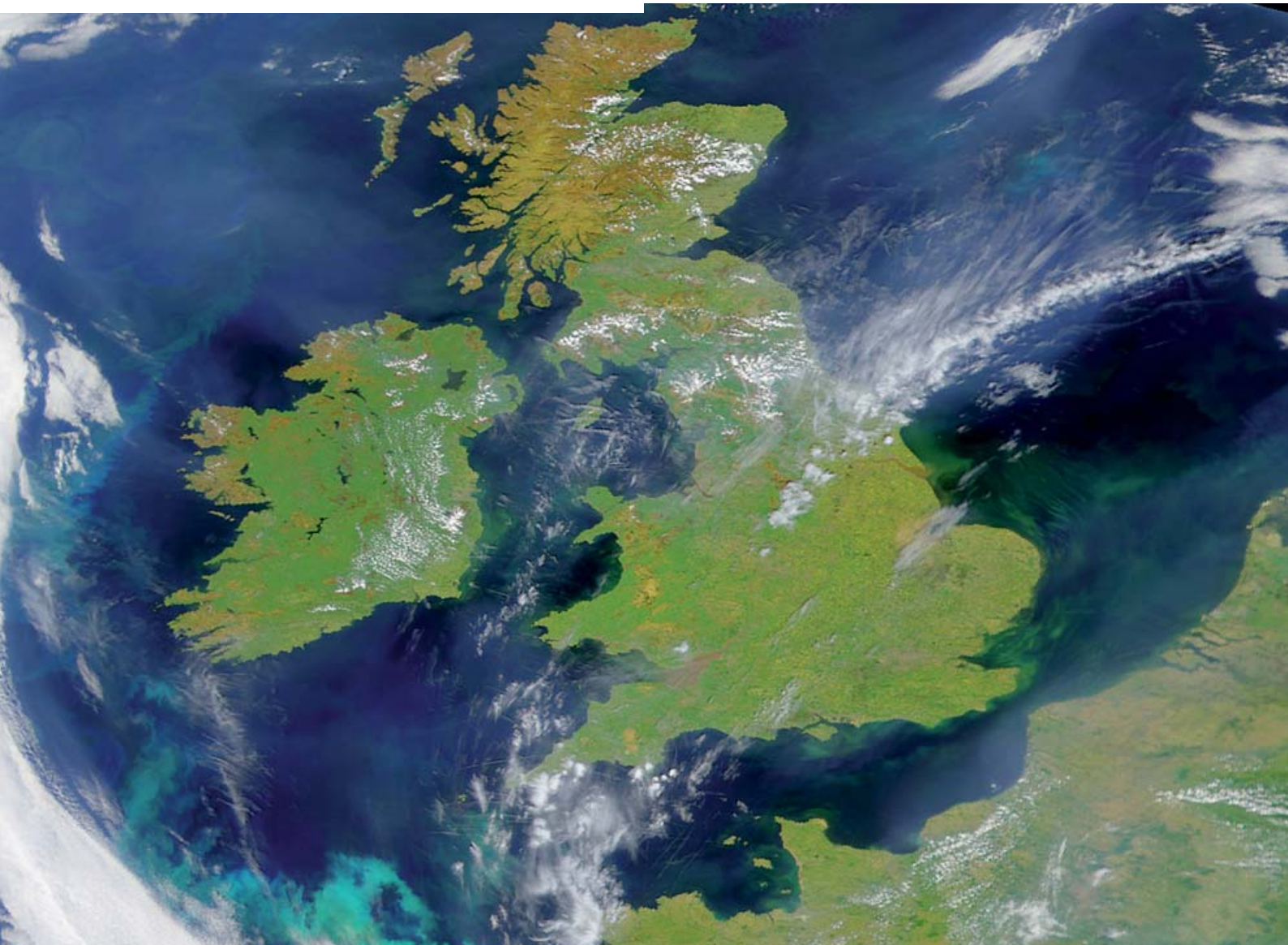


ESRC

ESRC Seminar Series
Mapping the public policy landscape

How will climate change affect people in the UK and how can we best develop an equitable response?





Foreword

Raising the questions that really matter to our society before an expert gathering of academic researchers, policymakers and practitioners has been the hallmark of past Economic and Social Research Council (ESRC) public policy seminars.

But few have been either as timely or as topical as the recent seminar held on 30 November 2009, just prior to the United Nations Copenhagen Climate Change Conference. Jointly organised by the ESRC, the Joseph Rowntree Foundation (JRF) and the Local Government Association (LGA), the seminar brought together more than 70 scientific, economic, local government and policy specialists to consider the key question, '*How will climate change affect people in the UK and how can we best develop an equitable response?*'.

