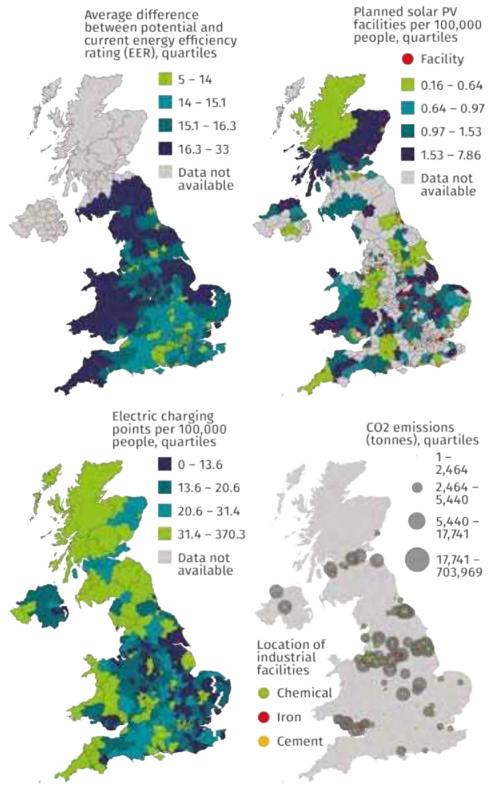
Sources: de Leeuw and Kim 2021; Higgins et al 2020; DfT 2020a; Jung and Murphy 2020; Unsworth et al 2020; ONS 2020a; Chapman et al 2018; Gibb et al 2020; Kearney 2018; Oxford Economics 2018; Cambridge Econometrics 2017; CECA 2013; Ekogen 2010; FoE 2010; and Williams 2008 (adapted by IPPR)

Particularly in Tees Valley and County Durham and Aberdeenshire, jurors talked about the importance of making the most of the many assets in their areas, from industrial assets to ports and harbours. The net zero and nature transition could rebalance employment opportunities across the country. Indeed, many regions outside of London and the South East have valuable natural or economic assets that make them attractive areas for low-carbon investment and the jobs these can bring (figure 4.10) (Baxter and Cox 2017). For example, salt caverns in Tees Valley could be suitable for hydrogen storage and mine-water from old coal mines in County Durham would be suitable for low-carbon heating.

²⁷ Estimated increase based on our proposals to have free bus transport with increased levels of service across the country (see chapter 6).

FIGURE 4.10: LOW-CARBON JOB OPPORTUNITIES ARE SPREAD OUT ACROSS THE COUNTRY

Indicative spatial measures of job creation potential across the country using proxies to demonstrate location of job creation across four different low-carbon technologies – EVs and charging infrastructure, energy efficiency, CCS and hydrogen and solar PV



Source: Unsworth et al 2020 (adapted by IPPR); Office for National Statistics licensed under the Open Government Licence v.3.0. Contains OS data © Crown copyright and database right (2021). <u>https://www.ons.gov.uk/methodology/geography/licences</u>

Do we have the education, skills, and training systems that we need?

According to research from the London School of Economics (LSE), the proportion of jobs that will require reskilling in each region of the UK sits within a consistent range of around 10 to 12 per cent, or around 3.2 million jobs in total. For many workers, this will entail undertaking additional training within the same industry and even the same companies (this is also beneficial to workers in reducing disruption), rather than changing jobs completely; this is known as 'reskilling' (table 4.1).

Sector	Example of existing job roles with skills that will be in demand	Example of new skills demands and job roles that may require upskilling
Hydrogen production	Electrical engineers and technicians in chemicals and oil and gas industries	Upskilling of engineering in the water utilities sector for hydrogen production via electrolysis
Decommissioning of oil and gas	Existing engineering and technicians in oil and gas industry is highly transferable to decommissioning	Some minor upskilling needed for testing new materials and pipe coatings and monitoring and inspecting pipelines
Offshore wind including new floating offshore wind projects	Seamen, engineering, and project management skills will be needed from the oil and gas sector	New engineering skills for floating offshore wind projects
Carbon capture and storage (CCS)	Existing engineering expertise in oil and gas pipeline infrastructure	Minor upskilling needed for welding, testing, handling new materials and inspection and monitoring which could come from chemicals and oil and gas sectors
Energy efficiency and heating	Over 100,000 gas engineers in the UK capable of delivering low-carbon heating systems	Upskilling of specialist repair and maintenance skills and new demand skills associated with offsite fabrication such as surveying, design, logistics and assembly
Electric vehicles	An estimated 5 per cent of technicians in garages and dealerships could already service and repair electric vehicles.	Upskilling for workers in manufacturing roles relating to assembly of electric motors, computers, electronic control devices and sensing equipment. Major upskilling required for technicians working in garages and dealerships to service electric vehicles
Energy networks	Existing electrical engineering expertise and control operators will be key to managing electricity flows on networks	Digital and data skills and expertise in machine learning to manage networks efficiently
Power sector	Minor reskilling from oil and gas, chemicals and waste sectors for low-carbon energy projects like waste-to-energy and offshore wind farm maintenance	Engineers, installers, and technicians to install and maintain projects like wind farms and solar panels
Forest management	Managerial skills in-demand which could be transferable from other industries	Strong desire from employers to upskill workers with machine operator skills as well as planting and woodland and forest management

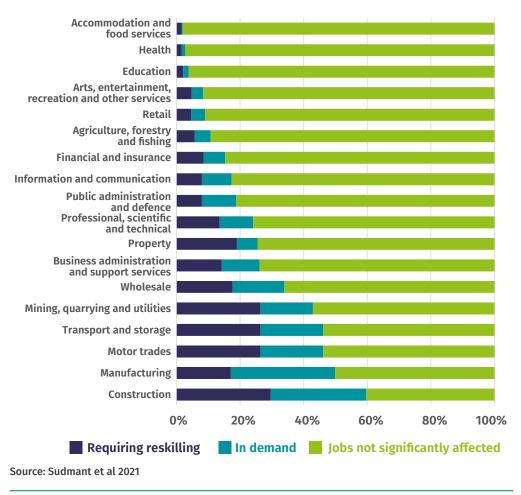
TABLE 4.1: EXAMPLES OF TRANSFERABLE SKILLS, UPSKILLING REQUIREMENTS AND NEW SKILLS DEMANDS IN CLEAN INDUSTRIES

Source: Durusut et al 2020; Ecuity 2020; CITB 2021; Allan 2020; EC 2014; National Grid 2020; Confor 2019 (adapted by IPPR)

The same analysis also suggests that a similar proportion of workers (9 to 12 per cent) in each region and around 3.1 million workers in total will have skills that will be in high demand in a future low-carbon economy (Robins et al 2019). At a sectoral level, as figure 4.11 shows below, while higher emissions sectors like construction, manufacturing and motor trades have a higher proportion of jobs that will require reskilling, a substantial proportion of jobs in these sectors will also be in high demand, particularly in manufacturing.

FIGURE 4.11: HIGH LEVELS OF BOTH UPSKILLING REQUIRED AND SKILLS IN DEMAND CAN BE SEEN IN HIGH EMISSIONS SECTORS

Future skills status by sector



Many workers are interested in moving to jobs in clean industries but need support from government and businesses to do so. One survey, looking at over a thousand workers in the oil and gas sector, found that four in five oil and gas workers said they would consider moving out of their current role and into another part of the energy sector (Jeliazkov et al 2020). IPPR's research has found that 97 per cent of workers across different high-carbon industries would consider moving into a lowcarbon sector job "with the right support", but just under 60 per cent were at best "not very aware" of training to help them to move into a low-carbon sector.²⁸

²⁸ Based on responses from 203 workers surveyed in high carbon industries across the West Midlands, North East, South Yorkshire, Tees Valley, Humber, Merseyside, Southampton, Grangemouth, South Wales and Aberdeenshire surveyed between 19th-26th March 2021 (IPPR and Censuswide, forthcoming).

Reforming the education and skill system in the UK will be essential for providing both existing workers and new graduates with the skills they need to access the green jobs which a net zero and nature transition offers. In response to this challenge, the government's recent announcement of a Lifetime Skills Guarantee for adults is welcome (Prime Minister's Office 2021). However, it only partially restores many years of cuts to the Adult Education Budget – since 2010, the annual Adult Education Budget has been cut by more than £1 billion (Hochlaf and Quilter-Pinner 2020; Dromey and McNeil 2017). The recent commitment of an extra £2.5 billion into a National Skills Fund as part of the guarantee is also welcome but only £375 million will cover the 2021/22 financial year (DFE 2020).

In addition to funding, there are many other ways the UK will need to reform the provision of education and skills training, including:

- conducting comprehensive skills audits to understand future demand across all regions and sectors
- ensuring that the education system provides a clear path to in-demand jobs, including more employers providing early work experience
- the need to incentivise companies to use the apprenticeship levy
- ensuring clean industries outcompete other sectors for STEM graduates by offering decent pay and high working standards and replace a retiring workforce
- more devolved powers for skills, so that regions with the best understanding of local skills needs can tailor solutions to their local areas
- recognised accreditation across training courses to ensure appropriate training for new labour market entrants and to remove unnecessary hassle and training costs for workers with transferable skills.

Sources: Emden and Murphy 2019; Dromey and McNeil 2017; Thomas and Gunson 2017; ECITB 2020; National Grid 2020; EUSP 2020

Without urgent action, the UK will squander the opportunity to maximise clean jobs and domestic supply chains. For example, the recent net zero sector deal for the oil and gas industry includes only a voluntary commitment for the industry to employ half of its workforce locally (BEIS 2021) and there is little support for retraining or listening to workers. This is also true when looking at the offshore wind sector.

THE OFFSHORE WIND SECTOR

While offshore wind blade manufacturing has become a success story in the Humber Estuary, in Scotland the industry has failed to generate a local manufacturing supply chain despite many turbines being deployed along its coastline. Indeed, offshore wind projects have snubbed existing supply chains such as BiFab in favour of international providers (Fraser 2019).

Recent positive developments such as the sector's commitment to hiring 60 per cent of its workforce locally and the ongoing consultation efforts of the Just Transition Commission in Scotland are welcome. A truly fair transition in other sectors must ensure that the UK's workers can access opportunities from the very start of the transition.

"We need to support people to develop the skills to work in greener industries... To make sure these jobs exist we need investment to be put in place now."

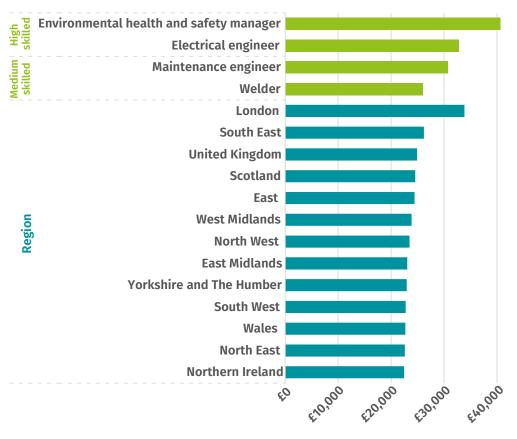
Aberdeenshire citizens' jury

Will the new jobs be well-paid, high-quality, and accessible?

According to IPPR analysis, many of the mid- and high-skilled job roles crucial to the transition could command salaries comparable to or higher than regional average annual salaries in every nation or region except London (figure 4.12).

FIGURE 4.12: IN-DEMAND JOBS HAVE HIGHER SALARIES THAN AVERAGE IN EVERY REGION EXCEPT LONDON

Average annual salary (as of May 2021) of in-demand skills compared to regional median annual salaries (as of 2019, pre-pandemic figures used for comparison)



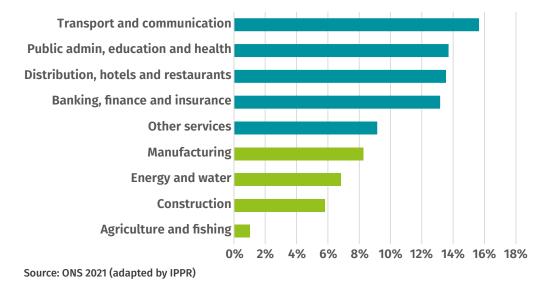
Sources: Durusut et al 2020; Payscale 2021; ONS 2020b (adapted by IPPR)

However, as many unions have continuously stressed, the quality of a job extends beyond high wages (Emden and Murphy 2019). IPPR's recent survey of workers in high carbon industries found that good health and safety practices (37 per cent) and reasonable working hours (34 per cent) were the highest priorities for defining quality jobs (IPPR and Censuswide, forthcoming). Ensuring that the net zero and nature transition will guarantee job quality will require concerted action.

Many of the sectors that need the most investment to decarbonise and create new, clean jobs are also the least ethnically diverse (figure 4.13). Currently, many of the job roles that will be most in demand in future also lack diversity. In 2019-20, women made up only 27 per cent of technicians and only 10 per cent of engineers (WISE 2021). Without an active approach to supporting and including diverse recruitment, there is a risk that the clean transition simply reinforces existing workforce inequalities.

FIGURE 4.13: THE SECTORS WITH THE MOST OPPORTUNITY FOR CLEAN JOBS ARE ALSO THE LEAST ETHNICALLY DIVERSE

Percentage of the workforce from minority ethnic groups by high-level sector



AN ECONOMIC STRATEGY FOR A FAIR TRANSITION, JOB CREATION, AND 'LEVELLING-UP THE ECONOMY'

Government leadership

"The government leading the way on investments means that individuals, communities and businesses are more likely to follow, rather than having to take the risks themselves of starting something new."

Tees Valley and County Durham citizens' jury

Jurors were keen that the government learn the lessons from the Covid-19 pandemic in taking advice from experts. As one juror from Aberdeenshire said: "We need to be led by experts. It's an urgent situation".

"Establish a panel of experts to give the government guidance on tackling the climate and nature emergencies, learning from how experts have been used in response to the Covid-19 pandemic. These experts should come from a broad range of specialisms, including science and economics." Aberdeenshire citizens' jury

Once clear targets and budgets have been put in place, we call for the establishment of Net Zero and Fair Transition Delivery Bodies (NZFT) by the UK government and the devolved nations.²⁹ The UK-wide NZFT should be led by the Department for Business, Energy, and Industrial Strategy and include representatives from other government departments such as the Treasury, the Department for Work and Pensions, Defra, and the Cabinet Office. Stakeholders from across business, academia and civil society should be invited to be members of the board.

²⁹ Here we only outline the role of the UK-wide body, but we would expect the devolved nations to follow a similar approach, and the devolved bodies would need to work closely with the UK-wide body.

The NZFT Delivery Body will have three primary functions.³⁰

- 1. It would be charged with developing an overarching national Net Zero and Fair Transition Delivery Plan for the UK. This would be comprised of fair transition plans across every sector of the economy, learning from the approach taken in Sweden through the 'Fossil Free Sweden' initiative (IPPR 2020).
 - Each would contain the targets, timelines, proposals, and commitments. These roadmaps and plans must involve expanding government support to include the 'everyday economy'. This includes currently ignored sectors like retail and wholesale, which are the 11th and 12th highest emitters of 123 sectors analysed by IPPR, encompass around 13 per cent of the UK workforce, and have relatively low productivity. The body would take a role, for example, in supporting the delivery of the ambitious home heating decarbonisation plans described in chapter six by drawing up a national roadmap, working with local and combined authorities on delivery and providing support and technical expertise where necessary. The UK body would also help coordinate between the UK and Scottish governments in sectors such as oil and gas, for example, where both hold relevant powers necessary to secure a fair transition.
 - These roadmaps must also extend beyond the UK's borders.³¹ The UK's consumption emissions footprint is 50 per cent higher than its territorial emissions (a consumption emissions target is proposed in chapter four), with just under half (46 per cent) coming from things we buy from overseas. Some of these products also have severe environmental impacts such as deforestation, water and air pollution and destruction of local biodiversity (University of Leeds 2021). A fair transition will require a mix of domestic investment in supply chains to create rather than offshore employment and overseas investment to reduce the UK's environmental impact globally.
- 2. It would facilitate dialogue and work in partnership with all key stakeholders including regional government including combined authorities and mayors, local government, and Local Enterprise Partnerships, workers, trade unions, local communities, industry and business, financial institutions and civil society. It would also provide support, resources and guidance on the transition.

"There are many people we don't hear from...and the solution has to be inclusive for all."

South Wales Valleys citizens' jury

3. It would develop with all stakeholders three plans for the fair transition: fair transition agreements stemming from evidence sessions with workers; a national blueprint for low-carbon work focussed on support for workers and reskilling and upskilling needs that incorporates the worker-led fair transition agreements; and fair transition investment plans setting out the pathways and obligations for business. We detail the content of these plans below.

³⁰ These bodies should be focussed on delivery. The UK-wide body would be charged with working with its sister bodies in the devolved nations. Lessons should be learned from the format and output of the Just Transition Commission in Scotland, though that body was advisory. <u>https://www.gov.scot/groups/just-transition-commission/</u>. Further information on this body and the other bodies proposed in this report can be found in appendix B.

³¹ We call for the government to introduce a consumption emissions target in chapter 3.

RAISING INVESTMENT IN NET ZERO AND NATURE

"Investment needs to take place over the next 10 years to achieve government targets without negative impacts." South Wales Valleys citizens' jury

Raising public investment

In line with the consensus from our jurors, and the current significant investment gap, we propose a step-change in public investment across most sectors to achieve our goals for net zero, the restoration of nature and supporting a fair transition. We call on the government to make a long-term commitment to investing for net zero and to restore nature, with a minimum public investment of £30 billion on an annual basis up until at least 2030.32

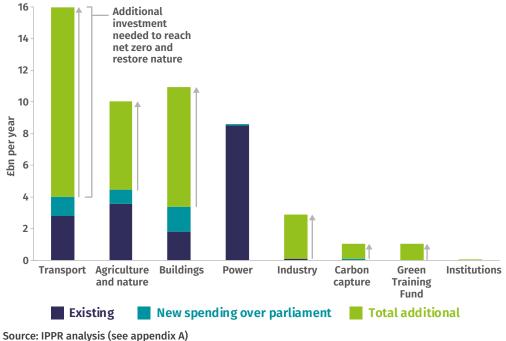
This additional investment could be funded through a mixture of re-allocating existing spending, borrowing and revenue raising measures. Such investment will help accelerate the transition over the next 10 years, create jobs and level up, and help the economy recover and stabilise public finances after Covid-19.33

"We need to recognise that action will take money. This needs to be provided for the long term and be strategic – government commitment can't be taken away."

Tees Valley and County Durham citizens' jury

FIGURE 4.14: THE LARGEST INCREASES IN PUBLIC INVESTMENT ARE NEEDED IN TRANSPORT, AGRICULTURE AND NATURE, AND BUILDINGS

Estimates of additional annual public investment needed for a fair transition to net zero and the restoration of nature



32 With consequential funding for the devolved administrations.

Full details on the spending proposals in this report can be found in appendix A. 33

The UK should also review its fiscal rules to increase limits for climate and nature related borrowing. As WWF have argued, this could allow for more fiscal space to finance climate and nature related investments so that debt levels would not be a constraint on clean investments, with the reassurance that the return on such investments would be greater than any additional costs (WWF 2020).

As we argue in chapter 3, we want to see consistent devolution deals, with powers and resources over housing, transport and devolution devolved to every part of the UK. As part of this, as much of this annual investment as possible should be devolved to regional and local government as part of these devolution deals, so that local areas can own and deliver plans to address the climate and nature crisis.

CAN WE AFFORD A STEP-CHANGE IN PUBLIC INVESTMENT?

"The cost of acting now is much less than the cost of inaction, both in the UK and worldwide." Tees Valley and County Durham citizens' jury

Though this scale of investment is substantial, there are four key reasons this spending makes clear economic sense.

First, while there is a requirement for upfront capital spending over the next decade in particular, such investment will yield ongoing savings. The CCC estimates that if UK total low-carbon investment (public and private) rose to £50 billion in 2030 and continued at that level until 2050, by 2035 the economy would be realising savings of £35 billion by 2035 and £60 billion by 2050 (CCC 2020a).³⁴ These benefits do not include the many other benefits of such an investment to health and the environment.

Second, as IPPR research has shown elsewhere, as the UK emerges from the economic crises caused by Covid-19, it risks being stuck in a stagnating economy. Investing now is likely to have particularly high returns if it can prevent the economy from falling into a 'stagnation trap'³⁵ (Jung et al 2021). Investment in low-carbon sectors have been shown to be job-rich and greater engines of job creation when compared with higher carbon sectors (Jung and Murphy 2020).

Third, the current ultra-low-interest rate environment means investment is eminently affordable (Jung et al 2021). The UK government can currently borrow for 30 years at about minus 1 per cent in real terms – this means investors are paying the government 1 per cent each year in real terms to take their money over 30 years (BoE 2021; OBR 2021).

Finally, the risks of inaction far outweigh the risks of action. The climate and nature crisis are the largest existential threat to our way of life and must be a priority for investment (IPPR 2020).

³⁴ Many of these savings relate to reduced reliance on imported fossil fuels.

³⁵ Significant longterm 'scarring' effects of the pandemic are expected– leaving the potential of the economy between lower than before. The longer the recovery takes to materialise, the greater this problem will be, potentially leading to a vicious cycle of business bankruptcies, layoffs, and depressed demand. For more information, see Jung et al 2021.

INCENTIVES AND SUPPORT FOR BUSINESSES

"If you lead the world then business will follow and that will attract investment. If we can build technologies that can be exported, this can create iobs." Thurrock citizens' jury

In response to the common challenges facing industries and businesses across the UK economy, below we set out how the right government policies could support business and industry across the economy to decarbonise.

1. Investment, loans, and tax credits

The newly proposed UK Infrastructure Bank can help to attract private investment as similar institutions have done elsewhere such as the highly successful KfW in Germany (IPPR Commission on Economic Justice 2018).

We welcome the inclusion of a green remit for the NIB, but as the government further develops its functions and governance, it is essential that it reflects the wider priorities for the transition set out in this report. We recommend that the UK Infrastructure Bank is appropriately capitalised, its mandate reflects the urgency of the climate and nature crise and embraces opportunities to increase fairness and levelling up opportunities.

- The government should increase the bank's capitalisation over time, recognising that the current level of capital (£5 billion) is significantly lower than that which the UK received from the European Investment Bank (£13.5 billion was provided in the year and half prior to Brexit) (E3G 2021).
- In line with our recommendations in chapter 3 regarding the net zero and • nature rule, no funding from the bank should be directed towards fossil fuel projects.
- To ensure the bank is both representative and independent, the bank's board recruitment should emphasise diversity and include representation from trade unions, scientists and civil society.
- The range of projects the bank has a remit to fund should be extended to cover • projects that restore nature such as tree-planting or peatland restoration and align with the targets for nature and wider environment set throughout this report (chapters 3 and 6).
- Its remit should incorporate an explicit focus on supporting under-invested regions as part of its levelling up objective, and, on maximising job security, pay and quality and that 'fair-transition' principles (set out below) are embedded within its investment framework.
- It should have an explicit remit to support innovative businesses and SMEs and focus on commercialisation and market development as well as funding more mature projects.

The government should also be providing more support for the circular economy. A whole-economy approach would enable the government to realise the substantial benefits of a circular economy. Research by the Cambridge Institute for Sustainability Leadership suggests that a circular economy approach could increase resource productivity by 3 per cent annually, generate £10 billion in GVA and 200,000 jobs by 2030 and help to reduce the UK's environmental footprint (CISL 2018). We propose that the UK government invest in more productive, lower impact businesses by earmarking an additional £700 million in its Industrial Decarbonisation Strategy for projects aiming to promote a circular economy. This figure reflects the funding currently allocated to projects addressing industrial

emissions (NAO 2021a). Moreover, additional research centres should be established focussed on the circular economy, specifically near industrial clusters that are likely to benefit from them.

It is vital that all investment incentives the government provides are aligned with net zero and the restoration of nature. We therefore recommend that the UK government reforms the R&D tax credit, along with the announcement of a super-deduction in the 2021 Budget, to only apply to investment that meets net zero and environmental impact criteria. While this could help to shift private investment, previous analysis from IPPR has shown how the current R&D tax credit regime is relatively ineffective at generating additional investment (Jacobs et al 2017). Consequently, the government should introduce an annual review of R&D tax credits to ensure these incentives stimulate climate-compatible innovation investment and minimise 'deadweight' (the amount of investment that would have happened anyway). If the credits prove to be ineffective even once aligned to net zero criteria, they should be replaced with an increase in direct government innovation funding. Lastly, to support continuing investment into business energy efficiency and decarbonising energy consumption, the government should offer zero-interest business loans, with a particular focus on SMEs³⁶ that may otherwise be unable to afford such investment. These should form part of the GreenGO scheme outlined in the following chapter.

