

Exploring 'energy justice':

Prospects for fairness in UK climate policy

Background paper for working seminar, 30 November 2009

Poorer households are typically responsible for much lower carbon emissions than richer ones. This is well-documented on an international scale. It is also true in the UK.

While the development of a 'socially just climate policy' – balancing fairly the obligations of richer and poorer countries and their populations to act and pay to curb greenhouse gas emissions – seems to be a pre-requisite for successful international climate negotiations, it has to date been a relatively peripheral concern within UK domestic climate policy.

Yet the poorest 20% of UK households currently emit, on average, some 60% less carbon dioxide per year from their home energy and car use than the richest 20% of households.

This disparity would be larger if it took account of household greenhouse gas emissions from air travel, and larger still if it included the indirect emissions associated with the consumption of non-energy goods and services.

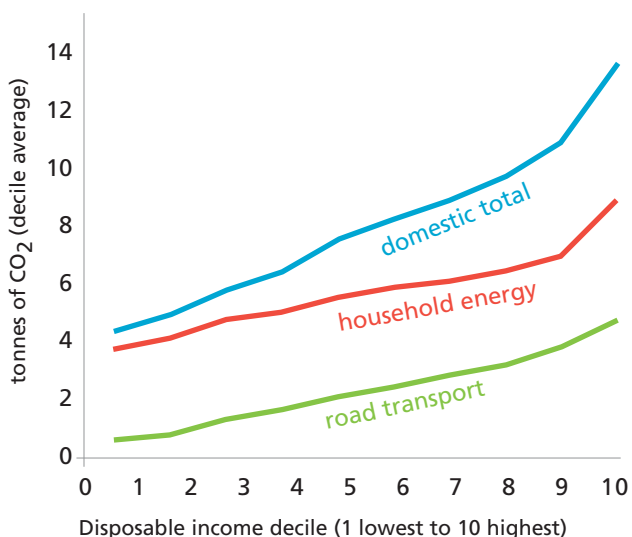
But if climate change is such an overwhelming problem (and given that the poorest households in the UK still tend to emit more than the global average) does this inequality in the UK really matter? Should it stand in the way of implementing policies focused on cutting UK emissions?

Or are there parallels to be drawn with the international context – that it may not be 'just' for those in the UK contributing least to the problem of climate change to face similar limitations on future emissions and carry a similar cost burden to those contributing far more?

This paper – and the working seminar for which it provides a background – starts to examine these issues in more detail:

- What do we know about the current distribution of carbon emissions in the UK and of the costs and benefits of policies to reduce them?
- Why does the inequality matter?
- What might constitute 'fair' or 'just' in the context of UK carbon emissions and climate policy?
- What would be the policy implications of imposing a more just settlement in the UK?

This is a complicated set of issues, analysis of which is hindered by the limited data available. As it stands, we can not easily link household carbon emissions, household income and demographics, levels of energy service being achieved, and the costs and benefits of opportunities available to each household to curb their emissions. Indeed, much of the effort to date in this field of analysis has focused on trying to address these data limitations.

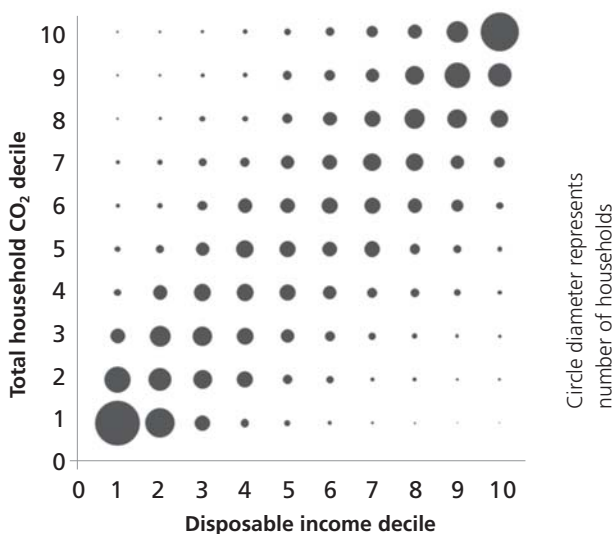


Understanding the distribution of carbon emissions in the UK

There is no publicly available dataset which combines high quality household demographic and income information with fuel consumption (and thereby carbon emissions). Without this, it has been impossible to understand the distribution of current household carbon emissions across different income and social groups.