While the *global* impact of climate change has been much debated, far less attention has been paid to understanding the direct and indirect effects of climate change in the UK and the short and longer term consequences for those living here. Even less attention has been afforded to the social justice dimension of climate change in the UK. This dimension simply reflects global patterns: those most vulnerable to the effects of climate change within the UK are also likely to be those who have contributed least to the problem and are already the most vulnerable members of our society.

While these issues have received comparatively little public attention to date, they have been a growing priority for the ESRC, the JRF and the LGA – the 'coalition of interest' jointly responsible for this event. The JRF is already conducting research on the social impacts of climate change in the UK, and the issues raised are mirrored in the ESRC's strategic objectives. Furthermore, local government is only too aware that the local public services they provide will be at 'the sharp end' in terms of meeting the challenges of climate change impacts on people in the UK. Hence, for all three of us, opening up debate, instigating a new conversation around the social justice dimension of climate change and starting to shape a collective agenda for future research are clear priorities.

As the seminar chair LGA Programme Director for Analysis and Research Tim Allen noted in his concluding comments, the seminar did indeed open up discussion but science must now be translated into action if the complex challenges identified during the day are to be surmounted. Local and central government are keen to work together with the research community to tackle the short and long term challenges of climate change. We hope our first joint seminar and this booklet will make a valuable contribution to this process.

Professor Ian Diamond FBA FRSE AcSS
Chief Executive, Economic and Social Research Council



Introduction

Background

With the publication of new UK climate change projections in 2009 (1), the science suggests that the impacts of climate change are likely to be very significant for the UK within the next few decades.

As yet, our understanding of the likely consequences of climate change for people living in the UK is at an early stage. To respond effectively, however, we need to consider more fully both the direct and indirect impacts of climate change and the shorter and longer term consequences of each.

Crucially, we need to consider the *inequalities* of climate change. Climate change will not impact equally on society: some communities or particular groups will be more vulnerable and hence disproportionately affected. This point has been increasingly recognised but insufficiently discussed or systematically researched.

Now, the urgent priority for decision-makers at both national and local level is to address the raft of equity and social justice issues raised by emerging UK plans for mitigation and adaptation measures so that certain groups in our society are neither disproportionately, nor unfairly affected.

To begin to think about these issues, researchers, policymakers and practitioners met at a public policy seminar organised by the Economic and Social Research Council (ESRC), the Joseph Rowntree Foundation (JRF) and the Local Government Association (LGA) held in November 2009.

Seminar aims

The overarching theme of the one day seminar was the social justice implications of both climate change itself and policy and practice responses.

The seminar provided an opportunity to discuss the social impacts and social justice implications of climate change in a UK context and consider how responses from policymakers, practitioners and communities can be developed to take account of issues of poverty and disadvantage.

One further aim was to inform ideas about potential future research funding opportunities through the Living with Environmental Change programme, building on existing research commissioned by the JRF on the social justice implications of climate change.

Key points

This booklet sets out some of the issues and highlights the key points made by speakers during the seminar:

- Section 1 summarises three academic perspectives by researchers Professor Gordon Walker, Professor Kevin Anderson and Dr Emma Tompkins
- Section 2 outlines in brief local and central government, third sector and public policy perspectives
- Section 3 highlights a few of the issues raised during Q&A sessions
- Section 4 presents conclusions and next steps by Tim Allen of the LGA and Katharine Knox of the JRF.

Contributors

PROFESSOR TIM ALLEN is Director of Analysis and Research at the Local Government Association. Prior to that, Tim headed the Department for Environment, Food and Rural Affairs Rural Strategy and Research functions; worked in Treasury on the 2002 Comprehensive Spending Review; led Corporate Governance, Strategy and Research for the Countryside Agency; and was Regional Director East and West Midlands for the Countryside Commission leading work on environmental regeneration.

PROFESSOR KEVIN ANDERSON is Director of the Tyndall Centre for Climate Change Research and Manager of the Tyndall Centre's energy pathways to global decarbonisation programme. Kevin is based in the Department of Mechanical, Aerospace and Civil Engineering at the University of Manchester. He has responsibility for leading specific energy-related research projects and integrating these and others to provide a systems view of low-carbon energy pathways.

BRYAN BOULT is Head of Environment Futures and Sustainability at Hampshire County Council. He is a Chartered Town Planner with over 30 years' experience covering a wide range of environmental issues. Bryan is part of an Expert Network advising the European Environment Agency on climate change and is a member of the Peer Review College of the UK's Natural Environment Research Council. He was a member of the Expert Group advising the European Commission's DG Environment on the Thematic Strategy on the Urban Environment.

RON CAMPBELL is Head of Campaigns, Policy, Research and Information at National Energy Action and oversees a number of staff involved in research and analysis, policy and campaigning development, and preparation and dissemination of information about energy efficiency and fuel poverty to a wide range of audiences. Part of his role within the organisation involves monitoring and commenting on issues relevant to fuel poverty.