In addition to incentives for domestic business, government will need to reduce the environmental impact from imported goods and UK companies with already embedded international supply chains. To this end, we recommend that UK Export Finance (UKEF) should expand the range of low-carbon projects it supports to focus on supply chain decarbonisation such as process efficiency and innovation.

2. Renewable energy big switches

To reduce operating costs and boost competitiveness for industrial sectors, the UK government should facilitate industrial energy 'big switches' that offer power purchasing agreements (PPAs)³⁷ to multiple industries and green energy providers. The agreements would involve the government aggregating industries interested in participating and then conducting an auction process among energy suppliers to supply these industries with renewable-based electricity at a fixed energy price for a fixed number of years. The aggregation of high-carbon industries would ensure that the energy demand was big enough to incentivise energy suppliers to participate in auctions and offer competitive prices that could address business' high electricity costs. The fixed price and number of years of supply would help provide businesses with certainty regarding their overheads. Once PPAs were verified, participating industries should be exempted from Climate Change Levies on electricity as their electricity sources would be decarbonised. In addition, for those not participating in 'big switches', between now and 2030 the government should gradually increase the Climate Change Levy on gas and decrease the levy for electricity in line with power sector decarbonisation to incentivise further investment into electrification.

3. Carbon Contracts for Difference

Many energy-intensive industries need more long-term certainty and de-risking of investment for capital intensive decarbonisation measures such as carbon capture and storage or electrification of industrial processes. Contracts for Difference (CfDs) are an effective way of meeting both these needs by providing a fixed 'strike price'

³⁶ This should form part of the GreenGO scheme outlined in the following chapter and have a particular focus on SMEs. Similar schemes should be pursued by the devolved nations.

³⁷ Power purchasing agreements are contracts to provide energy – in this case, explicitly renewable energy – between an energy provider and a business customer at a fixed price, providing the business in question with long-term certainty over future costs.

for a given good, service or activity. When the market price is lower than the strike price, the government tops up the payment. When the market price is higher than the strike price, the company pays back the windfall. CfDs were most notably a very effective way to incentivise offshore wind deployment by providing a strike price for electricity over a set period which gave developers clear certainty over future revenue. The effect was that in less than five years, the cost of building offshore wind farms in the UK more than halved (Evans 2019). Following the example of the Contracts for Difference for the offshore wind industry, we therefore recommend that the government should introduce Carbon Contracts for Difference (CCfDs). While we do not put a specific figure on the scale up required, analysis from the CCC suggests manufacturing industries alone would require an estimated £2-3 billion per year in government support (CCC 2020b).

These CCfDs would operate similarly to the CfDs for offshore wind. They would pay carbon-intensive industries (ranging from steel producers to landfill operators) a fixed 'strike price' for every tonne of carbon emissions abated against a net zero aligned target for each industry. These CCfDs would be linked to the price of permits for the emissions trading scheme (ETS) and when the permit sell price was below the strike price, the CCfD mechanism would top up payments.

However, unlike CfDs for the power sector, due to the highly traded nature of carbon-intensive sectors, if the ETS permit price were to exceed the strike price, industries would not have to return any windfalls unless profits became excessive (Sartor and Bataille 2019). This scheme would come with the caveat that the government would need to negotiate with industries about the allocation of ETS permits. Ideally, this would involve making the initial allocation of permits free to avoid additional costs to industries, while ensuring that permits were limited enough to avoid the same oversupply problems the EU ETS encountered when it was first introduced. Finally, any industry applying for CCfDs should incorporate them within their fair transition investment plans (see below) to ensure the impact on workers and local economies is fully considered.

4. Green procurement

As a complement to incentivising business investment, the government will also need to generate demand and stimulate new markets. We therefore recommend the UK government and devolved nations should use public procurement to stimulate demand for low-carbon technologies. Public procurement is a significant source of demand – £268 billion worth of public contracts in 2015 or 14 per cent of GDP – that can provide a readymade customer base (IPPR Commission on Economic Justice 2018). The government has recently taken positive steps towards harnessing the public procurement to meet emissions targets by requiring contractors to have a credible net zero business plan before tendering for contracts (Cabinet Office 2021a). However, to ensure public procurement explicitly drives towards a fair transition, government should also reform the Social Value Act to make social value an obligation rather than a consideration. Specifically, the government should reform the act to codify local labour clauses, high-quality jobs standards (see below), and climate and environmental compatibility; support SMEs and social enterprises to win a greater number of contracts; and lower the threshold value of eligible contracts to encourage more applications. This will ensure that both the public sector and the private sector (see 'fair transition investment plans' below) are aligned in securing a fair transition.

5. Standards, labelling schemes, and accreditation marks

In tandem with public procurement, the UK government in partnership with the devolved nations should develop accreditation marks for industrial products

(for example, green steel, concrete, or low-methane landfill) manufactured to a materially efficient, net zero and environmentally compatible standard (Shanks et al 2018). As with procurement, the accreditation should incorporate fair transition objectives that would indicate that the making of a product involved high-quality local employment. This would not only provide helpful guidance for public procurement officers but could prove the credentials of UK products on international markets.

For consumer-facing products, clear information will be key to helping consumers to choose green products. To this end, we recommend the UK government in partnership with the devolved nations should introduce publicly and widely advertised labelling schemes for all retail and goods and food to stimulate demand for low emissions and low environmental impact products. These labelling schemes could be modelled on the A to G ranking system for energy efficiency products to provide consumers with a clear, visual indicator of the 'greenness' of a product. In addition, to ensure continuous innovation the UK government in partnership with the devolved nations should ratchet up standards over time to ensure products are aligned with net zero targets and environmental impact budgets (see chapter 4) and adapt labelling schemes accordingly. This could follow the example of Japan's 'toprunner' programme where the most efficient product on the market becomes the minimum standard for a few years and the government rewards other suppliers that meet this standard with 'top-runner' accreditation. More efficient products are then developed and the cycle repeats. This policy has encouraged manufacturers to consistently meet or exceed energy efficiency targets (Future Policy 2021; Miedzinski et al 2021).

6. Carbon border adjustments and import standards

After stimulating both supply and demand, the UK government should provide a five-year warning, after which it should start to introduce carbon border adjustments – tariffs on imported goods that have a high carbon footprint - through a UK trading scheme connected to the EU ETS. The government should provide this warning as soon as possible and must implement the tariff on a multi-lateral basis that includes key trading partners and developing countries. This advanced warning and cooperation would be critical to give the UK time to develop low-carbon domestic supply chains, avoid negative impacts for UK exports to the EU (where tariffs might increase the price of components in industrial processes and make businesses less competitive in the UK) (Burke et al 2021), avoid potential carbon leakage, and prevent economic protectionism that would disadvantage exports from developing countries³⁸. Finally, in the longer-term after carbon border adjustments have been established, the government should introduce import standards both to minimise consumption emissions and to ensure higher carbon industries do not undercut domestic producers.

RAISING PRIVATE INVESTMENT IN THE CLEAN TRANSITION

"Businesses and investors need to be part of the solution. Where they aren't willing to act in the way that's needed, they need to be regulated. They need to be incentivised to act, but there need to be penalties if they don't."

Tees Valley and County Durham citizens' jury

³⁸ In chapter 7, we recommend that lower income countries are at the centre of development for carbon border adjustment mechanisms and the creation of mechanisms to ensure that carbon pricing schemes direct revenues to those countries least responsible and worst affected by the climate crisis.

Crowding in private finance will be crucial for a successful transition. While there have been many achievements with regards to greening the financial system, much remains to be done. Many of the most polluting firms continue to access funds at ultra-low costs and many clean activities and sectors cannot be properly targeted by green investors because no metrics exist to distinguish them from polluting ones. A more robust approach to greening finance is needed. In practice, this will require the following.

UK financial institutions should be legally required to set targets, including interim targets, to align their investments with net zero, the Paris Agreement, the wider environmental targets, and the principles of a fair transition we propose in this report. Doing so will require a move towards focussing on indicators that are most useful and introduce a degree of comparability. Science-based targets at the heart of assessing firms' climate performance bear the most promise in terms of being impactful and comparable. The promise of this approach is reflected by the recent adoption of a similar approach by global financial regulators (NGFS 2020). Though more nascent, the inclusion of science-based targets for nature should also be considered once similar robust targets have been more fully developed.³⁹

"We shouldn't put all the emphasis on consumers to change their behaviour in the first instance but to change behaviour by forcing large corporations to comply with stricter measures to meet climate change and nature targets. They should be made accountable for achieving these targets. Then educate the consumer on smarter changes making suggested changes cost effective for all." Thurrock citizens' jury

Financial institutions should be obliged to report on their progress against these targets and where they are not being met, to set out the perceived barriers, reasons for not meeting such targets and a future pathway for meeting them. The Financial Conduct Authority should provide an impartial assessment of firms' performance against green indicators and a public league table should be introduced so that the public can compare company performance. In time, these targets for financial institutions should be mirrored by a requirement for all large UK non-financial firms to also set and report on their progress against such targets (forming part of the fair transition plans argued for below).

Increasing the cost of polluting and damaging nature

"Carbon taxation should be introduced but it should be incremental and targeted at those with the worst environmental impacts, such as the biggest carbon emitters."

Tees Valley and County Durham citizens' jury

Transforming the way in which we price carbon and value nature will be essential to achieving a transition to a cleaner, healthier, and fairer economy. At the moment, our taxation system allows polluting activities to be too profitable and clean activities are not profitable enough (figure 4.4). However, any reform must be done in a way that is fair and it must form part of a broader package for change.

"Where there are additional costs, like fossil fuel taxes, they should be phased in to give people time to prepare and those on low incomes should be protected." Thurrock citizens' jury

³⁹ For more information on science-based targets for climate see https://sciencebasedtargets.org/ and for nature see here: https://sciencebasedtargets.org/ and for

Consequently, while we recognise that carbon pricing should have a role to play in addressing environmentally damaging behaviour, we recommend that the use of carbon pricing schemes should pass four key tests.

- 1. Fair alignment: any carbon pricing regime and wider taxation system should be aligned so that clean alternatives are subsidised, and polluting and environmentally destructive activities are penalised.
- 2. Fair support and compensation: support to invest in clean alternatives must be provided and compensation should be targeted and put in place before any significant price changes. In particular, any increase to heating and non-residential costs as a result of carbon pricing should not leave poorer households and affected businesses worse off. For businesses especially, carbon pricing must not lead to companies offshoring both their workforce and emissions.
- **3.** Fair timing and communication: All compensation and pricing schemes should be designed and communicated so that they are clearly accessible and understandable to the public.
- 4. Fair use: the limitations of the use of carbon pricing schemes must be recognised and they must form part of a wider package of public investment, incentives and regulation in delivering net zero and restoring nature.

As we discuss above, any future carbon price would have to pass a number of tests to ensure it was implemented in a fair way. One way to achieve this would be to require that some of the revenues raised be recycled providing compensation to households, with low-income households receiving a larger proportion. We outline what such a scheme might look like in chapter 5.⁴⁰

Empowering pension holders and investors to play a role

Private investment from institutions is not the only means of increasing investment in the clean transition. At present, many members of the public already have a financial stake in the transition through their pensions and investment, but few are given the information or the tools they need to affect change (Treasury Select Committee 2021). For instance, 96 per cent of people that hold defined contribution pension funds⁴¹ remain in what is called the 'default fund' which have no sustainability requirements (ibid).

Financial education is needed to raise awareness and increase the public's knowledge about the connection between their personal finances and the sustainability of their investments. This should be taken up formally through the change in the curriculum outlined in chapter 3 but also through the information provided to consumers through the 'one-stop-shops' proposed in chapter 5. The UK government and devolved nations could also provide strong backing for civil society campaigns that mobilise their supporters, including NGO sustainable finance education initiatives that teach people about the climate and nature impacts of their investments and encourage them to think about the impact everyone on the planet can have to shape all our futures.

While innovation is occurring in green consumer finance, the evidence suggests that there is much to be done to accelerate and expand it (ibid). Consequently, we recommend that the UK government set a legal requirement for all 'default' defined contribution funds to be net zero aligned by 2030 at the very latest and to make it quicker and easier for consumers to switch in the meantime. Pension companies should be required to provide information – with the appropriate financial safeguards – so an independent service can give pension

⁴⁰ This should form part of the GreenGO scheme outlined in chapter 5 and have a particular focus on SMEs.

⁴¹ Defined contribution pensions build up a pension pot using savers and employers contributions (if applicable) plus investment returns and tax relief.

holders advice on their best options with their existing provider and potential alternatives. Pension holders should be allowed to set new ethical parameters for their investment with all the necessary advice on what that might mean for their pension.

There are also considerable concerns about the practice of 'greenwashing' which is detrimental to the reputation of the financial industry, progress towards our environmental goals and to consumers. To combat this practice, we recommend that the Financial Conduct Authority should create a mandatory climate and environmental impact labelling system for financial products to support transparency, prevent the proliferation of inconsistent voluntary schemes and encourage innovation. Such a scheme should follow the same approach as for the labelling scheme for retail, goods and food outlined above. Furthermore, all financial indices should be required to disclose the overall carbon and environmental footprint to investors.

TRANSFORMING EDUCATION, TRAINING, AND SKILLS TO SECURE A FAIR JOBS TRANSITION

Government policy will be crucial in supporting workers, creating new high-quality employment, and ensuring people directly benefit from the transition. Maximising opportunities requires being upfront about the challenges facing workers, listening to their concerns, and co-developing plans to ensure they and their communities have a stake in the country's shared future.

Defining the fair and clean jobs transition

The UK and devolved administrations should create a national blueprint for lowcarbon work by the end of 2021 that demonstrates the government's commitment to a fair transition. This plan will include the following components.

- A funded right to retrain. As we set out below, all high emissions businesses should set out fair transition investment plans that would set out if and which workers in their companies may be affected by the transition. Any workers that were affected should have a legal right to receive retraining. Where possible, retraining within the same company should be prioritised but retraining within the same industry or indeed a different industry altogether should also be available. Below we set out the different options workers could pursue to receive such retraining.
- Incorporate Fair Transition Agreements co-developed by workers and unions and facilitated by Net Zero and Fair Transition Bodies (see below).
- Governments, unions, workers and local communities should develop a 'high-quality' clean jobs standard. This should draw on the existing criteria from the Scottish government's Fair Work First initiative and incorporate the Fair Transition Agreements co-developed by workers and unions. Indicative criteria for a high-quality job standard should consider reasonable working hours; a safe-working environment; flexibility (no "one size fits all" policy for different places and sectors); protection of workers' rights opportunities for training and career progression; decent pay; job security; and diversity.
- **Make these criteria a legal requirement** of future sectoral decarbonisation plans and a condition of all fair transition investment plans (see below).
- **Comprehensive nationwide skills audits.** Relevant data should include jobs by skill level, job descriptions and skills gaps. This data should be collected and published at a local authority level.
- Set out a specific plan of action for diversity and inclusion, recognising the need to increase workforce diversity and overcome barriers that disproportionately disadvantage minority ethnic groups such as recruitment policies.

Creating local, high-quality jobs of the future

Policies will need to ensure that the communities and regions most affected by any transition are also those which stand to benefit the most. To this end, both the UK government and devolved nations should build on the provisions of the offshore wind sector deal (HM Government 2019a) and **make funding and support for low-carbon projects contingent on leveraging inward investment from industry into local communities**. The UK government should also **include local labour clauses in all contracts for climate and nature compatible projects** to establish a strong, domestic low-carbon manufacturing base.

A climate and nature compatible skills and education system to provide the route to high-quality jobs

Businesses, workers, and new labour market entrants must have access to the high-quality training that will enable the UK to realise the opportunity of the clean jobs transition. To this end, both the UK and Scottish government (since skills policy is devolved in Scotland) should set out a clear policy programme for the skills system to facilitate a fair transition. This programme would include the following core components.

Both the UK and devolved administrations should set up linked but separate skills academies across each nation for existing workers, unemployed individuals, and new entrants to the labour market, that draw together existing initiatives and build on them. The skills academies' primary purpose would be to support existing workers and new labour market entrants to move into net zero and nature compatible jobs. The academies should be partnerships between local authorities and/or combined authorities, further education colleges and technical colleges.

Skills academies are already starting to gain popularity, with the Mayor of London already underway with his plans for a green skills academy in the capital (Mayor of London 2020). An existing joint venture in Bath between two further education colleges and the local authority has already been operating for a number of years (Bath and North East Somerset Council 2021). Skills academies would also ensure all existing skills and education initiatives such as the apprenticeship levy and Scotland's National Retraining Partnerships and Individual Training Accounts (Emden et al 2020) were also providing retraining that was compatible with net zero and environmental targets.

The key tasks of the skills academies would include the following.

- Identifying upskilling, reskilling and new skills needs and inclusive access to training. This would be done through the comprehensive skill audits and diversity action plans mentioned above. Skills academies would support these plans by working with FE and technical colleges, universities, and training providers on the skills supply side and, workers, businesses, local authorities and trade unions on the skills demand side.
- Accrediting training providers to ensure that all training provided adheres to the high-quality job standards discussed above and is compatible with net zero and environmental targets. This would include accreditation of existing schemes such as the apprenticeship levy.
- Monitoring and evaluating training by receiving feedback from trainees and businesses on the quality of their training courses.
- Financing companies and individuals applying to access this training through the Green Training Fund (see below).
- Providing an easily accessible online platform of accredited providers and an over-the-phone advice service.
- Providing careers advice to individuals accessing training through the skills academies.

• Awareness raising of training opportunities and support to businesses and individuals.

The pandemic has demonstrated that governments can step in and provide support for workers' livelihoods in the face of an economic crisis. In the context of the climate and nature crises, the skills system in the UK is neither sufficiently targeted to support the many workers who may be affected, nor is it sufficiently well-funded to fill the skills gaps businesses are already facing quickly enough. As the UK moves towards its net zero target, demand for more and different types of skills will only increase, perhaps most prominently demonstrated by the construction and retrofitting industries (Watkins and Hochlaf 2021; Webb et al 2020).

We therefore recommend that **the UK government should allocate £1.1 billion per year until 2030, with a comparative commitment by the devolved nations** – including Scottish government expanding the funding of their own Transition Training Fund.⁴² This estimated funding represents the amount required to provide retraining for the approximately 3.2 million workers who will need to undergo reskilling because of the transition by 2030 (Robins et al 2019). Some of this funding could come from the government's recent commitments in its Queen's Speech to allocate £2.5 billion to a National Skills Fund (of which £375 million has been earmarked for 2021/22). Finally, the Green Training Fund would be distributed by skills academies to businesses applying for training courses on behalf of existing workers.

The UK government should ensure that the recently announced lifetime skills guarantees explicitly only provide training for net zero, nature or climate compatible sectors. In Scotland's case, this should involve substantially expanding the amount offered for Individual Training Accounts for all adults regardless of employment status. In addition, if training courses are more expensive than the funding for skills guarantees, or provide training above NVQ level 3, additional funding should be provided by the skills academies through the Green Training Fund. The government should also introduce a right to career reviews and face-to-face guidance on training to help people understand how to access and use their training accounts.

The skills academies should also develop 'skills passports' for workers with existing transferable skills to remove the burden of either employers or employees having to pay for certification of skills that they already have when moving jobs. These skills passports could build on the work of the Engineering Construction Industry Training Board's (ECITB) Connected Competence initiative. In addition, to direct people who are unemployed towards training that can help them find new clean jobs, the government should establish a referral system that directs people to skills academies and how to access and use their training accounts. This referral system would include services which unemployed people are more likely to use including job centres, local council services, case workers and GPs.

Putting workers at the heart of the transition

As international examples of industrial change show – from phasing out coal in Canada and Germany, to decarbonising steel in Austria – a fair transition must give workers and communities a voice and influence on the future direction of their livelihoods (Emden et al 2020; Coats 2020). This will require coordination including

⁴² We estimate this figure using the following methodology. First, we apply the government's recent increase to payments for the apprenticeship levy of £3,000 per graduate (EFSA 2021) and set out a hypothetical scenario where similar costs for retraining would apply to existing workers. We then multiply this figure by 3.2 million – the number of workers estimated by the LSE who will require reskilling in the transition. Finally, we average out this cost over nine years to reach the 2030 target date.

between devolved nations and the UK government, industry, trade unions, and most importantly, workers and communities.

To this end, Net Zero and Fair Transition Delivery Bodies (NZFTs) should work with trade unions to arrange evidence sessions with workers in each affected industry. From these sessions, the NZFTs should then develop worker-led Fair Transition Agreements that would be included in the blueprint for a low-carbon workforce and the high-quality job standards (see above). These agreements would cover a range of issues, including: pay, job security, working time, job descriptions, training and skills, apprenticeships, retirement policy, monitoring and surveillance, performance management, and health and safety implications and equal opportunities. Such agreements already have precedent in the UK, most notably demonstrated by the framework agreement between the London 2012 Olympics organisers and the Trade Union Congress which set out codeveloped principles for workers covering many of the issues mentioned above (TUC 2008).

It will also be crucial to give businesses, workers, and communities enough time to prepare for the future. As such, all carbon-intensive businesses should immediately begin a collaborative process that works with communities, their own workforces, trade unions, skills academies and Net Zero and Fair Transition Delivery Bodies to develop 'fair transition investment' plans. Once these plans are finalised, businesses and workers should have at least two years to prepare before going ahead with any activities that may fundamentally affect jobs or business models.

While these plans would look different for each sector of the economy, we recommend that all of them should have the following components.

- 1. **Commitments to workers.** As discussed above, all fair transition investment plans must incorporate commitments to deliver high-quality jobs standards, co-developed by workers and unions, and commitments to invest in local content.
- 2. Accessible information packs and guidance for the workforce. This guidance would describe to all workers the changes that are likely to take place and the support they can access including: access to government training schemes such as the skills academies; access to career services; and access to mental health services.
- 3. Paid skills sabbaticals. Paid sabbaticals would cover the length of any training that workers may need to undertake, thereby ensuring they do not have to worry about a source of income in the meantime. Businesses could make these sabbaticals tax deductible.
- 4. Skills mentoring. As an alternative to retraining older workers, businesses should offer them the opportunity to join mentoring programmes to pass on skills and expertise to newer members of staff. As with training, businesses would be able to make claims through skills academies to finance these mentoring programmes.
- 5. Travel assistance. If decarbonisation within a company meant relocating workers, companies would have to offer travel support to workers to ensure workers' day-to-day costs did not increase. This support would be tax deductible.
- 6. Access to unions. While unions will be involved in the co-development process for fair transition investment plans, businesses should also make provisions to allow unions access to workers to make the case for union membership.

HOW OUR FAIR TRANSITION PLAN WOULD WORK

1. Decarbonising the retail sector

Emissions, employment, and environmental impact profile

The retail sector has the 11th highest greenhouse gas emissions of 123 sectors analysed by IPPR. With approximately 2.8 million workers in 2019, it is also one of the largest employers within every regional economy in the UK (ONS 2020a; ONS 2020b). The retail sector is very fragmented, comprised of both large retailers and many SMEs, making industry-wide policy challenging. Though territorial emissions may be high, supply chains account for over one-third of the retail sector's carbon footprint and carry with them substantial global environmental impacts including deforestation, pollution leading to poor health, habitat loss, material waste, and unethical work practices (Chambers 2020; Kreienkamp and Vanhala 2017; McGuigan et al 2002). With many retail companies having large and complex international supply chains, reducing both emissions and environmental degradation will be a major priority.

Current plans

In the absence of a sector deal, the British Retail Consortium (BRC) has set out a plan to reach net zero emissions by 2040 which has been signed by 63 of its members (BRC 2020) and, crucially, includes global supply chain emissions. While this roadmap is very welcome, the BRC only represents just over half of the employees in the UK retail sector and the 63 signees account for just over one-third of BRC membership (170) (BRC 2021).

A fair transition for the retail sector

To support tackling direct emissions in the retail sector (for example, from energy use in shops and offices), access to zero-interest loans and superdeductions would enable businesses, particularly SMEs that may lack cash reserves, to invest in energy efficiency, low-carbon energy and low-carbon transportation for office spaces, warehouses, shops and domestic delivery supply chains.