While National Housing Condition Surveys typically bring together housing energy efficiency data with demographic and income data, these can only be used to *model* the energy consumption *needed* to achieve certain levels of warmth and energy service. They have no reference to actual energy consumption. Indeed, such modelling is known to produce results for *needed* consumption levels which are significantly above actual consumption levels for households in all income brackets.

However, analysis by the Centre for Sustainable Energy (with initial input from the University of Surrey) of ONS Expenditure and Food Survey (EFS) data can be used to derive actual energy and transport fuel consumption and thereby household carbon emissions data. Because of the high quality of demographic and income data in the EFS, the dataset resulting from this analysis can then be used to paint a detailed picture of how household energy and car use emissions distribute both across and within income deciles.



CSE analysis and modelling of ONS EFS data reveals the distribution of direct CO₂ emissions across UK households by income

This shows that lower-income households are, in general and on average, responsible for much lower emissions than their higher-income counterparts. It also shows that a small number of low-income households have levels of carbon emissions as high as some of the richest households in the UK.

Hiding the 'quality of life' associated with levels of carbon emissions

What such a graphic does not reveal is the level of energy service – warmth, illumination, mobility etc – which the households are achieving for the level of carbon emissions they cause. It is known, for example, that many low-income households cannot afford to spend enough on fuel to achieve the levels of warmth deemed healthy without compromising their ability to meet other basic needs. Their energy inefficient homes are therefore often cold in winter – sometimes dangerously so. They are failing to meet a basic need for energy: to keep adequately warm in winter.

So while their emissions are relatively low, their low-carbon status is likely to derive from their deprivation – their failure to realise their right to adequate warmth, light and mobility.

We can not currently tell from the data the number of the low carbon, low income households to which this applies. It is likely to be quite a high proportion (and we hope that new analysis we are undertaking will shed some light on this).

In this context, is it reasonable to require or expect such households to lower their own emissions further or to carry any additional costs to fund policies to lower carbon emissions in other households or elsewhere in the economy?

Exploring the distributional impacts of UK climate policy

We now know that such lower-income households are already carrying additional costs to fund national policies designed to lower UK carbon emissions. Our analysis for the Department of Energy and Climate Change has started to reveal the distributional impacts of the current crop of UK climate policies.

To understand the distributional impacts of UK climate policies between households, it is necessary to understand:

- Their current level of energy consumption and associated carbon emissions and fuel bill expenditure
- The opportunities each household has to cut its carbon emissions – and the costs and benefits of realising these opportunities
- The costs of policies to deliver carbon emission reductions and how these costs are expected to be met (e.g. in part or in full by those households benefitting from the carbon reduction measures; by energy suppliers recovering through consumer fuel bills their costs of delivering policy objectives; through income or consumption-related taxation; or a combination of some or all of these)
- The household-specific benefits of policies (e.g. better insulation, microgeneration installation etc) and which households are likely to receive them under the current policy approach
- The likely approaches of energy suppliers for recovering their costs via bills (e.g. disproportionately loading costs onto their loyal customers who don't pay by direct debit; recovering costs disproportionately from domestic customers rather than business customers etc.)

Our analysis for DECC shows that, because the costs of the majority of UK climate policies are currently funded through electricity and gas bills, the burden of policy costs is likely to be borne disproportionately by lower-income households. This is because energy bills tend to represent a far higher proportion of household income for low-income consumers than for higher income consumers.