KATHARINE KNOX is a Programme Manager at the Joseph Rowntree Foundation, leading on several policy and research programmes for the organisation, including work to monitor housing and neighbourhood trends across the UK, work on regeneration, community assets and a new programme on climate change and social justice. Katharine's background is in social and public policy research in the voluntary and public sectors, including the Refugee Council and the Audit Commission, with a brief stint in an academic role.

KAYTE LAWTON is a Research Fellow at the Institute for Public Policy Research (ippr). Kayte joined ippr in 2006 and works on employment, skills, poverty and inequality. She has led ippr's work on low pay and in-work poverty and is currently working with colleagues to develop a socially just response to climate change. Her current work includes projects on fuel poverty, green jobs, and ideas for a greener and fairer tax and benefit system.

KEN O'CALLAGHAN is Head of the Living with Environmental Change Directorate. After leaving academia he joined the Department of Environment, Food and Rural Affairs, where he worked as a senior scientist, as an advisor in the team of Defra's former Chief Scientific Advisor (Professor Sir Howard Dalton) and as a project leader for strategic science activities.

DR EMMA TOMPKINS is on secondment from the University of Leeds until March 2011 to the Department for International Development, where she spends 60 per cent of her time. Emma has worked on climate change adaptation since 2001; specifically looking at barriers and limits to institutional adaptation, public-private partnerships for adaptation, and drivers of individual action and national policy on adaptation. Emma sits on the Advisory Group for the UK Climate Impacts Programme.

PROFESSOR GORDON WALKER is Chair in Environment, Risk and Social Justice, at the Lancaster Environment Centre, Lancaster University. His broad area of research interest is the social and spatial dimensions of environmental and risk issues. His recent research and writing has focused on, for example, environmental justice theory, concepts and practice and the investigation of inequalities in the distribution of environmental 'goods' and 'bads'; sustainability, social practices and transition management.





Academic perspectives on climate change and social justice

Professor Gordon Walker of the Lancaster Environment Centre, Lancaster University provides an overview of the social justice issues relating to climate change.

The inequalities of climate change

Climate change is often represented as a global risk and universal problem, a process of environmental change that will have potentially catastrophic impacts across the world, and a problem we are all part of and for which we are collectively responsible.

But climate change is deeply run through with patterns of inequality. Some are more culpable for climate change and others more at risk. For example, the UK has a long history of carbon intense development but also has the resources and capacities to attempt to cope with potential changes in climate and their consequent impacts. This profile is vastly different to many of the less developed countries of the world, who experience 'double injustice' in that they have little responsibility for climate change but face most of the risks.

What about social justice within the UK?

'Double injustice' may be found not only in less developed countries but also within the UK. The **social distribution** of climate change impacts means that vulnerable groups in the UK may also experience 'double injustice'.

A 2009 review by CAG Consultants concludes that in the UK the people most likely to be vulnerable to climate change are those that "are already deprived by their health, the quality of their homes and mobility; as well as people who lack awareness of climate change, the capacity to adapt and who are less well supported by families, friends and agencies" (2). For example, flooding (expected to become more severe under climate change) has uneven impacts. Coastal areas at risk of storm surge flooding also have a strong bias towards deprived populations and less than half of the population in deprived areas typically have insurance cover.

Within the UK there are also **distributional dimensions** of climate change mitigation.

Mirroring international debates, the question arises of what constitutes a fair distribution of mitigation responsibilities across UK society. If we allocate carbon reduction across the regions of the UK, what principles of justice should be followed? Should richer regions do more than others? Should people with more energy intensive daily lives contribute more than those with necessarily more frugal daily routines?

Moreover, there are crucial questions about the **distributional impacts** of mitigation measures. Who will bear the costs of carbon mitigation?

- If the consequence of carbon mitigation policies is to raise energy prices then the problems of fuel poverty will be significantly worsened for those who are already most disadvantaged
- Policies which target particular carbon intensive industries such as the car industry are likely to lead to job losses.

Beyond matters of distribution there are also **procedural justice questions** about processes of decision-making for both mitigation and adaptation.

How do we make decisions about climate mitigation and adaptation without alienating public support? How do we reconcile the need for urgent action with the need to maintain democratic principles? Whose voices should be listened to? These questions are already coming to a head around large scale infrastructure projects such as wind farms.

Putting these dimensions of justice together, what is fundamentally at issue is the form of sustainable societal transition we want to pursue as we actively seek to move towards a low carbon and climate adapted future.

A positive perspective on climate change and social justice

Despite the many apparent threats, a low carbon UK could be a more socially just one. Climate change presents real social opportunities as well as business and commercial ones. In other words, climate policies could be good for social justice policies and vice versa, presenting, for example, opportunities to:

- actively promote long term employment for lower-skilled workers
- address fuel poverty through investment in household energy efficiency
- radically rethink measures of economic progress and reformulate the balance between the state and the market
- enable communities from across the social spectrum to pursue their daily lives more sustainably, rather than expecting individuals to make 'choices' that are not equally available.