To tackle supply chain emissions and global environmental impact, the retail sector could make use of the government expanding the UK Export Finance's remit to focus on decarbonising international supply chains. Domestically, inward investment and local labour clauses as criteria for financial support to the retail sector could decrease its supply chain emissions and environmental impact while preventing carbon leakage and creating jobs for local communities.

The government should seek to shift demand in the retail sector by introducing strict product labels that highlight all retail goods with both embedded emissions and environmental impact. The labelling schemes should ratchet up over time – similar to the energy efficiency labelling for white goods – so that retailers have an incentive to engage with their supply chain. In the medium term, and only after investment into low-carbon domestic supply chains, the government should introduce carbon border adjustments in consultation with exporters and developing nations and then import standards to further reduce the environmental impact of retail goods.

Retailers should publish fair transition investment plans in collaboration with staff – both directly employed and throughout the supply chain – to set out how changes may affect them and co-develop any plans for retraining or upskilling. To this end, the retail sector should also have access to training funds and selecting training providers from the skills academies.

2. Iron and steel

Emissions, employment, and environmental impact profile

The UK iron and steel industry employs approximately 33,000 people directly, with a further 52,000 people employed in its supply chain. Its direct contribution to the UK economy is £2 billion a year in GVA (Webb 2021). However, it is also both the ninth highest emitting sector⁴³ and highly regionally specific (ONS 2020a; ONS 2020b) – steel plants at Port Talbot and Scunthorpe account for more than 90 per cent of UK steel emissions (ibid). Reducing emissions and environmental impact in the steel sector will therefore require site specific solutions. In places like Scunthorpe and Port Talbot this could involve a shift to a mix of hydrogen-based production and carbon capture and storage, or alternatively a shift to the use of Electric Arc Furnaces (ibid).

Current plans

The government has previously rejected industry proposals for a sector deal (HoC 2019) for the steel industry and there is a negative perception of steel as a sunset industry (Webb 2021). However, as recent IPPR North research has found, further low-carbon market opportunities worth over £3.8 billion per year could be available to the steel sector by 2030. Consequently, to protect workers and maximise future opportunities, a comprehensive transition plan is essential for the steel sector which is a strategic industry.

A fair transition for the steel sector

The steel sector would benefit from a combination of several supply and demand side policies to deploy low-carbon technologies. R&D investment tax credits, super deductions and CCfDs would provide incentives and certainty both with upfront capital and long-term cost recovery (due to a fixed carbon strike price). Crucially, the fixed price would be tied to the emissions trading scheme permit prices but permit allocation would need to remain free in the short-term. On the demand side, green public procurement, and accreditation marks for 'green steel' would generate a small initial demand for green steel (approximately 10 per cent of total demand). Lastly, carbon border adjustments and import standards should be introduced once low-carbon steel technologies have been deployed.

The shift from high-carbon to low-carbon production processes will require substantial reskilling for the steel workforce (Webb 2021). Consequently, together with incentives for technology deployment, the government should co-develop fair transition agreements through its Net Zero and Fair Transition Bodies with workers, unions and communities, use them to shape high-quality work standards and embed these standards as criteria for fair transition investment plans from industries. Furthermore, once fair transition investment plans have been published and set out which workers may be at risk, the industry should provide a right to retrain to ensure that workers know they have a future in the industry if they want one.

The highly place-specific nature of the steel sector also necessitates locallyled responses to decarbonisation. Consequently, enabling local authorities to enact many of the policies mentioned above, such as green procurement for local public contracts, will help to maximise local job creation, inward investment and the broader challenge of regional redistribution of wealth and power.

⁴³ From IPPR analysis of 123 sectors.

3. Oil and gas

Conclusions of the Aberdeenshire citizens' jury

Our jurors in Aberdeenshire were clear on the significant role of the oil and gas industry within the local economy. They also saw that the "the fossil fuel industry needs to be replaced" and that this process was already underway. The jurors called on the UK, Scottish and local governments to work with the private sector to deliver an urgent shift from Aberdeen being 'the oil capital of Europe' to one renowned for renewable energy. Coordinated action is needed to ensure that the right jobs are available locally for people to move into and that the costs of change don't fall on individuals.

"Oil and gas workers need access to training opportunities that will allow them to move quickly to new jobs that make the most use of their existing skills."

Aberdeenshire citizens' jury

Emissions, employment, and environmental impact profile

The oil and gas sector is the fifth highest emitting sector in the UK,⁴⁴ based on operating emissions alone (ONS 2020a; ONS 2020b). Consumption emissions from barrels of oil produced by the North Sea are far higher and the sector is one of the few industries where meeting net zero targets will mean largely phasing out the industry altogether. In its place, the sector will need to rapidly diversify and invest in technologies that reflect the transferability of its workforces' skills such as decommissioning, carbon capture and storage and hydrogen production.

There are just over 30,000 direct jobs in the oil and gas sector, with a large majority concentrated in the north east of Scotland. There are also many more indirect and related jobs (229,500 jobs) created by the oil and gas sector – such as those in the supply chain, such as manufacturing drill bits for oil rigs – and, while a large proportion are in Scotland, they are more spread across the country than direct jobs (Emden et al 2020).

Current plans

The government has recently set out a North Sea Transition Deal for the oil and gas sector (BEIS 2021). This agreement commits to a 'climate compatibility check' for future licensing rounds for oil and gas exploration, a commitment to reduce operating emissions (such as emissions from drilling and flaring) and a voluntary agreement to hire 50 per cent of the workforce locally. This voluntary agreement will need to be significantly strengthened to maximise the resilience of local communities and economies. There will also need to be much more explicit support for workers and communities. To secure a genuinely fair transition it is very likely that future licensing rounds will need to end altogether. While reducing operating emissions will be important to meeting territorial net zero targets, climate leadership will require phasing out production too. There is no such thing as a low-carbon barrel of oil.

A fair transition for the oil and gas sector

Similar to the steel sector, the oil and gas industry will benefit from a combination of supply and demand side policies to deploy new low-carbon technologies as the oil and gas sector winds down. These will

⁴⁴ Based on 123 sectors analysed by IPPR.

include access to R&D tax credits, super-deductions and CCfDs for investment into low-carbon technologies such as hydrogen, offshore wind and carbon capture and storage. On the demand side, the government will need to set a more robust timeline for phasing out new exploration in tandem with a faster rollout of EVs, EV charging infrastructure and public transport investment (see chapter 5). It could also complement these policies with green procurement of low-carbon technologies that specify local employment of oil and gas workers.

Unlike other high emissions sectors with a need for reskilling, oil and gas is one of the few sectors where meeting net zero targets will necessitate winding down nearly all oil and gas activity well before 2050 (IEA 2021), with the exception of any residual decommissioning. Consequently, as a first priority, the government through Net Zero and Fair Transition Bodies should listen to concerns of workers and communities and develop fair transition agreements with them. These agreements will shape the high-quality work standards confirmed within the government's low-carbon workforce blueprint, fair transition investment plans from industry, and will influence the sectors into which workers may want to retrain.

The government will then embed these standards as criteria for receiving financial support for industry investment. In addition, the government should strengthen the current oil and gas sector deal which only has a voluntary commitment to employ 50 per cent of workers locally. This should take after the offshore wind sector deal and be strengthened to a binding minimum 60 per cent requirement to hire locally.

With fair transition agreements, high-quality job standards and investment plans in place, the industry will need to apply for and access training from skills academies. Some retraining is already taking place in the oil and gas industry so these providers should also submit themselves for accreditation by the skills academies to ensure high-quality training provision.

CHAPTER 5.

HOWWE LIVE



Where we live and how we get around, how we heat our homes and what we eat all have a vital role in tackling the climate crisis and protecting and restoring nature.

In this chapter, we make the case for a 'people's dividend' in the fair transition. By taking action on climate and nature we can create warmer homes, healthier diets and more and better transport choices.

The scale of emissions from our food, homes and transport requires urgent action. But people do not want change forced upon them. As we heard from our jurors, and we have outlined in chapter 4, it matters a great deal to people that they have meaningful choices and control over how they live their lives.

"Feeling that one is not being controlled, not told what to do."

Juror from the South Wales Valleys citizens' jury

Yet, too often the choices are not easy, the best options are not available, with people priced out or penalised for where they live. A fair transition means creating good options for people that, collectively, work for everyone.

The aspects of our lives covered in this chapter are some of the most significant contributors to the climate and nature emergencies. Transport is the largest contributor to the UK's greenhouse gas emissions. In 2019 surface transport made up 22 per cent of the UK's greenhouse gas emissions, with car use accounting for 60 per cent of these emissions (CCC 2020a). Meanwhile, around 17 per cent of the UK's total emissions come from heating our buildings and 20 per cent of the UK's greenhouse are attributed to feeding the population.⁴⁵ Avoidable household food waste on its own is responsible for 14 million tonnes of CO₂e (WRAP 2021).

Driving down these emissions will demand changes that will affect people's everyday lives. How we deliver this decarbonisation matters; done well, it can increase fairness. We can tackle fuel poverty, improve people's health and wellbeing, end childhood hunger, create jobs, avoid polluting ecosystems and support the return of biodiversity to farmed landscapes.

It is also an opportunity to rethink how we collectively use and share resources as a society. For example, the average car in the UK is parked for 96 per cent of the time (Bates and Leibling 2012); through increasing the use of public transport, more walking and cycling and sharing car ownership, our transport system could be more resource efficient. In the same way people have shifted from buying CDs to streaming music online, we could move to subscription services for personal car use as the norm. Customers buying services rather than goods is also an option for how we heat our homes. Upfront costs of new heating systems could be borne by government, shared across communities, or shifted to energy retailers.

People's homes and ways of heating and travelling could even be treated as individual 'power stations' from which people can accrue financial benefits: direct 'dividend payments'. In practice, this could mean that if there was a shortfall in energy supplies, consumers could be paid to reduce their electricity demand or provide electricity back to the grid, for example from an electric vehicle battery or solar panel. Including households in our energy system and rewarding participation

⁴⁵ This includes the impact of agriculture, processing and packaging and food preparation.

would mark a shift away from the traditional model built around relatively few energy companies and instead see consumers rewarded directly for lower energy use or their contribution to the electricity system (Sandys and Pownall 2021).

The Climate Change Committee estimates that around 16 per cent of emissions reductions will need to come largely from changes to people's behaviour, and as much as 43 per cent of emissions reductions from a combination of technological and behavioural changes (CCC 2020a). Policy programmes will need to be designed explicitly with people's pockets and behaviours in mind.

"People need to see that action on these emergencies is not going to stop them from making choices about their own lives and having a good life."

Thurrock citizens' jury

How we create the conditions that enable people to make choices that are better for them and the environment is important; it will determine how quickly – and how fairly – we make the transition to a healthier and cleaner society.

EVERYDAY CHOICES AND CHALLENGES The transition will need to address existing inequalities

"[A] fair response to the climate and nature emergencies will support the most vulnerable to thrive in a changing world." Aberdeenshire citizens' jury

Across the UK, there are people whose circumstances are defined by severe hardship. The big question is whether the transition will reduce or worsen inequality.

Food insecurity, defined as not having access to enough affordable and nutritious food, affects around 8–10 per cent of UK households (Sosenko et al 2019). Around 4.9 million people in the UK experienced food insecurity in May 2020 (Food Foundation 2020). This included 12 per cent of all children (ibid). Food insecurity is disproportionately experienced by people on lower incomes, the unemployed, lone parent households and Black, Asian and minority ethnic groups (Power et al 2020).

Fuel poverty is a fact of life for 2.4 million households across England (BEIS 2019b). At its worst, it can contribute to premature winter deaths; around 10,000 deaths in 2016-17 were related to cold homes (Emden et al 2018). The cost to the NHS of poor-quality housing has been estimated at £1.4-2 billion per year in England alone (CCC 2019b; Nicol et al 2015), caused by cardiovascular and respiratory diseases associated with cold, damp, or mouldy homes.

Meanwhile, those on the lowest incomes have the fewest options when it comes to how they travel. This affects their ability to access employment and services (Chatterjee et al 2019). The wealthiest in society are far more likely to own cars,⁴⁶ but despite lower levels of car ownership and use (DfT 2020b), it is those who earn the least who experience the most negative effects of car usage. Low-income households are exposed to higher levels of traffic, poorer air quality and their children are more likely to be involved in road traffic accidents (Bourn 2012). Likewise, although black people in the UK are over twice as likely to have no access to a car than white people (DfT 2020c), neighbourhoods with high levels of black and minority ethnic groups are more likely to experience poor air quality (Fecht et al 2015). The major barriers to

⁴⁶ More than 90 per cent of the highest income households own at least one car, in contrast to less than 35 per cent of the lowest income households (ONS 2019).

accessing streets and highways for those reliant on mobility aids are long acknowledged (Matthews et al 2015). This contributes to adults with a disability making under three-quarters of the number of trips per year than adults without a disability (DfT 2014).

Upfront costs risk pricing people out of substantial benefits and savings

To change to low-carbon options, people will need support when upfront costs are higher than they can afford.

"We can't put too much demand on those who don't have the resources to act."

Thurrock citizens' jury

Retrofitting homes can have an immediate and positive impact on household finances, but the upfront costs are too high for most households in the UK. For example, installing heat pumps combined with energy efficiency measures like loft and wall insulation, costs an average of just under £10,000 per household, as estimated by the CCC. As figure 5.1 shows, this is far higher than many households can afford on annual income alone. Savings won't cover this cost either, in 2020 the average person in the UK had just £6,757 saved. One-third of people in the UK have less than £600 in savings and 1 in 10 (9 per cent) have no savings at all (Boyle 2021). Had it been rolled out more effectively, the Green Homes Grant, with its offer of up to £10,000 for lower income households, had the potential to address this cost barrier for many households. However, in its absence, upfront costs remain a substantial challenge for the majority of households across the country.

FIGURE 5.1: THE COST OF A HEAT PUMP AND ENERGY EFFICIENCY RETROFITS IS UNAFFORDABLE FOR MANY HOUSEHOLDS, PARTICULARLY THOSE ON LOWER INCOMES

£120,000 100% 90% £100,000 80% 70% £80,000 60% 50% £60.000 40% £40,000 30% 20% £20.000 10% £0 0% 8 9 10 11 12 13 14 5 6 7 15 16 17 18 Proportion of average household income spent on heat pump and energy efficiency 🗕 Average annual income

Cost of a heat pump and energy efficiency retrofits as a proportion of household income by quantile

Source: IPPR analysis of BEIS 2020b; University of Leeds Sustainability Research Institute 2019

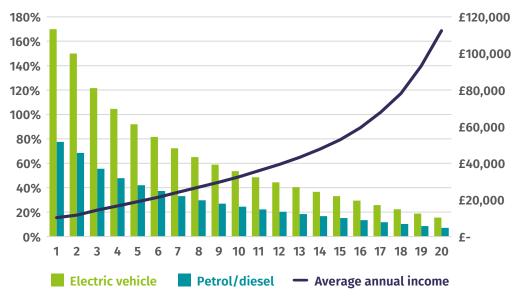
Low-carbon heating systems combined with high energy efficiency standards can make homes healthier to live in by making them warmer, reducing instances of damp and mould, and improving air quality for residents. They also have the

potential to reduce energy bills (Webb et al 2020). The CCC estimates that energy efficiency measures could result in savings of £150 for the average household relative to average bills in 2030 (CCC 2017). With buildings retrofitted to very high energy efficiency standards, these savings could be much higher. One project in Portsmouth which opted to comprehensively refurbish 111 homes led to average energy bill savings of £700 per household (Benton et al 2019). This would be particularly beneficial for low-income households who are much more likely to live in poorly insulated, energy inefficient homes and for whom fuel bills represent one of the most significant living costs (Hirsch 2019).

Those on lower incomes are also priced out of the potential cost savings of owning an electric vehicle, instead of one run on petrol or diesel. The third owner of an electric vehicle has their total cost of motoring cut "by over 30 per cent compared to a petrol car" (Kumar 2019).⁴⁷ However, without electric vehicles widely available in the second-hand market, upon which low-income households rely (ibid), those who need a car will continue to pay more to run and repair their old vehicles for many years to come. In this way, low-income households risk being priced out of these savings because of upfront costs (figure 5.2).

FIGURE 5.2: COMBUSTION ENGINE VEHICLES ARE STILL A MORE AFFORDABLE OPTION FOR MANY HOUSEHOLDS THAN EVS

Comparison of the cheapest combustion engine vehicle on the market as of May 2021 compared to cheapest equivalent EV, as a proportion of household income by income group.



Sources: Carbuyer 2021; Buyacar 2021; University of Leeds Sustainability Research Institute (2019) (adapted by IPPR)

"Affordability has to really mean affordable for all. The things people need to live a good life, including housing and transport, must be genuinely affordable to the people who live here." Thurrock citizens' jury

The causes of fuel, food and transport poverty are deeply intertwined. What food we buy and choose to eat is influenced by, among other factors, our local transport options, the availability of local food outlets and the different demands on our

The durability of electric vehicles also makes maintenance costs easier to plan for. 47

time (Brug 2008; Marmot 2015; Stait and Calnan 2016). The upshot of this is that positive changes can be wide-ranging in their impact. In improving transport, we can improve access to the things we need to be happy and healthy; in improving the amount and quality of food available to those going without, we can improve children's life-chances.

Lack of information and logistical challenges

Reducing the emissions and damage to the natural world that come from our everyday lives cannot be left to individuals to navigate alone.

"Government and businesses should proactively share clear, understandable information with the public, to help us make green, fair decisions."

Tees Valley and County Durham citizens' jury

For example, many people do not feel like they understand the different home heating options available (Sarygulov 2020). Widespread decarbonisation of home heating will demand a public information campaign, to reduce the anxieties associated with change and help people understand the options and support available. When people have more information about different heating systems, they are more likely to be interested in switching to them (ibid).

As we outline in chapter 5, clear information is key to helping consumers to make green choices and we recommend labelling schemes that would provide consumers with a clear, visual indicator of the 'greenness' of a product. This would be particularly important to support consumers in food purchasing choices; many people feel they lack the information to know which foods are most environmentally friendly (BEUC 2020; Wellesley et al 2015).

Making it easy to go green

In chapter 3 we argue that a new public communications plan is needed to engage the public in the UK's response to the climate and nature crises. Central to this will need to be a simple and effective way of supporting people who don't know where to start or do not have the resources to invest in making changes to their homes or how they travel.

When it comes to home heating, in the words of the former Director of Clean Growth in the government's business department "at the moment, the basic consumer proposition is: pay £10,000 for a device which you don't understand" (Lord 2021). Few households have access to these kinds of savings and in truth the investment needed per household is even larger when the need to pay for energy efficiency measures are taken into account. The same also applies to travel where upfront investment costs in electric vehicles are substantial and the biggest barrier to wider uptake of electric bikes is also cost (Haubold 2020). In short, the economics do not yet stack up to make it easy to go green.

We recommend the creation of a new GreenGO scheme – a 'one stop shop' to provide people with the information and financial support they need to make cleaner and healthier decisions.

GreenGO⁴⁸ will provide a unifying brand under which financial support and highquality advice can be communicated to and accessed by the public. This scheme aims to ensure that the means to take action on these crises are available to everyone and accessible on their high streets as well as online and via a dedicated phone line. The government's Help to Buy scheme is an example of a

⁴⁸ The GreenGO scheme could operate UK-wide but as grants and loans for home energy efficiency (for example) are devolved, it would be for the devolved nations to design and implement their own versions of the scheme.

similar approach, where an equity loan scheme, a mortgage guarantee scheme and an ISA were all offered, and promoted, under a common brand.

One of the main functions of the GreenGO scheme would be to provide all households with funding and incentives to transition to green alternatives. It would offer the public a way to save their money and give access to low-cost loans and grants for home retrofit and zero carbon travel options. If carbon pricing is adopted across the economy, as discussed in chapter 5, GreenGO could provide people compensation for higher prices through credits to be exchanged for low-carbon goods and services.

GREENGO WOULD HAVE THE FOLLOWING COMPONENTS.

- GreenGO grants and loans. GreenGO would streamline all existing government schemes supporting the public to invest in cleaner, healthier technologies. This would include those helping with insulation of homes and low-carbon heat, and transport schemes supporting alternatives to private car ownership. These grants and loans could be combined with GreenGO credits or savings to help overcome the barriers to capital that many households currently face. As such, this scheme could serve as a boost for bringing about a growing market for net zero and nature friendly goods and services. We propose that at its launch the scheme has two core programmes:
- A GreenGO Warm scheme capitalised with £6 billion per year through to 2030⁴⁹ focussed on heat pumps and high energy efficiency upgrades. This scheme would comprise means-tested grants and zero or low-cost loans for homeowners and zero or low-cost loans for private landlords (for social homes see below). It would help up to 650,000 households per year.
- A GreenGO Move scheme of at least at £1.5 billion per year⁵⁰ through to 2030 in grants and loans to support people to repair existing cycles and buy new cycles, electric scooters or e-bikes, and electric vehicles where people need them. Modelled on existing support available in Scotland, this would include interest free loans of up to £20,000 per household and additional grant funding for those living in low-income households (Energy Saving Trust 2021).⁵¹ A scrappage scheme targeted in the areas with the poorest air quality should allow for polluting, older vehicles to be traded in for up to £3,000 per household in GreenGO credits⁵² - helping to pay for shared mobility schemes, public transport and electric vehicles.
- **GreenGO ISAs**. Modelled on the government's Lifetime and Help to Buy ISAs, the GreenGO account would add a 25 per cent bonus to the account holders' investments on a maximum investment of £1000 per year. Only net zero aligned and accredited shares and investment funds will be eligible to be held within the account. The bonus, realised in the form of GreenGO credits, will only be awarded to the accountholder where withdrawals are exchanged for green goods and services or where shares and investments are held in net zero aligned investment

⁴⁹ This cost is based on the upper estimate of indicative annual public investment for home heating in the CCC's 6th carbon budget. The upper estimate is chosen due to assumptions about higher costs for lower-income households due to lower efficiency properties that may be more difficult to access as described in Emden et al (2018).

⁵⁰ This would match the scale of funding called for by UK100 to support and enhance 30 Clean Air Zones (UK100 2020).

⁵¹ As in Scotland, electric vehicles loans would be focussed on the purchase of used vehicles.

⁵² This scheme is based on a pilot being delivered as part of the West Midlands Future Transport Zone and should incorporate learnings from this project.

funds for the long-term. These ISAs would offer higher returns than for the government's other schemes, to incentivise take-up.⁵³

- **GreenGO and carbon pricing credits.** Revenue from future carbon prices on consumer-facing goods and services could be recycled through GreenGO to payback all households, with low-income households receiving a larger proportion. People who receive these GreenGO credits could use them to purchase low-carbon technologies like heat pumps, or make low-carbon lifestyle choices like cycling, and buying healthier, low environmental impact food.
- **GreenGO accreditation**. To support the GreenGo scheme there would need to be an accreditation system that establishes which type of purchases and schemes credits could be used for. Accreditation of businesses would have to be done in line with the government's overall net zero strategy. For existing policy targets, including energy efficiency requirements of new buildings, this would be straightforward. In those cases, businesses that provide a service, such as a building which is in line with the regulations and guidelines are passed in other areas, these would mean new products and services could qualify for accreditation. So, the supply of services to use them for would constantly increase, as more businesses would get accredited.

OUR HOMES

WHAT DID OUR JURORS THINK?

The jurors regularly returned to the issue of housing in their discussions on people's wellbeing and our response to the climate and nature crises. They saw the social challenges caused by the lack of decent housing for those who need it and were clear that people feeling comfortable and safe in their homes is essential for a good quality of life.

They talked about loving their homes, caring about their neighbours and the memories they attached to where they live. This attachment is important in terms of how they feel about any changes that impact upon their homes.

Affordability was central to most of our jurors' concerns. They did not want anyone to be priced out of their area, and felt even more keenly that no one should be forced to spend more than they could afford on their houses.

Government leadership was considered essential in ensuring access to both the advice and the funding people need to make changes to their homes.

The transition in how we heat our homes is one of the most challenging areas of decarbonising our everyday lives. From choosing the right technologies for retrofitting and cooling, to improving our standards for new builds, to overcoming upfront costs and practical challenges, there are major barriers to overcome before the environmental and social benefits can be realised.

⁵³ Details on the funding of this measure can be found in the appendix.