To conclude ... optimistically

Both inequality and climate change are socially corrosive. Climate change has the potential to create 'double injustice' in the UK but, taken seriously, the climate change threat could lead to more equitable responses being developed.

Moments of changes and instability are also potential opportunities for system transformation. We could choose to steer towards a low carbon transition, a climate adapted future and a more socially just UK while also recognising our international obligations in the global context of climate justice.





Professor Kevin Anderson, Director of the Tyndall Centre for Climate Change Research, outlines the latest scientific thinking on emissions and the implications of this for mitigation, adaptation and equity.

Climate change targets: inequitable and unrealistic

The UK and EU define a 2°C rise in global mean temperature as 'acceptable'. But, a 2°C rise, while acceptable to Northern Hemisphere countries, will have dangerous consequences for those in the Southern Hemisphere. The UK's target is an 80 per cent reduction in CO₂e by 2050; the EU's target is a 60-80 per cent reduction by 2050. But these long-term reduction targets are politically rather than scientifically driven and unrelated to avoiding dangerous climate change. It is cumulative emissions that matter and urgent and radical reductions in CO₂ emissions are needed rather than long term gradual reductions. In reality, global CO₂e emissions are getting worse, not better. In the last 100 years, emissions were 2.7 per cent per annum; in 2000-2006 they reached 3.3 per cent per annum.

What does this failure to reduce emissions and the latest science on cumulative emissions mean in terms of limiting global temperature rise to 2°C?

To achieve a 50:50 chance of the 2°C threshold we need to adhere to a total carbon budget of between 1400 - 2200 GtCO₂e in the period 2000-2100. This is unrealistic as it would require global CO₂ emissions to peak in 2020 followed by unprecedented reductions of ten per cent per annum thereafter.

Industrialising v industrialised countries

In the terminology of climate change industrialised countries are referred to as **Annex I** and industrialising countries are referred to as **non-Annex I**.

In 2003 for the first time the greenhouse gas emissions of non-Annex I countries exceeded those of Annex I countries. To have a 50 per cent chance of achieving the 2°C target, non-Annex I countries would need to peak their carbon emissions in 2025, achieve a six to ten per cent annual reduction in emissions thereafter and secure fully decarbonised energy by 2050.

However, this would still require emissions from Annex I countries to peak in 2012 and achieve fully decarbonised energy by 2026/7. Hence, for Annex I countries, achieving the 2°C target would require nine per cent per annum reductions in emissions. There is **no** precedent for such reductions. According to the 2006 Stern Report annual reductions of one per cent have only been achieved in periods of severe economic recession or upheaval.

A reality check is needed

Given the scale of the problem:

- A focus on win-win opportunities is misplaced
- Significant pain and many losers will be associated with climate change
- If we fail to control emissions in the next few years then global mean temperatures could rise to 4°C by 2070 – potentially a transient temperature on the path to a higher equilibrium. This is no longer an extreme scenario but an increasingly serious possibility with fundamental implications for adaptation and equity
- A 4°C rise in temperature would not be business as usual. Nor would the impact be simply twice that of a 2°C rise. This would be uncharted territory and the impact would not be linear.

UK and global responses to the challenge

The UK Low Carbon Transition Plan (2009) (3) demonstrates the UK's understanding that: "To avoid the most dangerous impacts of climate change, average global temperatures must rise no more than 2°C, and that means global emissions must start falling before 2020 and then fall to at least 50 per cent below 1990 levels by 2050."

However, real UK emissions have actually increased by 17 per cent since 1990. There is no evidence that other Annex 1 countries are responding any more effectively than the UK.

Can 2°C be achieved?

There is little opportunity for technology solutions over the short term. So, 2°C mitigation in the short term – 2010-2015 – would require:

- **Substantial** personal sacrifices and lifestyle change
- **Behavioural change** backed by regulation
- Energy '**rationing**' through price rises and allowances.

In the absence of such **radical** measures, we need to plan for:

- Temperature rises of 3°C to 4°C by 2060-70 and 4°C to 6°C by 2100-2150
- One metre to 1.5 metres sea level rise by 2100 (five metres to seven metres by 2300-2500)
- Increased severity and frequency of severe weather events
- Significant ocean acidification
- Fundamental changes in rainfall and access to water
- Inability to adapt (eg farming) to a 4°C temperature rise.



Dr Emma Tompkins of the School of Earth and Environment, Leeds University considers the moral and ethical implications of climate change adaptation and opens discussion on how adaptation resources should be allocated and to whom.

How are we adapting in the UK?

The UK has been active and is at the forefront in terms of international thinking about adaptation.

As outlined in the Government's 2008 *Adapting to Climate Change* programme (4), policymakers have tasked groups to identify the risks from climate change, provide evidence, raise awareness and help others to take action.