Technology choices

Dubbed by some as the 'battle of the boilers', hydrogen boilers and electric heat pumps are presented as two rival futures for how we heat our homes (Spencer 2021).

In truth, all low-carbon heating technologies – heat pumps, heat networks and hydrogen boilers – will have a role to play in different contexts, alongside changes to our buildings such as wall and loft insulation.

Heat pumps running on, increasingly renewable, electricity⁵⁴ are best suited to playing a bigger role in home heating over the next decade at least. This is due to their current availability and potential for upscaling, cost reductions from economies of scale (Poncia et al 2021), and running costs for consumers. In addition, the hydrogen supply chain will require an approximate 60 per cent increase in natural gas imports (CCC 2020a), making the pricing for hydrogen more uncertain, in contrast to falling costs for renewable electricity.

Hydrogen has a clear role in industrial heat. Hydrogen boilers could also have a role to play in parts of the country with a convenient hydrogen supply, or as part of hybrid heating systems that combine hydrogen boilers with heat pumps (CCC 2020a; Webb et al 2020). Heat networks – pipes that pump hot water rather than gas directly into a building from a central, renewable, heat source – will be well-suited to dense urban areas.

Regardless of the technology, all changes will require targeted training to prepare the workforce for the installation and maintenance of these heating technologies and energy efficiency measures.

How we cool our homes will also play a small but important role in meeting the UK's net zero targets. Fluorinated gases are commonly used in air-conditioning systems and make up approximately three per cent of the UK's greenhouse gases (GHGs) (CCC 2020a). Hotter, drier summers in the UK are on the way as a consequence of global heating (Met Office 2021). Building standards and retrofitting to increase energy efficiency will need to support natural cooling, as well as heat gain and retention, to reduce the need for GHG emitting methods like air-conditioning (Bhamare et al 2019).

Building a new home to a high standard of energy efficiency is much cheaper and easier than upgrading one that has been poorly designed and built (ECIU 2021). Despite this, only 1.3 per cent of new homes built in 2019 met the highest possible energy efficiency standards (MHCLG 2020). Much higher energy efficiency ratings will need to be a cornerstone of the government's upcoming Future Buildings Standard (MCHLG 2021b). Building new-build homes to lower standards means knowingly passing the costs of future retrofitting onto consumers.

BARRIERS TO OVERCOME FOR HOUSING RETROFIT

 Administrative hassle. The process of applying for incentives and grants can be a real barrier for many households, particularly when they need to understand technical information such as efficiency ratings and types of existing insulation (Webb et al 2020). Administrative barriers are also a serious challenge for installers, and was one of the major reasons for the failure of the recent Green Homes Grant scheme. Late payments and

⁵⁴ The electricity is used to pump and compress a refrigerant in a closed loop system. Air from the outside, despite being cold, is warm enough to cause a refrigerant to evaporate. The refrigerant is pumped inside the home where it is compressed. This compression gives off heat which is transferred to the home. As the refrigerant cools, it turns back into a liquid and is pumped to the exterior once again and the cycle repeats.

administrative burdens led to many installers pulling out of the scheme altogether, increasing waiting times and undermining households' faith in the scheme (Laville 2021).

- Disruption to households. Delivering low-carbon heating systems and energy efficiency upgrades to the majority of the UK's existing housing stock will be very disruptive. It will disrupt individual households and also local infrastructure; roads may need to be dug up to install heat networks or more electric cabling.
- **Building governance and mixed tenure.** Whether someone is a homeowner or lives in private rented or social rented housing affects the decision-making, communication and engagement, and cost and benefit considerations when changing heating systems. It can be particularly complicated in buildings with mixed tenure types (such as social and private). This can slow down deployment, even when applying for a low-carbon heating grant would be desirable to homeowners or tenants (Bright et al 2019).
- Household suitability. For a sizeable minority of homes, approximately 1.3 million, technologies like heat pumps will be difficult or impossible to install due to concerns around building safety, space constraints or the heritage restrictions on some homes (CCC 2019b). This is particularly true for rural and off grid communities where building designs are less homogenous, making these properties more difficult to retrofit (FREE 2013).
- Local capacity. Local stakeholders councils, combined authorities, city regions and housing associations – are best placed to deliver low-carbon heating systems and energy efficiency upgrades. However, real terms budget cuts (NAO 2018) have severely limited their ability to identify priority households, develop capacity to produce clear procurement guidelines and tenders, and oversee programmes.
- Availability of skilled installers. The CCC estimate the UK will need to be installing one million heat pumps per year by 2030. As we discuss in chapter 4, the country is struggling to prepare for the future skills demands of a fair transition. In the heating sector a recent survey of the installer industry showed that 43 per cent of installers had no experience at all in fitting heat pumps and only 42 per cent said they would be confident installing one (HPA 2019).
- **Consumer confidence and protection.** Given previous findings by the Bonfield Review that up to 10 per cent of energy efficiency measures under the UK's main energy efficiency scheme, the Energy Company Obligation, were poorly installed (Bonfield 2016), quality-assured accreditation of installers will be crucial to ensuring effective delivery and people's trust (Webb et al 2020).

FIGURE 5.3: A HOME IMPROVEMENT PLAN FOR THE UK



Source: Authors' analysis

A street by street and area by area plan for home heating and retrofit

"Increase the level of funding for housing retrofit and make its distribution fairer... Give powers to allocate funding to local areas to ensure that those most in need are able to access the funding." South Wales Valleys citizens' jury

As we discuss in chapter 3, local authorities often have a much better understanding of local challenges than national government. This is especially true for housing, where councils generally have detailed knowledge of different building designs, including for their own housing stock, and the challenges of local residents.

To ensure heat decarbonisation is tailored to the needs of individual communities and homes, we recommend that retrofit is led by local government but with coordination and support provided by the UK and devolved governments. These plans will need to prioritise all homes in the social rented sector and fuel-poor homes across tenures.

Identifying where to use heat pumps and heat networks, where to use hydrogen boilers, and where to use alternative technologies requires understanding both local housing stock and local energy sources. **Resources should be allocated to carry out 'heat zoning' to determine the most appropriate heat technologies for different areas.**⁵⁵ Under this approach, local authorities will play a key role in identifying where improvements need to be made and be responsible for auditing stock and monitoring retrofit activity, supported by the Net Zero and Fair Transition Delivery Body (outlined in chapter 4) through advice and guidelines on how to decide on technologies to be used and installed.

Retrofit needs are different across the country and it can be hard for people to understand how to go about making such significant changes to their home. Any approach must first provide people with the information they need to make the best choices for them. Clear guidance should be offered to households and consumers on how low-carbon heat solutions work. As is already the case in Scotland and Wales, clear and consistent advice should be given to households in England. The GreenGo scheme (outlined above) would be one source of accessible, comprehensive information. Local

⁵⁵ Heating zoning involves considering the most appropriate heat decarbonisation and energy efficiency solutions for a geographical area based on the local opportunities and limitations. Zoning an area associates it with a set of policies specifically designed to support particular solutions, through a mix of planning policies, building regulations, funding etc (ADE 2020).

communities could also be encouraged to explore the options available through 'Big Heat Debates', events bringing together and giving voice to residents' ideas and concerns.

Regulations and incentives to phase out fossil fuelled homes

The UK and devolved governments must clearly signal, by setting legal targets, that it intends to bring all homes up to high energy efficiency standards and phase out fossil fuelled home heating systems. This will spark the long-term commercial investment in the skills and innovations required to deliver energy efficiency retrofits and the installation of low-carbon heating systems such as heat pumps at scale (Green Alliance 2021b). Such an approach would mirror the phase out of the sale of new petrol and diesel cars by 2030.

The UK should revise the legal requirements for minimum energy efficiency standards (MEES) in socially rented and privately rented homes. This should be gradually brought up to at least B by 2030, with an exception of 'C' rating for hard-to-treat stock. These MEES standards should also be applied to owner-occupied properties, at the point of sale or when other renovations are carried out.^{56,57}

The UK and devolved governments must make similar commitments in relation to fossil fuelled home heating systems. The UK government should set a legal requirement to eliminate oil heating systems no later than 2028 and gas heating systems by 2033.^{58,59}

All new homes planned across the UK must be warm and efficient, resilient to our changing climate and ready for future low-carbon heating systems. All **new homes should be of ultra-high energy efficiency by 2023 at the latest and no new homes should connect to the gas grid by the same date.**⁶⁰ All these homes must instead have low-carbon heating systems such as heat pumps and low-carbon heat networks. **High standards for energy efficiency should be mirrored by requirements that reduce overheating in new-build homes, including through the use of passive cooling measures.** These proposals should be extended to all new dwellings – including those developed through permitted development rights⁶¹ relating to change of use and other loopholes.

Investment and incentives to support mass adoption

"Funding must be targeted to ensure that people aren't left behind because change is prohibitively expensive for them." South Wales Valleys citizens' jury

To support a rapid transition the UK government and devolved nations should introduce a package of incentives over and above those currently available.

The UK government and devolved administrations should adopt a blended approach for financing housing retrofit, combining public investment with leveraging of private finance.⁶² From public funds, in England **£0.5 billion**

⁵⁶ For some people this will require support to enable equity release or other ways of accessing capital before sale.

⁵⁷ Similar standards should be put in place by the devolved nations.

⁵⁸ Unless for low-carbon hydrogen – we recognise that devolved administrations such as Northern Ireland will need to consider heating options that are best suited to their own heating types.

⁵⁹ Similar standards should be put in place by the devolved nations.

⁶⁰ With the exception of gas grids that will be converted to hydrogen in a small number of areas where hydrogen infrastructure will be readily accessible such as Tees Valley and County Durham.

⁶¹ Certain types of work may be performed without needing to apply for planning permission.

⁶² The UK could look to models like Energiesprong – a Dutch social housing retrofit programme creating net zero homes – for examples of private financing. As recommended by the Green Finance Institute, demonstrator projects can also help to develop the market for financing net zero and resilient homes (GFI 2020).

should be committed to investment in heat networks and £0.5 billion should be committed to the Social Housing Decarbonisation Fund every year until 2030.⁶³ As part of leveraging private finance, the Bank of England should work with financial institutions to reduce the risk profile of retrofit activity to encourage investment. Working with private finance could also extend to mortgages where, as explored by the Green Finance Institute, lenders could allow homeowners to add energy efficiency upgrades onto their mortgages in return for more favourable interest rates on mortgage repayments (GFI 2020). Crucially, any private financing would need to ensure returns on investment were balanced with keeping energy bills low for households.

The UK and devolved governments should also consider making a range of taxation changes to encourage home improvements,⁶⁴ including:

- linking council tax rates to energy efficiency so that less efficient homes pay an added premium
- variable stamp duty, with a higher rate charged for energy-inefficient properties and vice versa
- cutting VAT on retrofit projects from 20 per cent to a maximum of 5 per cent.

Training the workforce

Competent heat engineers will be crucial to the installation and maintenance of new heating systems. Their advice and support will also build consumer confidence. For the few households that already have these systems, heat engineers are seen to be a reliable source of information, with 79 per cent of those surveyed saying they trusted their advice (BEIS 2019c). According to IPPR analysis, the UK will need nearly 300,000 workers in energy efficiency retrofitting, heat pump and heat network installation by 2030.⁶⁵

The current workforce does not have enough installers able to fit low-carbon heating technologies like heat pumps or energy efficiency measures. Therefore, delivery of low-carbon heating systems at a national scale will require training and upskilling.

Supporting recruitment in energy efficiency retrofitting, heat pump and heat network installation must be a government priority. The government should work with industry, further education colleges and local and regional government to accelerate the establishment of skills academies and the creation of the Green Training Fund (see chapter 4), as well as a recruitment and training plan for the sector. This must also involve skills academies accrediting training providers to provide consumers with confidence around installation and protecting them from the disruption that could stem from poor quality installation.⁶⁶ SMEs will be crucial to success and should be engaged as part of drawing up these plans.

Protect all existing and future homes against the impacts of the climate and nature crises

New housing developments provide opportunities to revitalise our communities. Too often, however, the overriding concern is the provision of profitable housing for the developer, with no consideration for wildlife, community development, amenities or public services. There is also a continuing pattern of building homes in areas of significant flood risk, with tens of thousands of households at risk of no longer being covered by flood insurance (Jackson 2020).

⁶³ Costs estimated from CCC (2020b).

⁶⁴ Any changes would have to ensure that low-income households were protected, adopting similar principles as set out in chapter 4 on carbon pricing.

⁶⁵ Analysis in chapter 4.

⁶⁶ The figure in the appendix sets out how an installation company could access support for accredited retraining.

The UK government should consider extending the coverage of 'Flood Re', the affordable flood insurance. The scheme currently does not cover homes built after 1st January 2009. From any revised date, all homes should be given mandatory flood performance certificates (FPCs) and all buyers should be in receipt of flood risk reports. Looking to the future, the National Planning Policy Framework in England should be strengthened so that no new homes are built in at-risk areas, except in exceptional circumstances, and all new properties in Flooding Zones 2 and 3 have property-level flood resilience (PFR) measures as standard.⁶⁷

WHAT WE EAT

WHAT DID OUR JURORS THINK?

For many jurors it was the first time they had considered the relationship between what they eat and the climate and nature crises. Having the opportunity to hear from speakers who drew the links between the food on their plates and climate change, global deforestation and loss of habitats in the UK was, for some, a life-changing experience. Many changed their diets, for example choosing to cut down on meat and dairy, as a consequence of what they heard.

Food was discussed in detail by the Tees Valley and County Durham, Thurrock and Aberdeenshire juries. These jurors saw the need for urgent action to make people more aware of how their daily choices of what to eat could both support action to improve the environment and improve their health. Linked to this, they felt people should have a better understanding of where their food comes from, a closer connection with those who produce it, and significant support to help them to be able to afford better options.

Jurors saw the potential for schools to empower children and young people to eat healthier and more seasonal food, throughout their lives, by providing hands on experience of how food is grown and prepared. Local food growers and producers should have a central role in communities and be celebrated and supported through local markets. The jurors wanted people to eat more UK-grown food, but also saw that imports will continue to be needed for food that the UK cannot easily produce. The UK's climate also make it well suited as a producer and exporter of certain foods – ensuring that the global food system operates within environmental limits.

The impacts of Covid-19 heightened the jurors' awareness of food insecurity, particularly through Marcus Rashford's campaigning against children's food poverty, which demonstrated the reliance on free school meals for many to eat a good meal each day. The initial success of this campaign gave some jurors hope that it would be possible to provide more people access to affordable, decent food. Against this backdrop, it was clear to the jurors that asking people to change their diets when they are currently struggling to feed themselves, and to pay more for more nature-friendly food, was both unfair and wouldn't work.

The jurors concluded that we need significant change in the food system. Plant-based and healthy food should be cheaper, food waste and packaging must be reduced and people need to be supported to develop a new relationship with what they eat. This is both essential for the planet and to improve people's lives.

⁶⁷ Similar action should be taken in the devolved nations as appropriate.

"Focus on the social justice aspects as well as the environmental aspects of food."

Thurrock citizens' jury

What and how we eat matters for human health and wellbeing. It is central to people's cultural identities and many people's jobs are linked to making and selling food. What we eat also profoundly impacts the state of the climate and the natural world, and the role that food producers play in shaping our landscape to address these is detailed in chapter 6. Few areas of life are as significant as food.

Supporting people to buy and eat healthy food that is environmentally produced relies upon addressing wider social inequalities. Food poverty is just one element of the wider patterns of poverty associated with problems such as unemployment, the rising costs of living and rent, insufficient access to transport, low pay, inadequate welfare provision and inequitable access to a good education (Coleman et al 2021).

Rising levels of food insecurity and childhood hunger (Food Foundation 2020) sit alongside unsustainable food production practices that contribute to continued environmental degradation, species loss and climate change. Over recent decades, the food system has become increasingly wasteful, processed and environmentally damaging (Coleman et al 2021). Our food system faces a perfect storm of increasing levels of dietary related illnesses, such as obesity and diabetes, rising demand for food, and environmental threats affecting food production such as rising temperatures, water shortages and pest outbreaks.

Globally, it is estimated that 30–50 per cent (1.2–2 billion tonnes) of food produced goes uneaten (IME 2013). Wasted food represents a waste of money and energy, adds further strain to land and nature, and is a sign of failure, given many face hunger and poor nutrition. Preventing and reducing wasted food must be an important element of our response. It is likely that some proportion of land will need to be taken out of productive use to deliver habitat restoration and dealing with food waste will be critical to ensuring food security and the most strategic use of resources (Coleman et al 2021).



FIGURE 5.4: THE FAIR TRANSITION FOR CHANGING WHAT WE EAT

Source: Authors' analysis

Support people to afford good food and end childhood hunger

"Education is key. Make interventions for healthy eating at the earliest possible age – primary school onwards. Public education will help social issues as well as the climate and nature crisis." Thurrock citizens' jury Everyone should be able to access adequate, sustainable, and healthy food. Achieving this will not be solved through changing the food system alone. To provide the cross-departmental and societal focus on this that is needed, the government must enshrine the right to food in law and introduce a target to end household food insecurity and child food poverty in the UK.

The welfare system, alongside broader measures to improve wages and reduce living costs, is critical to addressing household food poverty and in particular child food poverty. To ensure that all households are able to achieve an acceptable standard of living, the UK government should make the current £20 per week uplift to universal credit permanent and the Department of Work and Pensions should set levels of universal credit for out of work households based on an objective assessment of material need and the cost of living for different household types.⁶⁸ Reflecting the significant amount of time children spend in schools, the UK government should dedicate £275 million per year in England to provide every school child who lives in a household in receipt of universal credit with a free school meal.⁶⁹ Alongside this, and to ensure school meals are always adequate, nutritious and sustainable, schools need enough funding to train cooking staff and procure healthy food. The health and economic benefits of this for children living in low-income households will reach far into the future.

Following the lead of Hungary and Mexico (Hochlaf and Thomas 2020), the UK government, in partnership with the devolved nations, should introduce a 'nonessential' food levy on foods that contain excessive levels of sugar, fat, and salt,⁷⁰ and use this revenue to reduce food insecurity. The revenue from this food levy could fund a healthy food incentive scheme, similar to the Rose vouchers given to families on low incomes money to buy fresh fruit and vegetables by children's services across some local authorities.⁷¹ A healthy food incentives scheme for children receiving free school meals, worth around £20 per week, would direct an estimated maximum of £1.5 billion per year to healthy food choices (ibid).

Ensuring the food we eat is good for us and the environment

Based on our current understanding of what constitutes a healthy and sustainable diet, the governments of the UK should adopt the Eating Better recommended target and framework of a 50 per cent reduction in meat and dairy consumption by 2030, with a corresponding uplift in the proportion of meat and dairy consumed that meets high environmental and welfare standards. An initial step in delivering on this target will be the implementation of the labelling scheme described in chapter 5, providing the public with the information they need for the easiest and obvious choice to be sustainable, healthy food.

The leading cause of deforestation is to produce food, including food eaten in the UK (WWF 2021). Forests like the Amazon and other precious landscapes around the world are being burned to clear land, to raise livestock or grow crops, and produce unsustainable palm oil and cocoa. We propose that the UK should remove all food products associated with deforestation from UK supply chains. This will require the UK government to set clear targets to eliminate imported deforestation from the UK economy by 2030. All companies selling goods in the UK and all public

⁶⁸ An example of this measure is the minimum income standard which guarantees a level of income required to sustain decent living standards.

⁶⁹ Currently, eligibility is based on universal credit receipt as well as an additional income threshold. The expected cost of changing this is detailed in (Hochlaf et al 2019).

⁷⁰ This would target food with a calorie density greater than 275kcal/100g, such as cakes, sweets, crisps, ready meals and takeaways – but not healthy products that happen to be high in one of fat, salt, sugar or fat.

⁷¹ Evaluation of the Rose scheme shows a 95 per cent increase in fruit and veg consumption and a 75 per cent decrease in takeaway consumption (Hochlaf and Thomas 2020).

institutions should commit to eliminating deforestation from their supply chains ahead of this date. For example, local authorities will need to work with schools to ensure that school meals are deforestation free.

Enabling locally-led improvement to the food system

"We need to make it easy for people to buy simpler, more local food supplies to avoid food miles and support local farmers." Tees Valley and County Durham citizens' jury

The government and devolved nations should ensure that all areas of the UK are covered by a local food strategy. Developed by local partnerships of food producers, businesses, government, and citizens these strategies would align local action behind national targets to address the environmental, health and social impacts of the food system. To deliver this, local authorities will need adequate funding and powers to gather data and information regarding food production and consumption. This will allow them to support those individuals most struggling to access food, support the development of local food economies, and to help respond to any shock experienced by the local food system.

A fair and effective local food strategy would include establishing community-owned and managed food hubs. These can act as both physical hubs for celebrating and engaging with local food producers – building new relationships between local people and the origins of the food they eat – as well as being the primary means of delivering food-based support to individuals and families. Food hubs would provide prepared meals and groceries to combat food insecurity and social isolation, while acting as destination for nutritious ingredients that would otherwise go to waste.

Local authorities could help support community-led food initiatives such as these through providing preferential or subsidised accessible town centre premises. **The UK government should provide investment in local and sustainable food economies through the development of a dedicated tranche of the proposed UK Shared Prosperity Fund.** We recommend that one in seven pounds should be spent on sustainable food economies through this fund, matching the approximately one in seven people employed in food and farming in the UK (Defra 2020, Hasnain et al 2020). This programme should align connecting people with healthy, sustainably produced food with the support for farmers to adopt nature-friendly farming practices outlined in chapter 7.

Creating a fairer, and less wasteful, food supply chain

"People shouldn't be incentivised to buy more than they need." Thurrock citizens' jury

Nine supermarket chains hold over 90 per cent of the UK food retail market (Lang 2020) and their dominant market position has enabled them to dictate the terms of market access, resulting in narrowing profit margins and the squeezing out of smaller and independent businesses from supply chains. Using powers established in the Agriculture Act (2020), **the UK government should fast-track the creation of codes of compliance for fair supply chain practice across agriculture and food manufacturing**. This is already underway in the dairy sector but should be quickly expanded, particularly to those sectors most at risk from and impacting on the climate and nature crisis. Extending the remit of the Groceries Code Adjudicator (GCA) to include businesses further up supply chains would cover not only relationships between supermarkets and their immediate suppliers, but also primary producers and purchasers.

The UK was the first country in the world to reach halfway towards meeting sustainable development goal 12.3, to halve food waste by 2030 (WRAP 2020). While this success should be celebrated, we know that further action is needed, especially if reductions in food waste are going to support the wider shifts across the food and farming system that are required. **The government should urgently begin its planned consultation on mandatory company food waste reporting.** Our recommended changes to the Social Value Act, outlined in chapter 4, could be used to address food waste, given the importance of public contracts to many parts of the food sector.

HOW WE TRAVEL

WHAT DID OUR JURORS THINK?

Transport was discussed in detail by the jurors of the South Wales Valleys and Thurrock. They believe that the way people travel needs to change and see this as an opportunity to make people's lives easier, healthier and happier. They have concerns about the implications of not making changes quickly enough to address the climate crisis, and of putting in place policies that don't account for the challenges some people will face in making these changes.

They see a future with less car use as desirable, but struggle to imagine the reality of what that looks like given the poor, sometimes non-existent, alternatives available at the moment. With this in mind, restrictions or penalties on car use should only be put in place after good, affordable alternatives are in place. Those who will need a car (such as for accessibility) should be able to use an appropriate electric vehicle. Providing choices for people who do not have access to a car, who currently cannot afford public transport, and who live in communities more exposed to high levels of traffic is key to addressing inequality in our transport system.

Changing our approach to travel means avoiding siloed thinking – we need to think of transport as an issue of people reaching what they need, and that means a combination of better transport services, improved digital connectivity, aligning the planning system behind these goals, and changing approaches to how we provide key services to communities to make it possible to access more things locally.

Different places and people have different needs and transport provision should reflect that, acknowledging the difference between rural and urban areas, those with caring responsibilities and the needs of people with disabilities. The people who live in an area should have more of a role in shaping the services they receive, and in changing the public realm.

The way we approach decisions on travel and investment in transport infrastructure should reflect the needs of nature, be focussed on tackling inequality and place a high value on the wider environmental, health and social benefits of increased walking, cycling and public transport use.

A top priority for our jurors was to address the underlying issue of transport poverty and poor accessibility by providing everyone with good options to access the things they need.