What does adaptation in the UK look like?

To date most adaptation activity in the UK has involved research, planning and some legislation with less focus on practical measures. However, recent initiatives to redress the balance include:

- The NHS Heatwave Plan (5)
- The on-going UK Climate Change Risk Assessment
- Provision of risk management guidance such as the UK Climate Impacts Programme's 2003 technical report on *Climate Adaptation: Risk, Uncertainty and Decision-making* (6).

Who should be the beneficiary of adaptation policy?

One of the most pressing current questions is how, given finite funds, should adaptation resources be allocated? The various options for priorities in delivering a fair allocation of adaptation resources include:

- Reward – for those communities that are reducing their emissions the most
- Deserving – allocate the majority of funds to those who are least able to adapt to climate change on their own
- Development – target 'failing' areas and use the adaptation funds as a lever for development
- Exposed – allocate to those who face direct impacts of climate change
- Equality – allocate adaptation funds equally to all areas of the UK.

While each 'choice' is underpinned by its own values, an important debate is now required regarding the principles on which to base our adaptation resource allocation decisions. But, first, we should establish what we are trying to achieve through adaptation policy:

- 'A successful adaptation **must reduce risk and vulnerability** without disproportionately reducing **economic, social and environmental sustainability** (7).'
- Successful adaptation effective over the **short and long-term for both the direct beneficiary and wider society**, and which maximises benefit in relation to the effects of adaptation on the economy, society and environment (7).'



How do we decide what is fair?

In terms of adaptation decision-making, clear trade-offs exist between the risks society is willing to bear and the price society is willing to pay. Key issues to be considered include:

- Who bears the costs of adaptation? When is action taken? Who makes the decisions? Who takes action? What kinds of change are acceptable? How are irreversible impacts considered?

Unless such questions are thoroughly debated and actions agreed then indecision may result in various unwelcome outcomes – with, in all probability, most suffering occurring among the most vulnerable.

Key conclusions:

- We are not clear about our **moral and ethical values** underpinning adaptation policy. We need to lobby for a set of acceptable principles that underpin our adaptation spending
- We have **hard choices** to make about who will be the winners and losers of adaptation policy today. Open dialogue is required on the acceptability of losses and issues of compensation. There is a danger that those who lose most will already be those who are most vulnerable. A decision is needed on whether we want a participatory system or the government to make decisions on our behalf
- We need **transparency** in adaptation policy selection.



50,000 demand action on climate change at The Wave, the biggest ever UK climate change march in London, 5 December 2009

Local and central government, the third sector and public policy perspectives

Rupert Lewis, Deputy Director of the Adapting to Climate Change programme and the Head of Evidence Team, Defra, explains how Defra is helping individuals, businesses, public and third sector organisations take decisions on adaptation at a local level.

The Climate Change Act 2008 makes the UK the first country in the world to have a legally binding long-term **framework** to cut carbon emissions and build our ability to adapt to climate change. Defra's adaptation focus is two-fold: raising awareness and collecting evidence.

Recent Defra activities in terms of adaptation include:

- Providing funding to, and working closely with the UK Climate Impacts Programme, an advisory service helping organisations make decisions on adapting to climate change.
- Promotion of the *Climate Change Projections (UKCP09)* (1) which aim to provide decision-makers with appropriate evidence on climate change and its impacts. In the past few months these projections have been shown to more than 1,000 people at some 50 individual events around the country. With more than 1,000 pages of guidance information, Defra is working to make the appropriate information more accessible.
- Under the Climate Change Act 2008, a UK-wide climate change risk assessment must take place every five years (the first is due in 2012). Exploring these risks raises equity issues and these issues will lie at the heart of a forthcoming Defra report.

In summary, though the Government will take clear and firm action to ensure that its processes and organisations are adapting, it will also be up to individuals, businesses, public and third sector organisations to adapt in an efficient and cost-effective way. Defra believes its role is to assist local decision-making by raising awareness and providing people with the evidence they want and need.

Bryan Boulton, Head of Environment Futures and Sustainability at Hampshire County Council, points out the three-fold effect of climate change on local government in service delivery, in their leadership role, and in their representation role as a collective voice of the community.

The three-fold impact of climate change on local government means that significant decisions must be made in terms of the way local government's finite 'pot of money' is allocated. Climate change is not a single issue, hence it is not a case of simply allocating money either to mitigation or adaptation. The key question we face is: how do we spend the limited resources we have and where?

There are no clear answers to that question at present. In practical terms, spending on adaptation is less attractive because the targets change over time, with some being very long-term. These are difficult for politicians to deal with and for voters and taxpayers to understand. Mitigation targets are more clear cut. The temptation therefore would be to allocate resources to meet mitigation targets.



But, for our area, where sea level rises of 1.5 metres by the end of this century could be seen, adaptation decisions must be made now.

Again, these decisions raise more questions than answers. Do we safeguard our coastal community now or deal with the aftermath of flooding when 'clear-up' can disrupt a community for a year or more? How do we pay for these measures? How much debt can we load onto future generations – those who did not even elect us? How do we deal with real issues of equity and social justice when looking at impacts and responses? These are the types of questions which must urgently be addressed both at local and national level.

Ron Campbell of National Energy Action (NEA) outlines the issues for an organisation that campaigns to eradicate fuel poverty and secure greater investment in energy efficiency to help those who are poor or vulnerable.

For more than a decade the social justice agenda has followed NEA's primary objective of eradicating fuel poverty by ensuring affordable warmth for disadvantaged and vulnerable households. During this period Government policy has been strongly supportive of measures to deliver affordable warmth – from the Warm Homes and Energy Conservation Act 2000 to the most recent Energy White Paper in 2009.

However, despite these good intentions on the part of Government there are currently 3.7 million fuel-poor households in England and this number seems likely to increase significantly in future years, partly as a result of energy price increases linked to environmental objectives. NEA takes the view that the major and immediate environmental threat to fuel-poor households results from the cold and damp living conditions in which they live. The most recent English House Condition Survey reveals that some ten per cent of the housing stock in England poses a serious threat to the health and welfare of occupants as measured by the Government's Housing Health and Safety Rating System. Some 2.2 million households in England occupy homes that pose a Category 1 Hazard in terms of excess cold.

Yet, according to a Committee on Climate Change (CCC) Report in December 2008, increasing energy prices in order to meet carbon budgets would consign a further 1.7 million households to fuel poverty by 2020. NEA believes subsequent CCC claims that the higher energy prices required to cover the cost of renewable energy would be offset by energy efficiency improvements leading to reduced energy bills (with no rise in fuel poverty) to be both complacent and extremely optimistic.

Even the introduction of rigorous heating and insulation standards can only do so much in eradicating fuel poverty. Additional measures such as extending Winter Fuel Payments to the most vulnerable and economically disadvantaged non-pensioner households and minimising regressive levies on consumer bills are required to tackle fuel poverty. From NEA's perspective, measures to achieve environmental objectives must not place those living in fuel poverty at further disadvantage.

Kayte Lawton, a Research Fellow at the Institute for Public Policy Research (ippr), offers insight from a ‘think tank’ on a general lack of public interest in social justice issues and the challenges that lie ahead in gaining support for climate change measures.

Social justice and environmental sustainability have been right at the centre of ippr’s work since its foundation in 1988, and we are increasingly concerned about how to bring these two issues together.

The Labour Government has struggled to bring down the UK’s high levels of economic inequality, partly because it lacks a clear mandate to do this from the public. Social attitudes studies repeatedly find that significant public support for government action to reduce inequality is lacking, with many believing that poverty and inequality are inevitable. Although public finances will be very tight over the next few years, the urgent need to tackle climate change, together with the need to rebuild the economy now that the recession is drawing to a close, could be a catalyst for reframing entirely the way society is viewed and structured.

ippr’s ‘Fair Climate’ agenda explores some of these alternative approaches – looking, for example, at how to maximise the potential for good quality employment from the low-carbon transition. ippr is also currently exploring how to create a fairer and greener tax system, as well as looking at how to create a more effective and sustainable fuel poverty strategy.

Research from ippr suggests that the public has an ambiguous approach to climate change and people easily ‘switch off’ from overly negative or ‘apocalyptic’ messages. ‘Upselling’ the positive benefits of climate change measures works rather better than dwelling on the negatives of inaction. Indeed, a backlash is possible if governments introduce climate change policies that are perceived to be ‘unfair’, so serious thought needs to be given to designing adaptation and mitigation policies that spread the burden of responding to climate change fairly. However, a key issue is what is meant by ‘fairness’ and how far the concept intersects with traditional ideas of social justice.

Numerous challenges lie ahead for policymakers, including understanding how climate change and policies designed to tackle it will affect different people in different ways and how to spread the burden fairly. Funding is certain to be problematic over the next five to ten years and honesty will be required concerning those who will ‘lose out’ in the move towards a green economy, as well as limiting the negative impacts on people already experiencing poverty and exclusion.



Plenary discussion: some key questions

The one day seminar featured a number of opportunities for questions and discussion. Some of the issues highlighted were as follows:

Climate change: what sort of problem is it?

- Climate change must be seen as a social and economic problem, rather than simply an environmental one. Focusing on climate change in the environmental sphere has constrained discussion about how mitigation and adaptation measures might be implemented. From a research perspective, a wider interdisciplinary approach is required.

Mitigation or adaptation: where should we focus what are clearly limited resources?

- There are challenging resource issues in addressing both mitigation and adaptation.
- Balance is required between mitigation and adaptation, but also a balance between resources for action within the UK and those allocated overseas.
- There is an urgency in investing in mitigation. Adaptation has been less of a focus but investment will also be necessary.