There is an urgent need to decarbonise our transport system. Policies and plans that only prioritise supporting a transition to electric vehicles risk locking in more car use, when from an environmental and equity perspective we need fewer rather than more cars and car trips. Instead, the UK should focus investment on creating comprehensive, positive alternatives to using the car.

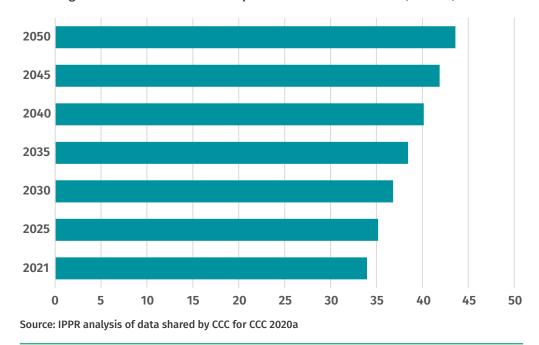


FIGURE 5.5: THERE COULD BE OVER 43 MILLION PRIVATE CARS IN THE UK BY 2050 Forecast growth in levels of car ownership in the UK from 2021 to 2050 (millions)

The UK government forecasts up to a 51 per cent increase in traffic in England and Wales by 2050 (DfT 2018), by which time there is expected to be up to 10 million more cars on the road – taking the total to over 40 million (figure 5.5). The Climate Change Committee's balanced pathway, an illustration of an approach to how net zero can be achieved by 2050 (CCC 2020a), assumes an 11 per cent increase in traffic. Congestion will rise as a result of increases in the use of cars - with the potential for up to 16 per cent of traffic to be in congested conditions by 2050 compared to seven per cent in 2015 (DfT 2018).

"Unless and until something better is available. I can't imagine life without the independence [a car] gives me."

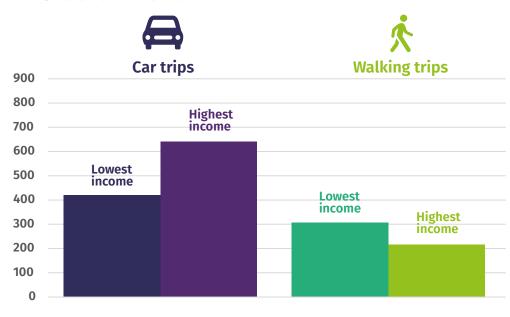
Juror from the South Wales Valleys citizens' jury

Car travel is an essential part of many people's lives, particularly those in rural areas or with mobility challenges, and their convenience as a mode of transport provides independence and flexibility, as well as being a lifeline in emergencies to allow connections with loved ones in need. Cars appeal to people for many reasons, and creating desirable alternatives should be the priority over sanctions and penalties.

However, these individual benefits are not accrued equally. Less than 35 per cent of households in the bottom 10 per cent of households by income own a car (ONS 2019). This translates to significant differences in the distance travelled in cars and vans (both as a passenger or driver) compared to the number of walking trips by those in the highest and lowest income quintiles in England, as shown in figure 5.6.

FIGURE 5.6: PEOPLE IN THE LOWEST INCOME HOUSEHOLDS ARE HALF AS LIKELY TO USE CARS, AND ARE MORE LIKELY TO WALK, THAN THOSE WITH A HIGHER INCOME

Number of trips per person per year as driver of passenger in a car or van, and number of walking trips per person, split by income levels



Source: IPPR analysis of DfT 2020e

Note: Lowest and highest income defined here as lowest and highest quintiles respectively.

"People need good alternatives to the car and those who really need a car should be able to use one."

Thurrock citizens' jury

Putting walking and cycling at the top of the transport hierarchy can realise huge health benefits. If cycling became part of everyday travel in just seven cities in the UK by 2040 it would equate to over 240 million hours of physical activity and see over 34,000 long-term health conditions averted, saving the NHS over £319 million over this timeframe (Sustrans 2019).

The UK's current bus network is a key part of many people's lives and connects the most vulnerable in society to the things they care about. The decline in bus routes and services has disproportionately impacted routes which are important for more rural or disadvantaged users (NAO 2020) and "the government's prioritisation of road and train travel over buses has widened inequalities in access to essential services, employment and social interactions" (Marmot et al 2020).

Emphasising investment in local journeys could improve the lives of women across the UK. Women's needs do not currently factor into transport decision-making enough, as they are poorly represented in senior transport positions (Motherwell 2018), and those commuting long distances to work, rather than those making local trips, are prioritised within typical transport analysis guidance (Francis and Pearce 2020). Women make far more use of local public transport, with over one-third more women travelling by bus than men (Gill 2018).

The UK's current bus network is a key part of many people's lives and connects the most vulnerable in society to the things they care about. The decline in bus routes and services has disproportionately impacted routes which are important for more rural or disadvantaged users (NAO 2020) and "the government's prioritisation of

road and train travel over buses has widened inequalities in access to essential services, employment and social interactions" (Marmot et al 2020).

By repurposing the space outside our front doors for more than cars we can reduce social isolation and loneliness. Lower traffic speeds and volumes have been shown to increase the opportunities for people to connect with their neighbours (Hart and Parkhurst 2011). Even temporarily shifting the focus of our neighbourhoods away from vehicles to people in this way, through schemes such as the Big Lunch, is reported to create a stronger sense of community spirit and make people feel closer to their neighbourhoods (Big Lunch 2021).

"Electric is only part of the answer; we also need fewer car trips overall, so a move to electric vehicles must only happen in combination with public transport improvements and a reduction in journeys." South Wales Valleys citizens' jury

The UK will still need and want cars. Decarbonising them is and should be a priority. However, this alone is not the answer for the environment or people's health. Electric vehicles are a crucial part of a net zero mobility system but focussing on private vehicles alone "does not appear compatible with significant decarbonisation" (Science and Technology Committee 2019) and "replacing one type of vehicle fleet with another type of vehicle fleet may not result in cities with safe levels of air quality" (Katsikouli et al 2019).

Manufacturing electric vehicles is not without social and environmental costs, which can only be mitigated to an extent. To replace just the UK's cars with electric ones, let alone the global, is not feasible. It would require just under twice the total annual world production of cobalt, nearly the entire world production of neodymium, three-quarters the world's lithium production and at least half of the world's copper production during 2018 (NHM 2019).

FIGURE 5.7: FAIRLY CHANGING HOW WE TRAVEL

Currently dependant on a petrol car with few alternative options and local town planned around cars.

Improvements in local transport as investment flows to local buses, there's an increase in local cycle lanes and safe streets so the children can walk to school. Costs of electric vehicles have fallen and are more of an option, but shared mobility hubs make owning a car less essential. Local high street is thriving following the introduction of car-free town centre. Clean and affordable transport is abundant. More space for nature locally.

Source: Authors' analysis

A clean and healthy transport plan for the UK

"There's no one answer to how we should change the way we travel to tackle the climate crisis and restore nature – we need multiple solutions, at the same time, to ensure that changes are fair." Thurrock Citizens' jury

Transport decarbonisation plans must aim to make it possible to live a good life, wherever you are, without needing to own a car. This will mean that alternatives to the private car, including both public transport and shared mobility schemes, reach a level of convenience and affordability that makes them the obvious choice for personal travel for far more people than they do today.

Public transport for all

"Public transport needs to be affordable, joined up, convenient and quick, and take people where they want to go safely." Thurrock citizens' jury

In response to the Covid-19 pandemic, the number of people using public transport has fallen. These services need supporting through this period; now would be the ideal time for local and national government action to demonstrate the necessity of public transport. As acknowledged by the UK government:

"To avoid the worst effects of a car-led recovery – cities and towns grinding to a halt; pollution, road injuries, respiratory illness and carbon emissions all rising – we need to shift back quickly, by making radical improvements to local public transport as normal life returns. Buses are the quickest, easiest and cheapest way to do that." DFT 2021

Affordability and complexity of fares limit the use of public transport by people from low-income neighbourhoods (Crisp et al 2018) and create major barrier for people to access the things they need, including good jobs (ibid). The UK government want "more low, flat fares in towns and cities, lower point-to-point fares elsewhere, and more daily price capping everywhere" (DfT 2021) but its approach to delivering this is to largely pass the responsibility to local authorities, when rationalising fares would be better led by government (Richardson 2021). The government must take more accountability for the delivery of its vision for public transport and act to make buses "both tools of inclusion and the transport of choice" (DfT 2021).

Outside of the UK, governments are increasingly recognising that a popular, fair and world class local public transport system must be free, as in Dunkirk, France (EC 2020), or heavily subsidised at the point of use.⁷² **The UK should create a worldleading local public transport system that is free at the point of use by 2030**.

The UK government should follow Scotland's lead by extending the concessionary scheme for local travel for older people to all young people in the UK, by 2022. The UK and devolved governments should aim to make all bus travel free at the point of use by 2025, and make all other forms of local public transport, such as trams and the metro, free at the point of use by 2030.⁷³

Free public transport is not the panacea for encouraging people to make the shift away from cars. Where it is brought in it is not often primarily for environmental reasons but with the aim of providing fair access to opportunities within the local area (Sloman and Hopkinson 2019a). On these grounds it is a proven success; driving strong passenger growth everywhere it has been introduced (Papa 2020). However, it is only when there is also a disincentive to drive that improvements to public transport come into their own in supporting large-scale mode shift towards cleaner alternatives (Sloman and Hopkinson 2019b). Free public transport would provide an immediate benefit to many, including those who cannot afford

⁷² Free local public transport covers 100 towns and cities worldwide, including more than 30 in the US and 20 in France, as well as in Poland, Sweden, Italy, Slovenia, Estonia, Australia and elsewhere (Hokinson 2019a). Luxembourg is believed to be the first country in the world to offer free standard class public transport for all – including across trains, trams, and buses (Mehmet 2020).

⁷³ The exact services which are free will depend on the local context. In Bristol, the Freedom Travelpass for older people covers unlimited travel on most bus and all rail services in Bristol, Bath and North East Somerset, North Somerset and South Gloucestershire.

to own a car, but to make the most of its potential in reducing carbon emissions it would need to be implemented alongside the other initiatives detailed within this chapter. This is particularly true for road user charging, as even a small payment for car use prompts people to reassess their transport options and can lead to significant traffic reductions (ibid).

"We don't want to punish anyone for where they live, so benefits and subsidies are better than sanctions and penalties for encouraging greener travel."

South Wales Valleys citizens' jury

The lack of rural transport options leaves rural communities car dependent and "strikes at the heart of rural disadvantage, impacting people's access to employment, education and training, health, shops, and a host of other activities. It is a key driver of rural isolation and loneliness" (Rural Services Network 2021). People need viable alternatives to the car, and public transport access should be treated as a basic right. Governments across the UK should guarantee seven days a week public transport connectivity for all rural areas. Sustained annual investment of £2.7 billion in England would provide a modern and integrated bus network that is fit for villages and rural communities: a bus to every village, every hour across England from 6am to midnight, seven days per week (Hinchliff and Taylor 2021).

Community transport will be an important part of ensuring that rural transport needs are met. Run as non-profits, typical community transport services include voluntary car schemes, community bus services, school transport, hospital transport, dial a ride, wheels to work and group hire services (CTA 2018).

"Copy the TfL [Transport for London] model for running buses so that bus companies get paid centrally rather than relying on making their own profit. This can help make bus fares cheaper for everyone and mean buses serve more areas." Thurrock citizens' jury

Pre-pandemic, the revenue raised from bus ticketing was around £3 billion in England (DfT 2020d), around £380m in Scotland (Transport Scotland 2019) and around £55 million in Wales (Bevan Foundation 2018). In short, for less than £3.5 billion a year the government could operate a free bus system in Great Britain and lead the world in providing the fairest, cleanest transport system possible.⁷⁴

The revenue funding required to sustain and grow the public transport network requires overhauling our current, centralised approach to transport investment. Free public transport would be affordable with a fairer funding settlement for local authorities, and if they were supported and empowered to raise more funds locally. Nottingham City Council have put in place a charge on employers who provide workplace parking which has funded extensions to the existing tram system, the redevelopment of Nottingham Station and the local bus network (Nottingham City Council 2021). Around the world, a wide range of local charges have been implemented to pay for public transport services. Business property taxes, used widely in the US, and also temporarily used in London to raise £4 billion for Crossrail, sit alongside road user charging (see below) and visitor lodging levy as potential funding sources (Sloman and Hopkinson 2019c). Schemes such as this need to be designed carefully and in consultation with residents and businesses.

⁷⁴ Ticket revenue is acting as a proxy for the scale of investment required to deliver this policy and the exact costs will vary depending on levels of behavioural change – if successful in growing levels of bus usage, then additional services, and investment, would be required. The cost of an expanded bus network in metropolitan areas raises the cost from £3.5 billion to £4.4 billion according to IPPR analysis. With deployment of a rural bus network and an increase in service in Scotland and Wales, costs would increase to an estimated £6 billion.

Creating a world-leading, decarbonised public transport system in the UK will require ambitious rollout of hydrogen and electric buses and trains assets. We propose an annual investment of over £6.5 billion for the electrification, upgrade and expansion of rail, bus, and tram services.⁷⁵ Around 19,000 jobs could be created in the manufacturing of electric buses and trains, plus around 15,000 indirect jobs from procuring components and services from other firms in the sector. This is in addition to the potential 80,000 jobs in installation and maintenance of chargers and battery cell manufacturing for electric vehicles.

Providing local access to the things people need

"Reduce the need to travel as far - more people should be able to get what they need locally."

South Wales Valleys citizens' jury

More of the things people want in their daily lives should be closer to home. **The principle of local access within a 20-minute walk, cycle, or public transport trip, should be included within the UK's Transport Decarbonisation Plan and the National Planning Policy Framework.** Popularised by Melbourne and Paris as '20-minute neighbourhoods' and 'the 15-minute city' this principle is already a key part of Scottish government policy (Scottish Government 2020a) and the principle it represents sits as a top priority in Wales' transport strategy: "bring services to people in order to reduce the need to travel" (Welsh Government 2021b).

The name and the exact distances are not what is important here; it is about increasing the local access and connectivity by sustainable modes: "the benefits that this way of configuring places bring are multiple and include healthier communities, cleaner air, stronger local economies, and better resilience against climate change" (Emery and Thrift 2021).

"Develop a new economic strategy for the Valleys and for Wales that focusses on creating 'anchor towns', making the most of local assets..." South Wales Valleys citizens' jury

This is not just a principle that applies in cities; it can also be key to the development of 'anchor towns' that "deliver fair, sustainable and inclusive economies" (Cunningham 2019) within more rural areas.

Key in supporting people to access what they need without having to travel will be the rapid delivery of high-speed internet to every household, alongside support to access the appropriate devices to make use of it.⁷⁶ Access to high-speed internet provides fair access to higher paid work, lifelong learning and lower household bills (Good Things Foundation 2020) and has the potential to reduce congestion with fewer people travelling at peak times for work (Budnitz et al 2020).⁷⁷

New housing developments should be compatible with supporting a shift away from the need to own and use a private car. However, the planning system is often working against these aims and supporting developments built on the assumption of "car-based living", including within proposed garden villages and towns (Chambers 2020). Planners need the power and backing of national governments to refuse planning applications that generate extra traffic and do not contribute to reducing car dependence.

⁷⁵ See appendix for more detail.

⁷⁶ Physical infrastructure alone isn't enough to get people online; 9 million people struggle to use the internet independently in the UK (Good Things Foundation 2020).

⁷⁷ Investment in digital inclusion and skills is also good for the economy, with a £15 for every £1 spent return (Good Things Foundation 2020).

Providing good jobs within the local economy, and the opportunity for those with jobs further afield to work nearer home, will play a crucial role in reducing the need for travel. Revitalising our high streets will be key to this. The UK needs a long-term plan to support high streets that is in-line with our environmental goals and addresses the needs of local people. In chapter 3, we outline some of the approaches we believe will give communities the resources they need to lead this action, including participatory budgeting and a new Thriving Places Fund. However, high streets have been facing long standing pressures from rising business rates and competition from online retailers meaning more will need to be done to address these barriers too. Business rates contribute to the imbalance between online retailers and high street shops because they put property intensive businesses at a disadvantage (Roberts et al 2018). To support the revitalisation of the country's high streets, the UK government and devolved nations should undertake the wholesale reform of business rates and as part of that review, the introduction of an online sales levy on large companies. This could level the playing field between bricks and mortar shops and online retailers.⁷⁸

"The creation of shared mobility hubs, including electric bikes and shared cars, in all urban train stations by 2025." Thurrock citizens' jury

Shared – and where possible community owned – vehicles such as electric bikes, scooters, cars, and vans need to be available within easy reach of people's homes. As a step towards achieving this, we propose that rail and transport authorities across the UK undertake feasibility studies for turning suitable urban train and bus stations into shared mobility hubs by 2025. Mobility hubs are highly visible, safe, and accessible spaces which provide shared and public transport options side-by-side (CoMoUK 2019).

Investing in fairer, cleaner, and healthier transport

"Stop building new roads unless there is a clear public benefit justification. The Wellbeing of Future Generations Act provides a good test."

South Wales Valleys citizens' jury

Within chapter 3, we outline the need for a new net zero and protection of nature rule, that the economy must operate within environmental limits and an approach to embedding wellbeing in decision-making. In the case of transport, this means that the mechanism for making investment decisions must be overhauled. The transport appraisal guidance for all UK governments should emphasise increasing equity, improving health and wellbeing, addressing the climate emergency, and supporting a nature recovery. In practice, this would mean a moratorium on plans to expand existing road capacity until further review; it is not the immediate priority for public spending. Instead, public money should be targeted at creating good alternatives to car trips. At least an additional £4 billion should be spent on walking and cycling by 2025 to achieve the stated targets for these ways of travelling in England (Gallagher 2020).

Significant action is required across the UK to make our city and town centres, roads, streets, and pavements accessible and safe for more people – including making them better for those with additional mobility needs – and to make walking and cycling a more attractive option. For many children across the UK the journey to school can only be done by car. Those who can walk, cycle, scoot or

⁷⁸ One of the most promising approaches is the replacement of business rates by a land value tax (Roberts et al 2018), but the remit of the commission did not allow for detailed consideration of such proposals.

catch a bus too often need to find their way across busy roads and face the twin risks of road accidents and poor air quality. To ensure all school journeys are safe and enjoyable **there should be a rapid rollout of School Street schemes across the UK**. These initiatives are designed to restrict the unnecessary use of cars on the streets around schools at set times of day and should be the starting point of wider networks of active travel neighbourhoods (Linton et al 2021). Active Travel England should also work with local authorities to develop best practice and ensure the approach taken to restricting traffic is locally acceptable.

Access to wild and green spaces supports us all to live happier and healthier lives. Our cities and towns can be redesigned to support us to live more harmoniously with nature. For example, urban neighbourhoods could use road space in ways that are more efficient, better for wellbeing and better for the environment. This could be done **by all UK cities and towns adopting local plans to increase urban tree cover and reallocate road space to cycling, walking and green space every year, as part of commitments to protect 30 per cent of land for nature,** as discussed in chapter 7. This should support everyone to easily access green spaces, including new urban greenways that connect people from their doors via pleasant and nature-rich walking and cycling routes to a protected, wilder greenbelt (The Wildlife Trust 2020).

"City centres should be car-free except when essential, such as for access by people with a disability." South Wales Vallevs citizens' jury

High density urban areas, where lots of shorter trips are made, present a key opportunity for increasing choice in how people get around. City and town centres should be moving towards prioritising space for people over vehicles. Local transport planners should work with communities to create car-free areas in city and town centres by 2025, and aim for at least a 50 per cent cut in car use in towns and cities overall by 2030.79 The approach to this should be determined by local authorities with the active involvement of residents, so that those who need to - including those with additional mobility needs - are still able to travel by car, and businesses are supported through these changes. Birmingham has set out the compelling case for transforming its city centre by 2030 in terms of both efficiency, with prioritisation of public transport over private car travel aiming to "reduce the negative impact that congestion and travel disruption has on productivity", and the wider benefits to people: "a new city centre environment which will allow people to meet, relax and take time to enjoy the sights as well as navigate their way on foot without difficult road crossings" (Birmingham City Council 2020).

Supporting the shift to electric vehicles for those who need them

"Invest in infrastructure ahead of need to accelerate adoption of lowcarbon technology or behaviours. Government investment in electric vehicle charging infrastructure is needed to increase confidence in buying electric vehicles."

South Wales Valleys citizens' jury

The installation of electric charging infrastructure will be key to the transition to cleaner vehicles for both businesses and the public, with at least 260,000 public chargers required by 2040 (CCC 2020a). This will provide those who need an electric car or van the confidence to invest in them. **All governments of the**

⁷⁹ Even with a rapid shift to electric vehicles a reduction in car use is necessary to meet a 1.5°C target. Estimates of the necessary mileage reduction required could be as low as 20 per cent or as high as 60 per cent (Hopkinson and Sloman 2019a). Urban areas have the most potential for change and should be aiming to achieve a shift in-line with the upper bounds of this estimate.

UK must set out a plan for a comprehensive public charging network, alongside the investment to deliver it. Rural communities in particular rely heavily on car travel, as do rural tourist destinations and workplaces, and provision of charging networks in rural areas will be a critical, and urgent, step to decarbonisation of local transport (Anable et al 2020). There is however a risk that public funding of residential charging points will subsidise the wealthiest in society (ibid) and, without careful planning, promote a technology-focussed transition that does little to deliver wider benefits for people or nature. Local and national plans for electric charging infrastructure should never be created in isolation from the overall goal to reduce car dependency and increase walking, cycling and the use of public transport.

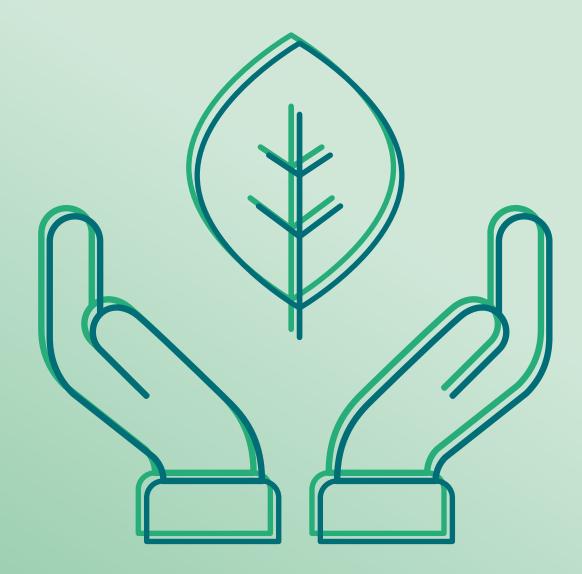
The government should be bolder than its 2030 ban on petrol and diesel engine cars. Across the UK our juries have told us that action should be led by national and local governments, and the companies that can most afford to change quickly. **We recommend a 2025 ban on the purchase of carbon emitting cars for public sector and commercial car fleets.** This is a crucial interim step towards all fleets being electric by 2030, an aim that increasing numbers of companies are taking to reduce their own carbon emissions (Climate Group 2021). Taking this action now will support the development of the affordable second-hand electric vehicle market, which was responsible for over 7.9 million car sales in 2019 (SMMT 2020), dwarfing the 2.3 million new car registrations in the same year (SMMT 2021). Organisations can make significant savings by taking this as an opportunity to reduce their fleet sizes and moving to shared mobility schemes, such as car clubs (FleetNews 2020). This measure would be supported by the scaling up of active and public transport.

Involving the public in designing future transport charges

The switch to electric vehicles is expected to lead to a £30 billion gap in revenue (Shale-Hester 2020) and there is currently significant interest in road user charging as one method of raising replacement funds. The public are more likely to support than oppose a road user charge aimed at making environmentally damaging behaviours more expensive (Green Alliance 2021a) but careful consideration in design and implementation will be necessary. The governments of the UK should commit to implementing a national road user charging scheme after meaningful deliberation with the public to ensure it is implemented in a way that is fair and leads to the desired environmental and social impact. This scheme should be implemented as soon as possible, and the charge should be designed to reduce traffic and encourage the transition to clean transport modes. Meaningful dialogue with the public can ensure it is implemented in a way that is fair and leads to the desired environmental and social impact. This national scheme will be designed to complement locally run congestion charging zones. The public must trust that no one is being unfairly treated through these schemes and that money raised is used to support people to make cleaner transport choices.



OUR NATURAL WORLD



In order to address the climate and nature crises we must change our relationship with the natural world. Urgent action to restore our lands and oceans as habitats where wildlife can flourish is crucial not just for nature but for us as human beings to thrive.

We must go beyond isolated investment in programmes focussed on either climate or nature, and instead make fundamental changes that allow us to live within our environmental limits. In doing so, we can make nature a bigger part of our daily lives and bring more green and wild spaces into our towns and cities.

"I felt guilty about the failure of our species to appreciate our responsibilities to protect the environment for the benefit of nature and our own survival." Thurrock citizens' jury

The desire of communities to protect and enjoy nature is woven into our history and has shaped the landscapes of the UK. From National Parks to the 'right to roam', time and again public campaigning has forced those with the power to act to value nature and ensure access to it is not reserved for the privileged few.

Despite this national love of nature, the UK's wildlife is on the brink. We are now recognised as one of the most nature depleted countries on earth (Hayhow et al 2016). Reversing this decline, and restoring a more nature-rich landscape, will require our farmers, as managers of the majority of UK land, to be both food producers and active custodians of the natural world. The scale of change required to how agricultural land is used will mean going beyond just providing nature a bit of space around the edges of fields. It will require a full shift to agroecological farming practices – treating the whole farm as an ecosystem and working in harmony with it to increase food production, improve opportunities for wildlife to thrive on all farmland, and deliver the appropriate nature-based solutions to address the climate crisis.

Helping nature to recover is vital to our survival. We know that people's health and happiness is intrinsically linked to the environment in which they live, and that not everyone has access to the green spaces that help them to thrive, as the Covid-19 pandemic has starkly revealed. In protecting and restoring our land, people will reap huge benefits to their health and wellbeing.

WHAT DID OUR JURORS THINK?

Our jurors were clear on both the value of nature in its own right, and in its role in supporting people's health and wellbeing.

Their discussions about nature encompassed everything from gardens to a favourite tree opposite the bus stop, from hedgerows in local farms to nature reserves, mountains, and the coast. All four sets of jurors felt protective of the green and wild spaces near their homes, and older jurors in particular were anxious that they had seen much of this lost through development or damaged by human activity.

They were hopeful that Covid-19 would prompt many more people to find comfort in nature. However, there was also overwhelming concern that

reports of increased litter and fly tipping during lockdowns show how far we have to go in changing the way people treat the natural world.

This example spoke to a much wider issue of how we value nature and our willingness to damage it to meet our own needs. The jurors wanted to see more done to protect established street trees, to avoid road building that damages and fragments local habitats, and to prevent the green spaces around towns and cities being taken over by urban sprawl.

They felt that people have become disconnected from nature and need to have greater access to it and the opportunity to learn about it at every stage of life. All our juries were inspired by the community projects they heard about during their deliberations and saw the active participation of local people in restoring and providing new green spaces as essential.

As much as they wanted increased access to nature, even more fundamental to them was our role as custodians of nature and the need for us to leave space for it to thrive. It is only by allowing nature to recover from the harms we have caused that we will maintain the life support system that sustains every aspect of our lives.

The jurors wanted to see significant changes to how we use the land and sea, from food production, to housing, recreation and energy generation. Specifically, they wanted to see radical changes to farming, but only with the right support in place for farmers so that they can adopt more climate and nature-friendly practices while still earning a good living.

Their biggest concern was the lack of urgency placed on nature restoration and the potential for government and companies to say all the right things, including setting targets, but never take the action required, or worse, continue with active damage.

Reversing nature's decline

Globally, nature is in crisis. The 2020 Living Planet report gives a stark picture of the state of the world's nature. It shows that population sizes of mammals, birds, fish, amphibians and reptiles have dropped on average by 68 per cent since 1970. We are losing nature at unprecedented rates and the ecological footprint of our lifestyles has overstretched the Earth's ability to restore itself by at least 56 per cent – we are consuming 1.56 times more natural resources than the Earth can regenerate (WWF 2020b).

Domestically, the UK is not faring any better, with 41 per cent of species experiencing a long-term strong or moderate decline in populations since 1970 (see figure 6.1). Intensive agriculture and fishing, climate change, pollution and development have all been identified as causes of the nature crisis and must all be addressed to ensure we can reverse the declines in nature (Hayhow et al 2019).

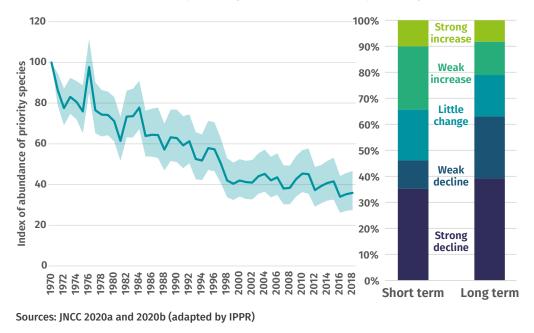
Various ecosystems, within the UK and beyond, have reached 'tipping points' in their levels of degradation. Once ecosystems decline beyond a certain point the effects are catastrophic for nature, our wellbeing, and our economies. Restoring these ecosystems may be impossible. Acting now to reduce the active harm we cause and restore nature will be significantly less costly than delay.

Targets alone will not be enough. In 2010, 196 governments, including from the UK, signed up to global targets to halt biodiversity losses under the Convention on Biological Diversity. While some steps had been taken to address the crisis, most of these targets have not been reached (SCBD 2020). The UK government's own report showed that the UK failed to reach 14 of the 19 targets, and NGO assessments suggest that even this might be over-optimistic reporting (Brede

2020). At the end of 2021, signatories to that Convention will meet to set a new global framework for the recovery of nature.

FIGURE 6.1: THERE HAS BEEN A RAPID DECLINE IN SPECIES THAT ARE OF CONSERVATION CONCERN OVER THE PAST 50 YEARS

Change in the relative abundance of priority species in the UK (95 per cent confidence interval) from 1970 to 2018 and percentage breakdown of severity of changes



Rather than an isolated focus on global heating and reaching net zero emissions, nature and the climate crisis must be considered together, recognising that there are things we can do that will benefit both. Improving soil management, restoring wet peat and blanket bogs, protecting seagrass meadows, saltmarsh, and heathlands, and establishing native woodland can all support natural carbon storage, an essential part of achieving net zero and providing resilience to changes in climate (Natural Capital Committee 2020).

The centrality of our seas in limiting and mitigating the impacts of the climate crisis are often underestimated. Marine habitats capture up to 20 times more carbon per hectare than forests on land (Fenn et al 2020). To have healthy seas, people must put less pressure on them, from pollution to fishing. Ocean recovery offers an opportunity to move towards fisheries that are good for climate and nature – including by reducing overfishing, improving fishing practices, and swapping diesel fuels for more efficient electric engines.

Restoring marine ecosystems could also save an estimated £6.2 billion in spending on artificial flood defences by 2050, providing vital protection to coastal communities from rising sea levels and more frequent and powerful storms (Fenn et al 2020).

The levels of pollution in the UK's rivers, lakes and streams make them far from being healthy habitats for wildlife. 84 per cent of rivers and lakes in England fail the criteria for 'good ecological status', and none meet the criteria for achieving 'good chemical status' (Wildlife and Countryside Link 2020). Across the UK, 65 per cent of Scottish water bodies, 46 per cent of Welsh rivers, and 31.3 per cent of Northern Irish rivers are classed in good health (ibid).

Changing how we think about nature

"We need urgent and wide-reaching action to protect nature; things need to change in order for nature to recover and to thrive." Aberdeenshire citizens' jury

In 2006, the Stern review concluded that the benefits of early action would far outweigh the economic costs of not acting on climate change. This review was considered a seminal moment in placing the argument for strong climate action into mainstream economic debate. More than a decade later, the Dasgupta Review (2021) makes the case for a similar rethink of how we value and protect our natural world. Although nature is far more than an economic good, we have not done enough to recognise its value as an asset – an essential part of the infrastructure that is integral to our survival.

This means recognising nature's worth within the UK's measures of the success for our economy. If we can put in place the frameworks to reflect the true value of nature within decision-making, then we will invest much more in supporting biodiversity and stop subsidising actions that do it harm. The total cost globally of subsidies that damage nature is estimated as at least US\$4 trillion per year (Dasgupta 2021).

Changing how we weigh up the benefits and costs of natural assets within our current economic system will not on its own lead to the pace and scale of change we need. We must bound our economy and put limits on the harm we cause. In chapter 3, we set out the need for comprehensive Wellbeing of Future Generations Acts across the UK to ensure current and future generations can thrive within environmental limits. We also argue for the adoption of a 'net zero and protection of nature rule' that ensures all decisions are taken in line with agreed targets.

The challenges and opportunities for agriculture

Our farms and farmland are a major part of British national identity, and farmers perform the critical social function of nourishing and sustaining us all. Yet farmers are suffering the sharp end of the most immediate and direct impacts of a changing environment, including through flooding, drought, increased temperatures and prevalence of pests and diseases (Nyman et al 2021). They operate within a system that often fails to reward them with a fair price for what they produce, in which polluting and damaging practices can go unpunished, unfair trading practices are common, and farmers face competitive pressure from international producers not subject to the same high environmental standards (ibid).

At the same time, agriculture is a major contributor to greenhouse gas emissions. In the UK, farming contributes around 50 per cent of the UK's methane emissions and 70 per cent of nitrous oxide emissions (Nyman et al 2021). Agriculture has been the single largest cause of biodiversity decline and species loss in the UK for decades – destroying habitats such as ponds and hedgerows, fragmenting naturerich areas and damaging wildlife through the use of fertilisers and pesticides (ibid).

An alternative is possible. With around 72 per cent of land under some kind of agricultural production (Defra 2018a), the UK farming sector has the potential to significantly reduce carbon emissions, increase carbon capture, improve the quality of water resources, and reduce the use of harmful chemicals, as well as undertake actions to increase biodiversity and improve conditions for both rare and abundant species on farms (Coleman et al 2021).

"Support farmers to change the way they use the land, through a combination of information sharing, education and subsidies for environmentally friendly practices." Aberdeenshire citizens' jury There are many steps farmers can take to improve environmental outcomes, such as reducing livestock numbers, rotational grazing, intercropping, or employing cover crops, reduced use of fertilisers and pesticides, improved soil management techniques, tree and hedgerow planting, pond creation and restoration (Nyman et al 2021), and increasing numbers are doing so. Improving farming and land management for nature means improving farming practices, setting aside land dedicated to nature conservation, and policies to reduce demand and consumption of high-impact products, and of food waste (Benton et al 2021).

CASE STUDY: THE NATURE FRIENDLY FARMING NETWORK

The Nature Friendly Farming Network (NFFN) represents and supports a growing community of farmers dedicated to more sustainable agriculture and the recovery of nature on their land. Launched in 2018, it now has over 3,000 members and covers all types of farming from arable lowland to hilltop pastures.

The NFFN facilitates support and advice across peers, as well as connecting farmers to resources and opportunities for funding and training. As well as a forum for those already engaged in nature-friendly farming methods, it is also open to organisations from the environmental sector and to farmers just starting out to understand what they can do to support wildlife.

The publications and resources the network has developed make clear the difference farms can make for nature and how nature-friendly approaches can improve farm profitability.

Source: Coleman et al 2021

A fair transition for the farming sector would mean farmers, land managers and agriculture workers are fairly rewarded for their produce and the public goods they deliver, including their work addressing the climate and nature crises (Coleman el al 2021). Responsible farming must be profitable. It has to offer good livelihoods for farmers and workers, and it has to do so for farms of different types and sizes. In chapter 5, we outline some of the changes required to ensure fair supply chain practices, and mechanisms through which consumers could be encouraged to build a new relationship with their food and afford to pay a little more for it. As our expectation of farming and farmers change to include actions that address climate change and the recovery of nature – in addition to producing healthy, nutritious food – we must also update how farming is regulated and farmers are rewarded for their efforts (Nyman et al 2021).

Access to nature and improving our understanding of it

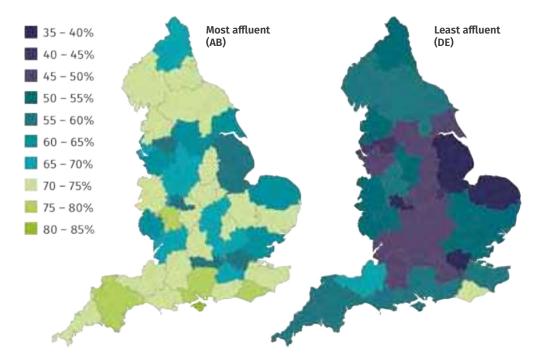
"Being out and about whether it be by the sea, hill climbing or walking through the ample woodlands removes most of the stresses that tend to surround me, nature seems to simplify everything." Juror from the Aberdeenshire citizens' jury

"Despite living in very different places, nature has been very healing in a very difficult time... it's an important part of our life." Juror from the South Wales Valleys citizens' jury

The Covid-19 pandemic has brought home the significance of nature and naturerich green space to the physical and mental health and wellbeing of us all. It has opened many people's eyes to the importance of the spaces around them – their gardens, the neighbourhood parks, and the wider tracts of green space that help support humans and wildlife alike.

FIGURE 6.2: ADULTS IN THE LOWEST INCOME GROUPS SPEND THE LEAST TIME IN NATURE

Proportion of adults who visited the natural environment at least once a week in 2019, split by socio-economic groups AB or DE



Source: Natural England 2021 (adapted by IPPR); Office for National Statistics licensed under the Open Government Licence v.3.0. Contains OS data © Crown copyright and database right (2021). https://www.ons.gov.uk/methodology/geography/licences

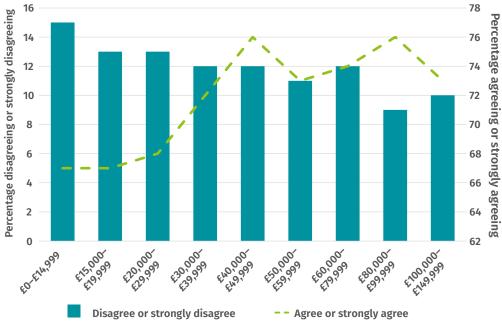
Our engagement with nature is not a "nice to have"; it is critical to our personal and collective wellbeing. Polling in England tells us that 84 per cent of the public support the idea of increasing the number of nature-rich areas in the UK, and 76 per cent agree that nature had been an important source of comfort and relief during lockdowns (Marsefield 2020).

"We should educate people about nature from a young age, including about the risks to wildlife and biodiversity and where food comes from. This will inspire them to protect nature and could encourage them to work in green industries." Aberdeenshire citizens' jury

An understanding of the natural world is important in both encouraging individual action for nature and for a wider societal acceptance of the scale of conservation effort now required. Children are growing up in a world where nature is harder to find, so more needs to be done to increase their connection with nature early in life (Jones et al 2020). Once a connection with nature is established it carries forward into later life – time spent in nature during childhood is positively associated with active care for nature (Chawla 2020).

Increased contact with nature, through both formal and informal learning, has numerous benefits for children. These can be succinctly summarised as: "children who learn outdoors know more, understand more, feel better, behave better, work more cooperatively and are physically healthier" (Moss 2012). However, the significant benefits of access to nature are not shared equally. Those in the lowest income groups are much less likely to both spend time in a natural environment (figure 6.2) and to consider their local green space to be of a high enough standard to spend time in (figure 6.3). This inequality reaches beyond income with a larger proportion of black and ethnic minorities living in areas with the greatest deficiency of access to open green spaces with wildlife value (Collier 2020). Restoration of our natural world must address these inequalities – ensuring that everyone in the UK has easy access to green spaces on their doorstep.

FIGURE 6.3: THOSE ON HIGHER INCOMES ARE FAR MORE LIKELY TO SAY THEIR LOCAL GREEN SPACE IS OF A HIGH ENOUGH STANDARD TO SPEND TIME IN



Average levels of agreement/disagreement that an individual's local green space is of a high enough standard to want to spend time in, broken down by income group

Existing greenbelt land and other sites adjacent to towns and cities should be a priority. Greenbelt land as a planning designation was introduced to limit urban sprawl, ensure towns retained their distinctiveness, help protect the countryside and encourage urban regeneration (CPRE 2018). This land could be doing much more to provide habitat for species, capture carbon and encourage people into wilder green space.

Nature is also needed where people live and not just as a place to visit. Natural features provide critical urban ecosystem services such as cooling, pollution abatement, and flood management, and larger green spaces provide opportunities for recreation, exercise, food growing, and community cohesion (Gómez-Baggethun 2013).

Connecting to special landscapes

Since the 1950s, when the Peak District was the first to receive the designation, National Parks – and Areas of Outstanding Natural Beauty (AONBs) – have held a special place in the hearts of the UK public. These "national landscapes" have

Source: Chapman and Phagoora (2021) (adapted by IPPR)

been a source of great recreation and joy for generations, but there are ways in which they can be improved for all to access nature.

Unlike greenbelts and urban green spaces, national landscapes are often distant from where people live, work, and spend their free time, so there is work to do to provide green transport links for people to get out and enjoy these spaces.

While many think of National Parks and AONBs as synonymous with nature, UK national landscapes have suffered similar declines in biodiversity to unprotected sites. In fact, data suggest that Sites of Special Scientific Interest (SSSIs) located within National Parks are on average in a worse condition than those without such designation (RSPB 2020). In reality, such national landscape designations offer little legal protection against the same drivers of biodiversity loss elsewhere.

Roads and streets that leave little space for nature

Roads and streets are a key feature of our landscape, and we can manage these to provide benefits to biodiversity and mitigate the impacts of severe weather (EC 2011). Three-quarters of the land in Great Britain is less than half a kilometre from a road (Phillips et al 2021) and for 23 million commuters, road verges can be their main contact with nature (Bromley et al 2019). Improving how we manage rural road verges would create a pollinator habitat the size of London, Birmingham, Manchester, Cardiff and Edinburgh combined (ibid). Trees can provide green corridors for nature within our urban areas, yet the average tree canopy cover in the cities and towns of England is just 16 per cent (UFWACN 2016).

"As well as action for nature, [there] needs to be a halt on activities damaging nature – new roads and developments. Positive steps can't mean damaging things is allowed." Thurrock citizens' jury

Despite increased awareness of the impacts of transport infrastructure on landscapes and nature, damaging road schemes continue to be proposed. Highways England's own assessment of the Lower Thames Crossing states that it will lead to a "major negative change for landscape" (Highways England 2020). Local campaigns highlight the emphasis placed on "theoretical economic benefits" over the impacts on "biodiversity, ecosystem services, community health and tourism" (Essex Wildlife Trust 2021). As we describe in chapters 3 and 5, the way governments make decisions to avoid causing harm to nature will need to change – all transport infrastructure spending should be aligned with delivering positive improvements to the natural world.

RESTORING NATURE

Giving nature the space it needs to thrive

"All land should be assessed for the potential opportunities to support nature."

Tees Valley and County Durham citizens' jury

Defra and Natural England have set up the Nature Recovery Network with the aim of restoring and creating wildlife-rich habitats and corridors across England, to help wildlife populations to grow and move. The UK government has also committed to protect 30 per cent of land in England for nature. This definition of 'protected' includes the existing 26 per cent of protected sites, many with limited qualities as habitats (Prime Minister's Office 2020). Action must match rhetoric, and bolder ambition is needed on what 'protected' land looks like. Biologically diverse sites should be connected by hospitable environments through which wildlife can travel, across national borders. England's Nature Recovery Network needs to join up with sites in Scotland and Wales to deliver connected habitats that stretch across the country. All governments of the UK need to work together to ensure that land protected for nature is in good ecological condition and that currently fragmented nature-rich sites are joined up by corridors which support movement and flourishing of wildlife.

At the heart of these networks will be spaces where nature is truly given the space it needs to thrive. The UK government has been promoting the Global Leaders' Pledge for Nature, to protect 30 per cent of land and sea by 2030, and has committed to protect 30 per cent of land in England for nature – up from the existing 26 per cent. This definition of 'protected' includes existing National Parks and AONBs which have limited qualities as habitats. All governments of the UK should work together to ensure that 30 per cent of both land and sea is protected for nature and in good ecological condition, by 2030. These areas should be covered by long-term, statutory protection. This target should be applied to both the UK as a whole and each of the four nations. For the costs and benefits of a nature recovery to be evenly distributed, local areas and regions will need to be supported to reach this target too.

Ensuring progress on the nature crisis

"The public should be supported by an independent regulatory body that stops the nonsense – providing the focus that is needed on these emergencies – and has legal powers to drive action." Aberdeenshire citizens' jury

The UK's response to the nature crisis must face the same scrutiny as our plans to reach net zero. The UK and devolved governments should be supported and held to account by a new independent, statutory body to do this; the CCC has its work cut out already. We propose the UK government establishes a new Nature Recovery Committee, playing an equivalent role to the Climate Change **Committee.** This new committee should focus on halting and reversing declines in nature and would work alongside the CCC to ensure close alignment between their recommended pathways for addressing the climate and nature crises. The Nature Recovery Committee would provide annual reports on progress in delivering against agreed targets (proposed in chapter 5), including identify investment gaps, and consult with DEFRA and the Office for Environmental Protection in developing its advice on how to deliver on these targets. The Nature Recovery Committee would report to parliament, unlike the Office for Environmental Protection. Through engagement with the proposed Climate and Nature Assembly (see chapter 3) the committee would ensure that the approach taken to achieving these targets is fair and reflects the level of ambition the public expect.

Building a new relationship with nature

"Do something, not just make a target, but do something. So far, all the promises coming from government is just points, they don't mean anything. They do the points... but if we don't do anything, they're just words."

Juror from the Aberdeenshire Citizens' Jury

The current level of action and investment in nature recovery fails to match the value our jurors and indeed UK communities in general place on it. We call for a new National Nature Service that covers all four nations of the UK to create new high-quality job opportunities and mobilise the workforce needed to restore nature. In this we are adding our support to a key proposal made by members of the Wildlife and Countryside Link coalitions, who represent environmental charities across the UK (Thoren 2020). A proposed National Nature Service for England is costed at £741 million a year and would deliver nearly 10,000 entry level jobs alongside 5,000 supervisory and expert roles (ibid). This proposal should be scaled up and provided with proportionate funding to cover the whole of the UK.

The National Nature Service is modelled on the US "Conservation Corps", established in the 1930s in Depression era America, and should form a central pillar of the UK's "green recovery". The scheme would provide at least a year of paid work and training for 'rangers' and would be designed with a focus on providing roles to young people (including apprenticeships), under-represented groups, and in the communities that need them most, including rural and coastal areas. These jobs would incorporate high-quality work standards described in chapter 4. Our jurors suggested that the opportunities offered for young people to start careers in restoring nature, alongside other low-carbon jobs, might be called the 'Attenborough scholarship'.

Such a service would boost job prospects, speed up delivery of nature recovery projects and provide opportunities for people from many different walks of life to experience and engage with the UK's nature and landscapes in ways otherwise impossible.

"Educate people on their responsibilities as well as rights." Tees Valley and County Durham citizens' jury

Getting the balance right between people being able to access and enjoy nature and the need to conserve it was a key theme within our jurors' discussions. Providing more opportunities for people to enjoy the countryside should come hand-in-hand with better education on how to do so in a way that preserves the natural world for wildlife. We outline changes to the school curriculum to support the development of this knowledge from a young age in chapter 3. At the same time, we must provide opportunities for adults to gain this knowledge – partly through investment in promoting and disseminating the Countryside Code.

The existing right to roam in England covers only eight per cent of the countryside and 97 per cent of rivers are off limits to the public (Douglas 2021). In Northern Ireland, legislative progress on enabling public access to the countryside lags behind Great Britain (Price and Simpson 2017). All parts of the UK should enjoy the same rights of access to nature. To this end, **the 'Right to Roam' should be expanded across the whole of the UK**. As part of an expanded 'Right to Roam', the law should be changed in England, Wales, and Northern Ireland, to reflect Scottish laws that give the public the right to swim in rivers and lakes. This should be accompanied by new bathing quality standards, and where possible, the designation of swim areas.

Supporting nature to thrive on our doorsteps

"[Protect] green space and the green belt, as damage from development is often irreversible and has an impact on climate, environment and wellbeing." Thurrock citizens' jury

While often thought about as existing in dedicated zones, nature does and should run throughout our built environments. The infrastructure that supports our lives must not set back progress in nature recovery.