Are we guilty of short-termism?

- A long-term and possibly ecosystems approach is required, however this needs to be squared with short-term imperatives so that politicians can adopt long-term approaches to increase resilience to climate change impacts.

Are we in the right policy 'space' to address social justice?

- While climate change is generally viewed as something we are all in together, social justice is not seen similarly; so far there has been little discussion about the social justice implications.

Who is most vulnerable to climate change impacts?

- This is a complex question that requires further research. For example, while reasonably well developed indices of flooding vulnerability exist, the same is not true of vulnerability to heatwaves.
- We need to better understand which people and which places will be affected and how this may create new forms of disadvantage. It is important to consider risk, vulnerability and resilience in supporting responses.

How can the climate change debate be taken forward more effectively?

- To date the concern has been that if messages are delivered too starkly, people will see the situation as hopeless and do nothing.
- Scientists and social scientists should work in tandem to communicate climate change science in a way that gives people agency.
- The debate needs to be made more accessible to a wider audience and engage with the anxieties that people may feel to identify options for a more positive future, considering overall societal wellbeing.

What kind of change is required?

- Local, community-based environmental action groups need to be nurtured, encouraged and celebrated.
- Change to people's daily lives is essential if carbon emissions are to be reduced. Some of this may be achieved through, for example, carbon allowances, progressive metering for energy, taxation and pricing.
- Beyond this, significant behaviour change may require different consumption ethics which poses cultural challenges.
- The dichotomy between Government-level action and individual action is false as there are multiple points of influence, power and levers for change. But we should recognise the structural and systemic changes that may be needed alongside how individuals live in responding to the challenge.

How can the urgent need for action be balanced with democratic process?

- The need for rapid responses to climate change raises questions about governance and how decisions will be made.
- Awareness, agency, association and an architecture of support are all important for achieving change.



Executive Summary

The one day ESRC/JRF/LGA seminar 'How will climate change affect people in the UK and how can we best develop an equitable response?' highlighted the following **key issues**:

- Capping a 2°C rise in global mean temperature is widely believed to be a realistic target if emissions are successfully controlled. Even then, the consequences could still be serious for Southern Hemisphere countries. However, science suggests that this target is likely to be challenging, and that global mean temperatures could rise to 4°C by 2070 and create a path to a higher equilibrium. This may no longer be an extreme scenario but a serious possibility that has fundamental implications for adaptation and equity within the UK.
- A discussion on the impact of climate change is necessarily a discussion on inequality and justice. Reflecting global patterns, within the UK those most vulnerable to the effects of climate change are likely to be those who have contributed least to the problem, and who are already the most vulnerable – a 'double injustice'.
- Who is 'most vulnerable' to the impact of climate change? Researchers suggest vulnerability is complex and varies according to the type of climate impact as well as policy responses and interventions. It also relates to individual characteristics, location factors and issues such as levels of poverty and disadvantage as well as resilience and adaptive capacity. For example, flooding (expected to become more severe under climate change) has uneven impacts. Coastal areas at risk of storm surge flooding have a strong bias towards deprived populations and less than half of those in deprived areas typically have insurance cover.
- Climate mitigation and adaptation strategies are costly. Winners and losers are likely. Of particular concern are the regressive side-effects of climate policy. For example, energy price rises due to mitigation policies may adversely impact households already experiencing fuel poverty. Key equity questions are: who will bear the costs of carbon mitigation and adaptation? Who do we protect and how do we support transitions? Such fundamental questions have as yet been little debated.
- A key question will be whether responding to climate change can also offer an opportunity to address social inequalities. For example, we already know that addressing fuel poverty by investing in household energy efficiency saves carbon, reduces bills and can boost available income, improve housing quality and health, and create local employment. Moments of change and instability are also potential opportunities for system transformation. The challenge is to make the transition to a low carbon society that is better adapted whilst also achieving a more socially just UK that also recognises our international obligations in the global context of climate justice.
- Crucially, we also need to consider what kind of decision-making processes are needed to support effective responses. How can we ensure that moral and ethical values are carefully considered and upheld in the process? Could the need for urgent action require new governance processes? Unless such questions are thoroughly debated and actions agreed then indecision may result in various unwelcome outcomes – with, in all probability, more suffering occurring among the most vulnerable.
- While the seminar succeeded in its aim of opening up discussion, there is work to do in bringing science and research together with decision-makers and practitioners to enable informed decisions and effective action if the complex challenges identified during the day are to be surmounted. Further discussions will now take place between the research community, the ESRC, the JRF and the LGA in order to develop ideas and take a new research agenda forward.

Conclusions

Starting a new conversation on social justice

The seminar was an opportunity for the research, policy and practice communities to start to explore the social justice implications of climate change in a UK context. It was evident that for many in the room, this was a new but important conversation – and that we are still at an early stage in developing thinking on how to articulate emerging concerns in this area.