Further to the changes needed to how we make decisions described in chapter 1, we support the recommendations of the Raynsford Review (Town and Country Planning Association 2018) for legislation that creates a purpose for the planning system that will ensure an environment fit for future generations. Like the authors of this review, we see the need for planning system to be aligned with the sustainable development goals (ibid) and that no development should be incompatible with the environmental targets we outline in chapter 4.

"Streets should be greener and more nature friendly - we should plan for benefits to nature as well as people." South Wales Valleys citizens' jury

Within this revised planning framework, a new '**3 x 30 x 300**' rule for local planning would ensure everyone has the chance to connect with nature. This would ensure at least three natural features are visible from every new home, every neighbourhood has at least 30 per cent tree or urban forest canopy cover, and no new home is further than 300 metres from an accessible urban green space, such as a park or nature reserve (van den Bosch 2021). This rule can also be applied to identify existing neighbourhoods lacking in nature and establish priority areas for urban greening.

Local authorities and public bodies are major greenbelt landowners and should seek to make improvements to their land that addresses the needs of nature and improves people's health and wellbeing. Some may be able to fund this directly but additional investment from government would help fund nature improvements and facilitate public access and enjoyment. Research supported by the National Trust, and other partners, shows how a £1.4 billion capital investment and an ongoing commitment of £200 million a year in parks on the urban fringe would generate £600 million a year in health benefits, could contribute 8 per cent of the national tree-planting target and would support 3,800 permanent jobs (Vivid Economics and Barton Willmore 2020). Investing in nature and access in the greenbelt will also have the added benefit of halting ever expanding urban sprawl and supporting increased urban density, which in itself supports reduced carbon emissions – particularly when aligned with improved public transport and the 20-minute neighbourhood principle detailed in chapter 5 (Hopkinson and Sloman 2019b).

"Introduce employer schemes where workers are given time off to restore nature in local areas of unused and degraded land. Use employees' suggestions and local expertise to direct action." Thurrock citizens' jury

"Involve all parts of society. Bring everyone on board including companies. We should take natural resources as seriously as human resources."

Tees Valley and County Durham citizens' jury

In chapter 5, we describe the need to reallocate space to green corridors where wildlife and people can safely travel across our urban areas. These changes in the public realm should be matched by wider efforts to green our homes and workplaces and all the spaces in between. The new community rights legislation and the Thriving Places Fund recommended in chapter 3 will support communities in action for nature and taking ownership of spaces in their area that help people and wildlife to thrive. Alongside this, we call for a UK-wide campaign to engage everyone who can and every organisation, from every sector, in making their land, buildings, homes, gardens or whatever space they have, better for nature. The nature recovery is not going to be delivered by the words of government ministers in the run-up to international conferences, but in the actions we all take. The public sector, through schools, GP surgeries, hospitals, and town halls, can play a key role to play in making these changes; the private, community and faith sectors should all play their part too.

Supporting a fair transition to nature-friendly farming

It's non-negotiable that how the land in the UK is farmed needs to change. At the same time, current farming business models are unprofitable and therefore unsustainable (NFFN 2020). Farmers need to be supported to do the right thing for nature; this isn't an easy transition and they will require help in the form of both funding and advice.

Agricultural payment schemes should be better suited to the UK's environmental priorities, aligned with environmental policies and targets, especially those in the environment bill and 25 Year Environment Plan. A new Environmental Land Management scheme is under development in England to ensure public money is used to support actions that deliver environmental public benefits, such as carbon capture, improving biodiversity, better soil management, flood management or preservation of key species and breeds. The Agriculture Act (2020) has set the legal foundation for such a scheme, but there is a great deal of more work to be done for it to meet the environmental ambition expected of the UK government's 'Green Brexit' (DEFRA and Gove 2017).

"I think they've got to help them financially. I've got family that have farmed for generations and that's all they know, you know, farming cattle and sheep. It's not all that easy to change."

Juror from the Aberdeenshire citizens' jury

For this scheme to be effective it needs to be clear, intuitive, and accessible for all farmers. This means it is crucial that farmers and agricultural workers are deeply involved in scheme design. It also needs to be ambitious. The current Agriculture Act recognises the benefits of whole-farm change, including enabling financial support to learn about agroecology, but does not go far enough in providing assurance that farmers will receive adequate funding to adopt these principles and risks incentivising improvements only to the margins of agricultural land.⁸⁰ England's new Environmental Land Management scheme(s) need to do more than fund business-as-usual or reduced harm, and promote genuinely environmentally beneficial activities.⁸¹ Harm-avoidance should be dealt with through regulation, rather than incentives.

We support the Nature-Friendly Farming Network's call for additional advice and funding to be made available for collaboration between farmers to produce landscape scale results, such as species recovery or improving water quality. Working in partnership across multiple holdings should be worth more to each farmer than doing similar activities alone.

Critical to delivering positive impact on biodiversity, climate mitigation and adaptation, and water and soil management is the provision of practical guidance and support to farmers and land managers. Investment in peer-topeer networks and training from trusted and knowledgeable farm advisers must be part of the Environmental Land Management scheme. The approach to this should include investing in successful existing networks, such as the Nature Friendly Farming Network, alongside a programme of support that includes a traineeship programme, a mentorship programme, and farmer-tofarmer intergenerational exchange (Butterly 2019). Importantly, this advice will need to be tailored to local contexts and scheme objectives.

⁸⁰ An amendment to address this issue was put forward and not adopted during the drafting of the Bill, see Coe and Finlay (2020).

Proposals for CAP replacement are more advanced in England but the approach outlined in this report 81 should be followed in the devolved nations and adapted for local contexts.

"Land strategies need to balance the competing priorities of enabling access to nature and protecting nature from being damaged by us." Aberdeenshire citizens' jury

Across the country there will be competing priorities for improving how we use the land – including housing, recreation, energy, food production, and nature – balancing these will be supported by a national approach to land use management. We support the Food, Farming, and Countryside Commission (2020) proposal for a strategic land use framework in England to help make the best use of land, resolve conflicts and competition, and deliver on government priorities.⁸² There should be equivalent approaches across the UK, such as the Scotland Land Use Strategy (Scottish Government 2020b). Through joined up planning we will ensure the multiple benefits we need land to provide are fairly balanced.

⁸² See RSA (2019).



OUR PLACE IN THE WORLD



The UK has the opportunity to play a leading role in a global fair transition. But if the UK is to do so, then it will need to cut its negative impacts on climate and nature by a greater, fairer share. It will also mean providing more support to developing nations to help them through the transition and to become more resilient to the impacts of the climate and nature crises.

The impacts of these crises are already with us, and the poorest nations, who have contributed the least to these crises – are often at the sharp end of these impacts. Yet Covid-19 has demonstrated that in the face of such global threats, no country is safe until all countries are safe. In the case of the pandemic, there is both a strong moral argument for the most developed nations to support developing countries and the world's poorest citizens with access to the vaccine, as well as a selfish one. As the former prime minister Gordon Brown has said: "all of us will live in fear until no one lives in fear... providing the vaccines is not just an act of charity: it is a form of self-protection, perhaps the best insurance policy in the world" (Brown 2021).

In the case of the environment, the UK has been a leading contributor to global heating and the destruction of nature. The UK therefore has a greater responsibility to act with partners around the world to address the climate and nature crises both at home and abroad. As with Covid-19, the argument for supporting developing nations extends beyond the moral; there are also potential economic benefits, because it will help ensure that jobs, and our emissions, are not offshored.

The Paris Agreement and the 2030 Agenda for Sustainable Development were both adopted in 2015. Action on the UN's sustainable development goals (SDGs)⁸³ will help the UK to deliver a longer-term transformation to national economies and societies that are both decarbonised and that work to achieve a better and more sustainable future for all (Pauthier and Cochran 2020).

'Climate action' is just one of the SDGs and is the one that requires the most urgent response (United Nations 2019). Indeed, the UK government has said it is 'serious about 1.5 degrees' and that, as host, it will use COP 26 to secure a global fair transition. But addressing the climate crisis will also be a prerequisite to achieving the other SDGs – which in turn must also be met if all nations are to achieve their climate objectives too (Pauthier and Cochran 2020).

"Action on environment must be taken seriously by everyone who lives on this planet. It is the responsibility for all of us to take." Tees Valley & County Durham citizens' jury

WHAT DID OUR JURORS THINK?

Our jurors want to see the UK playing a leading role in tackling the climate and nature crises.

They recognise that the UK has been a leading contributor to global heating and the destruction of nature. They believe that the UK had a responsibility to help poorer countries, and they also saw potential for economic benefits for the UK.

⁸³ These include 'no poverty', 'reduced inequalities', 'good health and wellbeing' and 'gender equality'.

Many of the jurors also had concerns that the UK would lose out if it acted alone or implemented policies that were stricter than elsewhere. They wanted to make sure that businesses didn't leave and take jobs with them.

Issues of international justice were important to them. When discussing food and transport in particular, the jurors were anxious that decisions taken in the UK should not cause harm or destruction elsewhere. They were concerned about both environmental impacts, such as deforestation, and social issues, such as a lack of labour rights.

Source: IPPR analysis of IPPR 2021a, 2021b, 2021c and 2021d

THE CLIMATE AND NATURE CRISES ARE ALREADY HERE, AND WE ARE ILL-PREPARED

The climate crisis is already causing environmental destruction. Some African nations are spending as much as 10 per cent of GDP on managing the impacts of deadly storms, heat extremes and the other consequences of higher temperatures (AMFPED 2021). These consequences are set to grow markedly into the future as temperatures rise and the destabilisation of nature continues, with implications for all countries (Laybourn-Langton and Rankin 2019).

"It is the more vulnerable people in the poorer countries that are taking the brunt of this and it's us causing it and that's horrendous."

Juror from the Aberdeenshire citizens' jury

Natural and economic systems do not stop at national borders. The impacts of destructive storms and failed harvests ripple out across multiple countries, through globalised systems such as the food system. Through this, the whole world becomes less stable and less safe, as existing social and political problems, such as high levels of inequality and political fragmentation, are exacerbated and multiplied (Laybourn-Langton et al 2020). In a future of growing environmental destabilisation, all countries will have to contend with more frequent and severe shocks transmitted through globalised systems.

Despite the impacts of these crises already being with us, the evidence shows that many countries are ill-prepared. The Global Commission on Adaptation has warned that progress on climate adaptation is insufficient and that destructive impacts are set to increase more quickly than financial support to adapt (GCA 2019, GCA 2020, UNEP et al 2021).

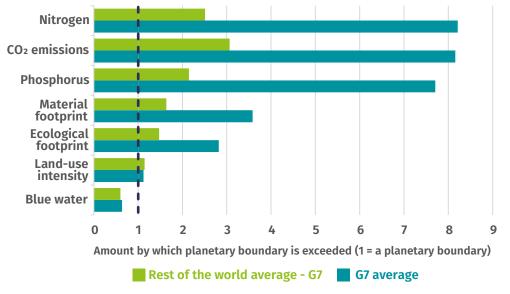
The climate and nature crises are a pressing issue of international fairness

Different countries do not experience the impacts of the climate and nature crises equally and neither do they contribute equally to the problem (figure 7.1). The UK is the fifth largest contributor to the total stock of greenhouse gas emissions over time (Carbon Brief 2018), being responsible for 4.4 per cent of historic emissions.⁸⁴ It also benefited hugely from the fossil fuel era, helping it to become the fifth wealthiest economy.

⁸⁴ This is based on data from the research and data website, 'Our World in Data', which suggested that the UK is responsible for about 4.4 per cent of historic emissions, combined with the remaining budget for a 66 per cent chance of staying within 1.5°C and adjusted for the UK's share of the global population.

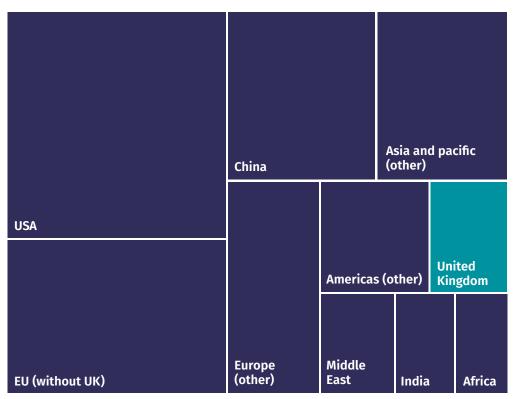
FIGURE 7.1: SOME NATIONS ARE CONTRIBUTING FAR MORE TO ENVIRONMENTAL BREAKDOWN THAN OTHERS

Annual per capita consumption of each planetary boundary comparing G7 to the rest of the world, where a value greater than 1 means the boundary is exceeded



Source: IMF (2019); O'Neill et al (2018) (adapted by IPPR)

FIGURE 7.2: THE UK IS THE FIFTH BIGGEST CONTRIBUTOR IN TERMS OF CUMULATIVE EMISSIONS Cumulative historical global carbon dioxide emissions, by country



Source: Courtesy of Our World in Data (Ritchie and Roser 2020), with base data from CDIAC (Boden et al 2017) and the Global Carbon Project (Le Quéré et al 2018)

Note: Global historical carbon dioxide emissions since 1870, including those associated with fossil fuel and industry but not those associated with land-use change.

As the commission argued in its interim report, the impact that the UK has on the climate and the environment is often understated. The government bases its decarbonisation targets on emissions produced in the UK (known as 'territorial emissions') and does not include goods consumed in the UK but produced elsewhere. When taking a consumption-based approach that includes these goods, the UK's footprint is much higher. The UK's consumption emissions are 37 per cent higher than its territorial emissions; in the 1970s they were just 0.2 per cent higher (IPPR 2020).

"We've spoken about justice, we've spoken about equity and equality, but we are 'offshoring' (to use a horrible word) much of the problem overseas. Our consumer culture... is predicated on having things made cheaply overseas and imported so that we can use them and throw them away in a way that we never used to in the past because they're designed not to be repaired."

Juror from South Wales Valleys citizens' jury

As a consequence of deindustrialisation, the UK has switched to importing more of the products and materials that it consumes from abroad (IPPR 2020). Even if we were to reach net zero at home, while we are still consuming products that have been produced in environmentally damaging ways, we are still contributing to the climate and nature crises.

As one of the richest countries in the world, the UK has a greater capability than others to act to reduce emissions and to shield its interests against the growing impacts of higher temperatures. By contrast, Zimbabwe – one of the countries most impacted and vulnerable to the consequences of the climate and nature crises (Eckstein et al 2021) – has only contributed around 0.05 per cent of emissions over time and is one of the poorest nations on Earth.⁸⁵

"I think about the poor countries you know. They cannot [do] something because they are poor. We have to start from us you know. I think about that more."

Juror from the Aberdeenshire citizens' jury

The UK's financial sector is nationally important because of its contribution to the economy (Hutton and Shalchi 2021). It also has significant international reach and plays a substantial role in the investment and lending activities of financial institutions and companies worldwide (WWF and Greenpeace 2021).

The government and financial regulators have not taken sufficient action to address the global emissions and environmental impact financed and enabled by UK private financial institutions (WWF and Greenpeace 2021). The carbon emissions financed by the 15 largest banks and asset managers in the UK are estimated to be 1.8 times the emissions produced by the UK domestically and would represent the ninth largest emitter in the world if treated as a country (ibid).

The UK isn't safe until the whole world is safe

There are, of course, much larger emitters than the UK around the world. The UK emits around one per cent of global greenhouse gases compared to China's 28 per cent, the US's 15 per cent, and India's seven per cent. The UK acting in isolation will not prevent global heating or the nature crisis unless other nations around the world also act.

⁸⁵ Author calculations using (Ritchie and Roser 2020) and (Roser and Ortiz-Ospina 2019).

"All these countries have got different ideas of what we can do, but if we all work together, it'll be fair for everybody and we'll all do it together." Juror from the Thurrock citizens' jury

As a country with strong diplomatic capabilities, soft power and global reach, the UK has a significant influence on the actions of other countries. Action at home also underpins the credibility of the UK's diplomatic work to build coalitions for more ambitious action around the world. Though emissions continue to rise and investment in coal power continues, there is evidence that China is beginning to undertake more ambitious action by setting a new date for net zero by 2060 and investing heavily in renewable technologies.

Greater environmental disruption abroad could have serious consequences for the UK economy. In a globalised world, there are limits to how much a country can be protected from the impacts of global shocks, as the Covid-19 pandemic has shown. No country is safe until the whole world is safe

"For me it's connectivity, how everything is connected. The world is connected, we as a country are all connected. One thing impacts on another, impacts on another."

Juror from the Aberdeenshire citizens' jury

An increase in economic instability or conflict in a region consistently impacted by environmental destabilisation could disrupt transport networks, trade routes and supply chains that the UK relies on (MoD 2018). The UK's food system is not selfsufficient – in 2019 the UK imported just under half of total food consumed (DEFRA 2020). The UK's food supply chains will be disrupted, as climate shocks increasingly and disproportionately affect many of the countries from which the UK imports its foods (Laybourn et al 2020).

Military and security analysts have long been concerned by the climate crisis and wider environmental damage. Addressing climate change and biodiversity loss was named as the UK's 'number one international priority' in a review of security and defence (HM Government 2021), and the UN Security Council recently held its first ever high-level meeting on the impact of climate change on peace and security (ibid). Other countries' military and security establishments have also recognised the threat it poses, with the US government's 2014 Quadrennial Defense Review concluding that:

"The pressures caused by climate change will influence resource competition while placing additional burdens on economies, societies, and governance institutions around the world. These effects are threat multipliers that will aggravate stressors abroad such as poverty, environmental degradation, political instability, and social tensions – conditions that can enable terrorist activity and other forms of violence." DoD 2014

We've made progress internationally, but not enough

Nearly half a century has passed since the first global conference on the environment, held in Stockholm in June 1972, and some progress has been made in a coordinated global response. International scientific networks and institutions, such as the Intergovernmental Panel on Climate Change and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, have developed our understanding of the problem. Agreements and treaties have been mediated and action secured. The United Nations Framework Convention on Climate Change convenes countries on the climate element of the crisis, and Convention on Biological Diversity does so around the destruction of parts of nature.

"People have different needs and requirements, and so to try and think equally across the globe, you know that's quite a challenge."

Juror from the South Wales Valleys citizens' jury

Action is being taken to help countries adapt to the inevitable impacts. For example, the global Green Climate Fund provides financial support to poorer nations. But it is not enough. The G7 nations have re-affirmed their commitment to jointly mobilise US\$100 billion annually for climate finance for developing countries, by 2020 through to 2025 (BEIS and DEFRA 2021). However, this commitment is far from being met (Hattle and Nordbo 2021; Shankleman 2020). Moreover, wealthy, higher contributing nations have so far failed to reach consensus on providing additional, explicit compensation for unavoidable destructive impacts, referred to as 'loss and damage' (GRI 2021). Where they are reached, agreements are mostly voluntary, so there is little to no credible enforcement. And global rules, regulations and investments are not yet aligned with targets – problems which have persisted for decades in spite of successive summits and treaties.

The UK can be a key partner in a new era of international cooperation

The UK has often played a leading role in driving understanding and action on the climate crisis at the global level. The 2008 Climate Change Act was the first legislation in the world to set legally binding greenhouse gas emissions targets and, in June 2019, the UK became the first 'major' economy to enshrine a net zero emissions reduction target in law (HM Government 2019b).

"The situation around the globe make[s] us start thinking what we can do better."

Juror from the Aberdeenshire citizens' jury

The Foreign and Commonwealth Office's climate diplomacy operations have played a useful role in international negotiations (FCO 2019). The UK has committed to doubling its contribution to the Green Climate Fund, to £1.44 billion (GCF 2019). UK institutions provide expertise and assistance in understanding and responding to the crisis, including universities and research institutions, development and humanitarian agencies, and the international reach and influence of UK media, culture, and environmental campaigners.

Expanding the UK's clean economy offers a huge economic opportunity (as outlined in chapter 5) and provides and ongoing basis for the UK to support others in understanding and acting on the climate and nature crises. There is also an economic argument for the UK gaining 'first-mover' advantage in developing and deploying zero carbon technologies.

The UK's exit from the European Union has led the government to seek a new international role, often employing the slogan 'Global Britain', yet not spelling out what it means in practice. Driven by the imperative to unite international cooperation around a global fair transition, a Global Britain should leverage its expertise and convening power to act as a world leader. This must mean supporting the priorities of countries and communities on the frontline of the crises, leveraging its assets to provide financial, expert and technological assistance to those who need it the most, and helping to more fairly distribute power and resources. It must also mean recognising and acting on the UK's historic and current responsibility, including its cumulative contribution to environmental destruction.

Assuming such a leadership role is central to meeting the objectives of the government's Integrated Review of Security, Defence, Development and Foreign Policy (Cabinet Office 2021b). Cooperation with a wider range of international partners across all environmental threats will further build

the UK's global political leadership and provide a basis for reinvigorating international institutions, laws and norms that enable societies across the world to realise the co-benefits of environmental action.

"The bigger picture is if we don't look after the planet and business doesn't look after the planet as well, then we won't have the resources there and we're heading towards disaster that way." Juror from the Aberdeenshire citizens' jury

Expanding the UK's clean economy also offers a huge economic opportunity (as outlined in chapter 5), will sustain strategic advantages in science and technology, and provide the ongoing basis for the UK to support others in understanding and acting on the climate and nature crises. As host to COP26, the UK has a unique opportunity to define its role as a world leader on climate and secure a global fair transition.

In doing so, the UK government – and those working with and holding it to account – should set three tests for the UK's diplomatic positioning for COP26, building on the existing priorities set out by the government and Alok Sharma, the COP President Designate (Sharma 2021).

- Ensure the crisis is framed as an overall crisis of the natural world, encompassing both the climate and nature crises, and of the importance of an approach based on fairness, is included across all government communications and initiatives so that all COP26 elements include a consideration of the interrelation of these issues.
- 2. Set an example at home that is compatible with international fairness, by ensuring the UK has ambitious targets on both climate and nature and the policies to deliver them through a fair transition. Crucially the UK must ensure that such action does not come at the cost of environmental destruction and exploitation abroad, such as through extractive supply chains for clean technologies that damage the environment and rely on poor labour conditions. Recommendations on how this could be done in practice are set out below.
- **3.** Use the UK's leverage in multilateral institutions, trade negotiations and domestic legislation in the financial system and other key sectors. This should include using COP26 and the process preceding it, to help build coalitions among other nations for this approach. Recommendations on what this could look like are set also set out below.

Yet progress on addressing the climate crisis both in the run up to COP26, and at the summit itself, could be scuppered if developing nations do not have equitable access to vaccines (Harvey et al 2021). There is a question of trust, in that developing nations are less likely to bring forward ambitious targets on emissions reductions if developed nations do not support them with regard to vaccines.

Moreover, faced with an immediate ongoing health and financial crisis as a consequence of Covid-19, many developing countries will not have the time or resources to put forward a climate plan (ibid). The G7 summit was largely a failure, with the World Health Organisation's target for 70 per cent of the world population to be vaccinated by the G7's next summit in Germany in 2022 likely to be missed by a significant margin (Wintour and Stewart 2021). An estimate by the One campaign suggests that just over 10 per cent of the population in low- and medium-income countries would be vaccinated as a consequence of the deal done at this year's summit (ibid). We back the asks of groups such as 'Crack the crises' that are calling for developed nations to pay their fair share: at least \$36 billion of the \$66 billion it will take to make vaccines, diagnostics,

and therapeutics available in the poorest countries this year and next; to ramp up the number of vaccines shared; and to share the technology, patents and training needed to rapidly scale up manufacturing capacity around the world.⁸⁶

PLAYING A LEADING ROLE IN A GLOBAL FAIR TRANSITION

Targeting our fair share

A global fair transition should be founded on the explicit recognition of both the cumulative contribution countries have made to the climate and nature crises and their current capability to act. In recognition of this, the UK should shoulder greater responsibility than it does at present.

The UK government should adopt a fair share target to contribute to global emissions reductions. A fair share target that commits to reducing global emissions would need to be equivalent to a reduction of 200 per cent of UK emissions below 1990 levels by 2030.⁸⁷ This target could be met through a combination of a greater financial contribution to lower-income countries to support them to decarbonise, as well as accelerating progress at home.