Insights into the challenges ahead

The speakers provided useful insights into both the scale and urgency of the challenge we face from climate change and the kind of approaches we need to consider in developing our responses to take account of social justice.

The reality of the trade-offs local authorities face in delivering services on the ground, for example, the real dilemmas over where to develop new housing and how to manage tensions between mitigation and adaptation, were also ably highlighted.

Climate change: more than an environmental issue

Of key concern is that climate change is a social as much as an environmental issue. JRF has committed to a three-year work programme in this area reflecting this concern. JRF's remit is to address the causes of social problems, particularly poverty and disadvantage, within the UK. Climate change is likely to have significant direct impacts on people in the UK, not only from extreme events associated with climate change, like flooding and heatwaves, but also indirect impacts associated with fluctuating energy and food prices. For example, for those on low incomes, price increases linked to changes in the energy sector may become an increasing concern. Recent JRF research has highlighted how fuel poverty is increasing in spite of Government targets to reduce this.

Developing appropriate policy and practice responses

How then can policy and practice responses be developed that address both the scale of the challenge and the potentially unequal impacts of climate change on different members of society?

Kevin Anderson suggests that to have a good chance of avoiding the potentially dangerous effects of average global temperature increases going beyond 2°C, we need to begin to stabilise and then reduce our carbon emissions **within the next ten years** for non Annex I (industrialising) countries and within **the next two years** for Annex I (industrialised countries).

But how can political leaders respond to the scale of the challenge suggested by the science? How can democratic processes support the transformational changes we may need to undergo? The Copenhagen summit attempted an international approach to responses and underlined the challenges. But, in the UK **local** policy and practice will also be important not only in trying to reduce carbon emissions, but also in preparing for climate impacts and developing effective adaptation strategies. Clearly major issues here need to be addressed in terms of who we are able to, or choose to, protect, how far we can support community resilience and how decisions taken today will impact on future generations.



Double injustice in the UK

In considering social justice, a key concern is that those who contribute least to the problem and whose responsibility for carbon emissions is relatively low, may also be those who may face the most serious negative impacts. The burdens of both mitigation and adaptation may fall most heavily on those who have the least voice in the development of policy responses.

The JRF new research programme is investigating these issues and will explore which people and which places may be affected by climate change in the UK and how this may relate to existing patterns of poverty and disadvantage. It is also exploring what more needs to be done to ensure that responses from all levels, including both central and local government, take account of issues of equity and fairness, and do not exacerbate the difficulties faced by people living on low incomes.

For example, the programme will be examining a range of energy policies to consider how these will affect different households, and will also be looking at adaptation measures including water metering and the use of social tariffs and heatwave planning to see how these measures are taking account of vulnerability. It is hoped that this work will help to inform policy and practice responses to ensure that we do not compound injustice for those already facing poverty and disadvantage, and instead try to take more positive approaches which tackle our environmental, economic and social concerns in a more holistic way.

Next steps

The seminar succeeded in its aim of opening up discussion, but science needs to support policy and practice responses if the complex challenges identified during the day are to be surmounted. Well-planned research, developed and delivered in partnership with local public services, communities and citizens, will be a key tool in helping to understand and tackle such challenges. Further discussions will now take place between the research community, the ESRC, the JRF and the LGA in order to develop ideas and take a new research agenda forward.



References

- 1 UK Climate Projections UKCP09 (UK Climate Impacts Programme)
http://www.ukcip.org.uk/index.php?option=com_content&task=view&id=163&Itemid=287
- 2 CAG Consultants (2009) Differential social impacts of climate change in the UK: Literature Review, Project UKCC22, SNIFFER, Edinburgh
- 3 The UK Low Carbon Transition Plan (2009)
http://www.decc.gov.uk/en/content/cms/publications/lc_trans_plan/lc_trans_plan.aspx
- 4 DEFRA (2008) Adapting to climate change in England: a framework for action (DEFRA) HM Government, London
- 5 The Heatwave plan for England (2009) Department of Health
http://www.dh.gov.uk/en/publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_099015
- 6 Climate Adaptation: Risk, Uncertainty and Decision-making (2003)
http://www.ukcip.org.uk/images/stories/Pub_pdfs/Risk.pdf
- 7 Doria, M., Boyd, E., Tompkins, E.L. and Adger, W.N., 2009. Using expert elicitation to define successful adaptation to climate change *Environmental Science & Policy*, 12(7): 810-819.

Further Information

The presentation slides and audio interviews for speakers on *How will climate change affect people in the UK and how can we best develop an equitable response?*, held in London on 30 November 2009, are available on the ESRC website at:

<http://www.esrc.ac.uk/ESRCInfoCentre/about/CI/events/esrcseminar/climatechange.aspx>

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