Measuring the full global environmental impact of a country, beyond just domestic emissions, is challenging, but the UK should still seek to increase its ambition and, as set out in chapter 4, the government should adopt a consumption emissions target. It should also go further. To maximise the opportunity for leadership this year, **the UK should take the first steps toward a comprehensive system of measuring, and a target to to halve the UK's global environmental footprint by 2030.** This measure should be incorporated within the Environment Bill, or the Wellbeing of Future Generations Act proposed in chapter 4, to ensure that this legislation fully accounts for the UK's impact beyond its borders. This target would replicate the UK's climate leadership through its net zero target and provide a specific metric for the government's ambition to "leave a lighter footprint on the global environment," as stated in the 25 Year Environment Plan (DEFRA 2018b).

"How much the Western world needs to change. It's coming to terms that we do live in excess in every aspect of our life. It's almost difficult to see that at times because it's just the society we've grown up in... even going for a food shop and the quantities you take home is just ridiculous."

Juror from the Aberdeenshire Citizens' Jury

Contributing our fair share

In order to meet its 'fair share' emissions target, the UK needs to make a financial commitment to support lower-income countries through international climate finance. The UK government should commit £2.2 billion⁸⁸ a year in additional financial support to low-income countries to both reduce emissions and adapt to the changing climate, up to 2030 (Laybourn-Langton and Rankin 2019). This

⁸⁶ For more information see: <u>https://drive.google.com/file/d/1vO5s_WF-oSrivnVWQkBM5INYuVTZxEd8/view</u>

⁸⁷ Calculations assume that countries bear responsibility for their historical emissions back to 1850, that the costs of emissions reductions are progressively distributed, and that the UK's fair contribution is equally balanced between responsibility for emissions and current capability to respond. The authors have calculated the total fair share using the Climate Equity Reference Calculator, https://calculator. climateequityreference.org (Holz et al 2019). The UK's non-domestic contribution would be lower if it were to take more ambitious domestic action.

⁸⁸ Calculations assume the UK maintains its current emissions target of a 57 per cent below 1990 levels by 2030, that countries bear responsibility for their historical emissions back to 1850, that the costs of emissions reductions are progressively distributed, and that the UK's fair contribution is equally balanced between responsibility for emissions and current capability to respond. Total fair share calculated through the Climate Equity Reference Calculator: <u>https://calculator.climateequityreference.org</u> (Laybourn-Langton and Rankin 2019).

support will not only help to meet the fair share target, it will also indirectly support the UK to reduce its consumption emissions in sectors like the retail industry, as they seek to reduce emissions from their international supply chains (see chapter 4).

"Wherever possible, public investment should seek to address the climate and nature crises, both at home and abroad. But this should not come at the expense of those most in need, whether at home or in terms of humanitarian aid abroad. Investment should not go to projects that make the problem worse."

Tees Valley and County Durham citizens' jury

This funding could be channelled through international financing facilities established through UNFCCC meetings, including the Green Climate Fund and Adaptation Fund, or UK mechanisms, such as UK International Climate Finance and UK Export Finance (UKEF), as well as institutions within beneficiary countries themselves. In making this commitment, the UK should seek a commensurate increase in funding from other countries, particularly the wealthiest. Taking on a fair share requires the UK to do more to support vulnerable countries and communities as they adapt to the growing destabilisation brought by the climate and nature crisis. To this end, the government should earmark half of the £2.2 billion of funding by 2030 for adaptation.

The impacts of climate change are already with us. The issue of 'loss and damage' has emerged in recent years, as these impacts – from the loss of livelihoods to the displacement of peoples – have become ever clearer (Huq 2021). At the 19th Conference of Parties (COP19) in 2014, countries agreed to set up the Warsaw International Mechanism (WIM) on Loss and Damage (ibid). Yet agreement has never been reached on the issue of funding, with developing countries seeking funding from developed countries for loss and damage, which goes beyond adaptation, as well as insurance.

In recognising that destructive consequences are already here and will get worse, the UK government should use the COP26 presidency to collaboratively develop and seek support for an explicit global loss and damage fund capitalised with at least US\$100 billion a year over and above the financing provided for mitigation and adaptation. This financing should increase toward and beyond 2030 (Schalatek and Richards 2017) and should prioritise grants rather than rely on insurance and loans. It should be connected with debt cancellation measures and parallel mitigation and adaptation projects (The Climate Coalition and Bond 2020).

The UK government's investment should also be used to mobilise capital from private sources by working with local partners and communities to identify opportunities for investment. The UK should use organisations like UKEF to deliver strategic public investment to both lower the risk for investors and provide a clear direction for economic development, enabling countries to implement their own low-carbon transitions.

The UK cannot credibly present itself as a supporting partner of the world's developing nations at COP26 while at the same time cutting funding for international aid. The UK government should therefore correct its current course and **immediately re-establish official development assistance (ODA) spending at the UN target of 0.7 per cent of gross national income**, ensuring that all ODA is compatible with environmental targets and high human rights and social and economic standards abroad.

Helping rewrite international rules

A global fair transition is only possible with changes to the rules of the global economy and the policies and decision-making institutions that determine

them. If the UK is to take a lead in securing a global fair transition, then it should use its influence to act as a champion of structural reform across the rules and institutions with greatest sway over the functioning of global economic systems.

The UK has a relatively powerful voice in the running of multilateral and international institutions, such as the World Bank, World Trade Organisation (WTO) and International Monetary Fund (IMF). The UK government should use its influence to ensure the policy frameworks of multilateral institutions are aligned with environmental imperatives and a fair transition. This should include ensuring that operational work, such as surveillance, technical assistance and training and emergency support are aligned with climate and nature targets.

For example, with the Biden administration having made the climate crisis a top domestic and diplomatic priority, the UK could work with the US to jointly advocate for reform of the WTO to better address the climate and nature crises. This could include revitalising negotiations on the Environmental Goods Agreement (stalled since 2017), (Schneider-Petsinger 2020) which aim to eliminate tariffs on environmental goods, such as wind turbines and solar panels.

It could also include the promotion of a 'climate waiver', which would allow climate measures – carbon border adjustments for example (see below) – to be pursued by countries that are ambitious on the environment without fear of instigating long-running legal disputes under current trade rules, thereby inhibiting action on climate. Finally, such reform could include longer-term reform of the WTO rules to better account for action on climate, environmental standards and the facilitation of the transfer of green technologies to developing countries.

Such reforms must also incorporate social commitments, including those related to a 'Just Transition'. This would involve pushing multilateral finance institutions to implement decent work standards throughout their investments. These standards should mirror the labour standards for the UK that we recommend in chapter 4 and draw on the International Labour Organization's (ILO) definition of decent work (ILO 2021). This would also include encouraging the UK's global partners to take a social partnership approach to decarbonisation, with governments, the International Trade Union Congress (ITUC), employers, trade unions, and relevant local and regional stakeholders at the table.

As we discuss above and in chapter 5, the UK can incentivise businesses to reduce the carbon and environmental footprint of their global supply chains through institutions like the UKEF. The UK can also complement this support with action to ensure that multinational companies are held to account for how their products are produced and the impacts they have on the environment.

Multinational corporations throughout the world have developed complex supply chains, which often go across several different countries. Too many companies are insufficiently motivated or incentivised to audit their supply chains effectively (Hira 2020) and many profit from exploitative conditions, forced labour and environmental harm (Sharma and Kaps 2021). France introduced supply chain legislation in 2017, the "Duty of Vigilance Act" to counter such practices by large companies, their controlled subsidiaries, contractors and suppliers with regard to violations of human rights and environmental standards, and places them under a duty to perform due diligence on their own activities and that of their supply chain. Enforcement mechanisms are in place if companies fail to comply.

Similar laws have been created in the Netherlands and Germany and are being pushed at the EU level, though not all cover the environment (Duwe et al 2020). A

new due diligence law would require multinationals to audit their supply chains and ensure high standards in areas such as labour conditions, human rights, and climate and nature impacts, under the law of their home states. This would establish liability between the parent company of a multinational corporation and its subsidiaries and subcontractors in the event of human or environmental rights violations (Collinet 2020).

A global fair transition must ensure that growing destabilisation does not curtail efforts to rapidly and fairly reduce environmental impacts. **We recommend that the UK government establishes an international equity and resilience office within the Foreign, Commonwealth and Development Office.** This would draw on the UK's significant scientific, security and diplomatic capabilities to improve understanding of the huge threats to security, stability and global equity coming from increased environmental destabilisation, and what can be done to ensure these do not derail mitigation efforts and erode a global fair transition. This should include the issue of pandemic avoidance and preparedness given the link between biodiversity loss and the spread of new diseases from animals to humans (McKie 2020).

The international equity and resilience office should work with existing adaptation mechanisms and resilience and disaster response bodies, such as the UN Office for Disaster Risk Reduction (UNDRR) and the Sendai Framework, and security bodies, including leveraging the UK's role on the UN Security Council. Throughout, the UK must see the consequences of greater destabilisation extend beyond security, defence, and geopolitical threats, and include considerations of human rights and economic and social fairness.

Trade policy

The UK government has signalled its intention to set a new direction for UK trade policy outside of the EU. Trade arrangements into which the UK enters must not undermine the good work of domestic producers, or 'offshore' UK jobs or its ecological and carbon footprint to other countries.

We propose the provision of a comprehensive non-regression clause in UK environmental legislation that commits to maintaining at least current levels of environmental protection. The strategic use of trade policy is fundamental to ensuring the UK acts as a responsible nation on climate and the environment on the world stage. Furthermore, the government should establish a set of core standards for the environment, animal welfare, and food safety, based on scientific evidence, to which all food – domestic and imported – will be expected to comply.

The UK must also seek to move beyond just maintaining the status quo and should use trade policy to increasingly drive up environmental standards. A **trade policy framework should be adopted that supports an increase in core environmental standards over time.** This would involve the use of government regulation and import standards operating at the bottom of the market, taking out the worst environmental practices. Labelling and taxation incentives would then work at the top end of the market to support ongoing development of best practice. This would allow for dynamic change where, over time, the old best practice becomes the new minimum standard.⁸⁹

Furthermore, the UK should seek to **include provisions to conserve or sustainably manage forests and other international ecosystems in all new trade agreements**. Sustainability chapters of trade agreements should be made mandatory, and mechanisms put in place to ensure they are strictly enforced.

⁸⁹ More information on this approach can found in Baldock 2020 and Francis and Clay 2021.

As discussed in chapter 5, carbon border adjustment mechanisms (CBAM) tax imported goods based on their carbon footprint. They are a potentially useful tool to prevent 'carbon leakage', when carbon-intensive industries in countries with stricter climate rules decide to relocate to countries with less stringent legislation where costs are lower – with both jobs and emissions moved overseas.

As domestic climate action has increased, there has been growing interest by countries around the world in the role that CBAMs can play. However, there are concerns over the potential negative consequences for the economies of developing countries, including by damaging their export sectors (Bell and Benaim 2020). The EU, for example, is already quite far advanced with developing its plans for CBAM, but – based on recent leaks of the content of its proposed scheme – it currently risks damaging the economies of developing countries by failing to put in place revenue recycling mechanisms to support climate action in those countries (Lowe 2021; Simon and Taylor 20201). The proposed scheme also fails to take account of alternative approaches to addressing climate issues other than carbon pricing. For example, one country may use carbon prices to increase the cost of fossil fuel transport while another may use regulation to improve standards, and to be fair CBAMs need to be able to recognise both.

The UK's interests must be balanced against its international responsibilities and the impacts on less wealthy countries. To do this, the UK government should work in collaboration with the EU and other key partners to ensure developing economies are at the heart of international policy development for carbon border adjustment mechanisms and associated measures. This should include creating mechanisms to ensure that carbon pricing schemes direct revenues to those countries least responsible and worst affected by the climate crisis. This should occur alongside working with the EU and other key partners in ensuring environmental standards are aligned.



NOTES FROM A SMALL ISLAND



Listening to people's experiences and needs was central to the Environmental Justice Commission's mission. Our vision throughout this report has rested on our jurors' conclusions on what a fair response to the climate and nature crises looks like in their area.

When the commission was first founded, we said we would put people at the centre of our work. We committed to listening to the practical knowledge, experience and wisdom of people in diverse places around the UK. We imagined ourselves working with jurors in-person within their local areas.

Then everything changed. Alongside other large scale deliberative democracy programmes, including Scotland's Climate Assembly, Covid-19 forced us to reimagine these citizens' juries as an online process. No one really knew what to expect. It was unclear how long people would be willing to sit in front of a screen; if people would want to participate in such events against the backdrop of the pandemic; and, most significantly, if virtual deliberations could be as high quality as their in-person equivalents. These concerns were allayed within the first moments of meeting the jurors. "We now know that online deliberation can be as inclusive and as human as in-person events."



Over the course of our six months of virtually touring the UK, starting in Tees Valley and County Durham and ending in Aberdeenshire, we could not have asked for a greater level of engagement or empathy from every juror involved. It has been a privilege to get to know them and learn about their different communities.

CREATING SPACE FOR PERSONAL STORIES TO BE TOLD AND HEARD

"Being part of the panel made me feel that my opinions were respected and valued."

Juror from the Thurrock citizens' jury

We now know that online deliberation can be as inclusive and as human as in-person events. Ensuring that everyone can comfortably participate online – whatever their experience of technology, level of English, or confidence speaking in groups – requires both effort and flexibility. But once you have addressed those barriers, the fundamentals of well-designed participation activities remain the same: people need time to get to know each other and build trust; the reason why their knowledge and experience is so valuable to the process has to be made clear; everyone's contributions must be heard and recognised; facilitators must know when to move a discussion on and when to encourage deeper reflections and storytelling.

Online and in-person events each have their own strengths and weaknesses, and choosing which to use in the future means being aware of their respective pros and cons. This experience running online events has shown us that they allow people to take part who would not have the time to attend a physical event. This was particularly true for those with caring responsibilities for babies and young children, and also allows for multiple sessions to take place with people representing a large geographic area. However, it requires more conscious effort to create the atmosphere and personal connections that naturally occur when people share a physical space together and can be harder for those with hearing

impairments or language barriers. Managing this was the responsibility of our team, but the jurors themselves were also crucial in supporting each other.

"I felt a responsibility but also part of a community." Juror from the South Wales Valleys citizens' jury

The jurors worked together to create an environment where people's stories could be heard: the mental health impacts of being on furlough, the challenge of raising a family on universal credit, and the frustrations that come from the lack of opportunities in a community you love. They did this by showing respect for each other and treating these stories with equal weight to any specialist testimony. This was also achieved through a myriad of tiny moments around the edges of a session – taking a camera out to the farm to introduce the new piglets, showing off the wind turbines outside a window, and researching tips for a fellow juror with an interest in beekeeping.

FIGURE 8.1: THE JURORS' 'THREE WORDS TO DESCRIBE THE EXPERIENCE'

A word cloud highlighting the most common words when jurors were asked about 'three words to describe the experience



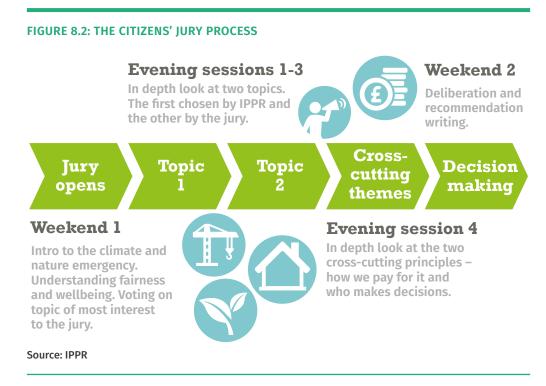
Source: IPPR analysis of juror responses to the evaluation survey

The topics with which our juries were asked to engage may have had global consequences, but they were also deeply personal. At the heart of each of these deliberations were their own reflections on the things that matter most in life and what fairness looks and feels like to them. They were asked to keep coming back to the question that represents the end goal of all the policies within this report – what does a better life for all look like?

FOCUSSING ON THE THINGS THAT MATTER MOST

"We all see the same problem, just from different perspectives." Juror from the South Wales Valleys citizens' jury

The jurors' visions of 'a better life for all' were central to their deliberations and played an important role in ensuring that the value of lived experiences was understood within these discussions. We are grateful for the support of Dr Katy Roehlich and Dr Nathan Wood, from the University of Leeds, in both providing the framework for the jurors' discussions about wellbeing and in leading the development of all four of their statements on this. It is from this shared understanding that all the other outputs of the juries have flowed – their statements on a fair response, their principles for action and their specific recommendations on a wide range of topics.



Their statements tell their own story about the challenges and opportunities that each community faces: the need for businesses and investors in Tees Valley and County Durham 'to be part of the solution', the concern from the South Wales Valleys that a response does 'not leave areas behind', the demand from Thurrock to not 'offset the impact of infrastructure that does harm to one community with more positive action elsewhere' and the desire for Aberdeenshire to become a 'centre of excellence for renewable energy'. Each set of recommendations is in turn bold, creative and nuanced.

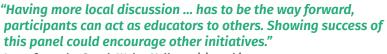
"We all agree it's time to act and that people really do value nature." Juror from the Tees Valley and County Durham citizens' jury

Unlike other deliberative processes centred on the environment, our juries were asked to respond to both the climate emergency and the nature crisis. Each jury was provided the same briefing on these crises by Dr Cat Scott, from the University of Leeds. They were quick to see how the two are inter-related. The immediacy and importance of local nature within the lives of the jurors, heightened as a result of the UK's 'stay local' restrictions, proved a powerful route into thinking about the wider changes required to protect and restore the environment. Through considering humanity's negative impacts on nature within their areas, the tradeoffs between our needs and the finite resources of the planet were made much clearer and more tangible.

The jurors recognised that there are choices in how to decarbonise our economy and support nature to recover. They made connections across policy areas that decision-makers often struggle with, and seldom get recognised within the siloed thinking of individual government departments. In a single session in South Wales Valleys, a group of residents were able to articulate the end goal of reviving their 'anchor towns' in a way that has implications across education, planning, social security, transport, environmental policy, health, public sector procurement and many other areas. This ability to recognise and cut through complexity demonstrates the value of deliberative processes.

THE DESIRE FOR A MEANINGFUL ROLE IN DECISION-MAKING

"This ability to recognise and cut through complexity demonstrates the value of deliberative processes."



Juror from the South Wales Valleys citizens' jury

Across all four juries, people were dissatisfied with the current approaches to consulting them on the future of their areas. Jurors were frustrated with the level of disconnect between them and decision-makers, and consequently did not trust policies to be fair to their communities or the most disadvantaged in society. Too often they felt that decisions had already been made before any consultation had even begun. They want a more meaningful and genuinely democratic role in shaping whether and how something should happen.

These juries weren't directly commissioned by local or national government, and the jurors knew this. We have worked hard to do justice to the contributions these jurors have made to considering a fair approach to tackling the climate and nature emergencies. This report is testament to how much they informed the commission's thinking, and their words are writ large in our recommendations. Authors of this report took part in the deliberations and heard first-hand the debates that different policy ideas provoked. Alongside the considered conclusions of the jurors themselves, it is that experience that has shaped this report.

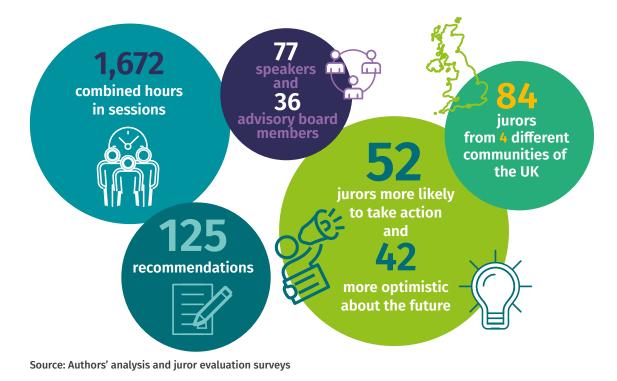
"I didn't realise how many agencies were helping the crisis. It's comforting to know that people actually want to change for the better." Juror from the Thurrock citizens' jury

The high quality of these deliberations would not have been possible without the support of local advisory boards and a wide array of speakers. It is through their involvement that each jury came to understand the relationship between their areas and the response to these crises. In return, many speakers have told us that hearing and participating in the debate around specific policy ideas has helped them in understanding the concerns of the public within their own work. The willingness of speakers to listen to concerns and clarify the implications of policies helped the jurors arrive at specific and complex solutions that would not have been possible without the richness of these discussions. Across the juries, it was often the local speakers and ideas that came from within their own communities that were the most energising – from a community forest to sustainability hubs on old bowling greens, these tangible and powerful stories from local people showed what could be achieved.

DEVELOPING OPTIMISM AND INSPIRING COMMUNITY ACTION

"There is appetite for change and ways to make it beneficial to people." Juror from the Aberdeenshire citizens' jury The impact of these citizens' juries can be measured in many ways, but it is clear that for those who took part the experience will leave a lasting impression. The jurors started this process with a range of attitudes to the climate and nature crises and have described how their opinions have changed and how this will be reflected in their own lives. From stopping eating meat or reducing their car use, to making their businesses greener or considering different career choices, to joining local nature groups or writing to their employers and council, they are clearer on the part they can play and through this take a degree of control over the future. Newly informed about both the scale of the challenge and the actions that could address it, the jurors can be the most effective ambassadors for action on climate and for nature within their communities.

FIGURE 8.3: THE RESULTS OF OUR CITIZENS' JURIES



DOING BETTER NEXT TIME

"I believe we can do better given more time and more diverse set of specialists."

Juror from the Tees Valley and County Durham citizens' jury

Alongside their recommendations the jurors have also been keen to share their ideas on how the citizens' jury experience can be improved. 80 per cent completed an evaluation survey and provided both praise for the things that worked, and ideas for how we could have done better. Near the top of many jurors' lists was the desire for more time – both across the whole process and within individual sessions. Our hesitation to ask people to spend too long online was possibly over cautious and, given the scale of the topic, we could have planned for longer sessions, with the appropriate breaks, and a slightly lengthier process overall. The jurors would have appreciated this extra time to hear from a wider array of speakers, including those who would have been able to provide the counter arguments on each other's ideas, and to reflect on what they had heard before starting discussions about them.

The jurors also wanted to see more thought given to the time between sessions. Recognising that this wouldn't suit everyone, both in terms of learning style or the amount of time different people have available, there was a clear desire for more structure to how resources were shared with them and more opportunity to prepare for sessions in advance. In the future this kind of asynchronous learning and participation feels like an important element of the deliberation process and, designed well, could also provide the opportunity for members of the community outside the jury to contribute to their conclusions. Beyond the timescales of the process itself, there are clear benefits in allowing more time to support jurors with their own advocacy work within their local areas.

One of the tensions within the commission's approach to delivering these juries has been the extent to which we have got the balance right between providing evidence and space to deliberate on specifically local issues and when to connect these to national or global themes. Often it was the specific interest of each jury that dictated how this tension was resolved but this could have been better recognised within our planning for these events. A more formal role for someone from a community organisation or local authority with specific knowledge of each area within our delivery team, and who attended every session of the jury, could have strengthened our approach to this.

Deliberation events of the scale that have been delivered on behalf of the commission require significant commitment, resources and skill. We are grateful to the funders who shared our vision and supported this crucial opportunity to hear the views of such a range of people across the UK. We know that not every decision can and should be weighed up in this way; cost and time alone would prohibit this. We also recognise that not everyone will want or be able to take part in these activities. So, what does this mean for public policymakers and influencers?

DEVELOPING A CULTURE OF PUBLIC PARTICIPATION IN THE DECISIONS THAT AFFECT THEM

Effective engagement of communities and deliberation comes in all shapes and sizes. As we argue in chapter 4, and throughout this report, what is key is that the people affected by policies are heard by policymakers and a genuine relationship is forged between them. On the big decisions, such as the development of climate and nature emergency action plans or the reimagining of the social contract for transport, a large scale and considered deliberation process is necessary for action to be effective, fair and accepted by the public. For the smaller day to day decisions there needs to be a shift in culture – there need to be fewer boundaries between the officers drafting policy and the public. One-off workshops, well-timed and considered surveys, panels of residents or ongoing conversations with local voluntary and community sectors all have their part to play.

The commission's experience tells us that when you trust in people, create the space for personal stories to be shared and allow for thoughtful conclusions to be reached, the decisions you arrive at are better. Even the simple act of thinking about how to explain policies to different audiences improves them. Valuing public participation and facilitating passionate debates about the different ways policies will impact people's lives leads to decisions that are more likely to meet people's needs and reflect their hopes for the future.

We hope that the jurors reading this report see their conclusions in it and recognise the role they played in putting forward a plan that represents their ambition to help nature to thrive, address the climate crisis and achieve a better life for all. Institute for Public Policy Research

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