This finding holds even when the distribution of the household-specific benefits of policies – such as extra insulation and microgeneration – are taken into account. Low income households will simply not receive enough benefits from the policies (many of which are not currently designed to target such households) to compensate for the additional costs.

However, this analysis and modelling is still in its infancy. In particular, the allocation of policy benefits to households is 'rough'; it can not yet take fully into

account the second bullet point above – the opportunities each household has to cut its emissions and associated costs and benefits. It therefore has to make bold assumptions about who will take up the offers and opportunities available as a result of the policies. And it does not currently assess the costs and benefits of transport-related climate policies.

This is being addressed by a new research project led by CSE in collaboration with the Universities of Bristol and Oxford, recently funded by the Joseph Rowntree Foundation. This should enable a much more refined assessment of the distribution across UK households of the opportunities to act to curb household carbon emissions and of the effort and/or investment required to realise these opportunities.

With this information it should be possible to develop a much clearer picture of who is in a position to curb carbon emissions with relative ease and lowest cost – and to target policy more precisely.

The problems caused if UK climate policies lead to increased inequality

If current UK climate policies as currently applied lead to an increase in inequalities between richer and poorer households, this may have at least two negative effects.

The first is a potential undermining of the social fabric of a society and the quality of life of the whole population (not just the poor). Richard Wilkinson and Kate Pickett's book *'The Spirit Level: why more equal societies almost always do better'* is a wide-ranging study of levels of inequality within developed nations. It compares these countries on a wide range of health, economic, social and environmental indicators, and demonstrates the poorer health, greater social dislocation, weaker economic wellbeing and lower sustainability achievements of more unequal societies.

The second effect of unfairly distributing the costs and benefits of climate policies could be to undermine attempts to develop a sense of collective responsibility for tackling climate change. There is a growing body of evidence that addressing shared problems like climate change require a shared sense

of 'all being in it together' across a society, particularly since it likely to involve at some point significant changes in lifestyles and consumer choices. Indeed, this shared sense of responsibility may be a necessary pre-condition for public acceptance of strong policy intervention.

As the Daily Mail might reasonably ask in this context; *is it right that a pensioner couple unable to keep their home warm in winter should be paying through their electricity bills to subsidise the cost of a PV panel on the roof of wealthy young professional couple?*

Even before anyone has defined clearly what constitutes 'fair' or 'just' when it comes to the distribution of the burden of cutting carbon emissions, it is certainly not difficult to identify patently unfair and unjust outcomes.

Determining a 'fair' or 'just' distribution

Presenting climate change as a problem that needs tackling necessarily imports a conception of social justice and a commitment to intergenerational human rights. Climate change is a problem precisely because of its potentially catastrophic impacts on human existence and well-being – both now (for some) and in the future (for everyone).

Science might be able to predict with increasing accuracy the nature, scale and timing of these potentially catastrophic impacts and guide us towards the level of greenhouse gas emissions which could be sustained while avoiding undue risks. And economists can endeavour to estimate the costs both of reducing risks and of failing to do so. But neither can answer the associated and all-important ethical questions:

- On what basis is it decided who gets to emit the remaining greenhouse gases humankind can afford to emit into the atmosphere? (In other words, *what is a fair way to distribute future emission 'rights'?*)
- On what basis is it decided who gets to pay for cutting back our current levels of emissions to safe levels and for adapting to the climate change already 'in the system' as a result of past emissions? (In other words, *what is a just way to distribute the costs of tackling climate change?*)

As indicated above, while these ethical questions are usually applied to international negotiations, they can validly be asked of the distribution within the UK of such rights and burdens. They also beg far more questions.

For example, how important is the historic responsibility for the past emissions that are already causing climate change, above and beyond current distributional disparities in emissions levels? It is almost certainly true that richer households in the UK have always been disproportionately responsible for the UK's carbon emissions. So shouldn't currently richer households carry a disproportionate burden to make up for the historical responsibility of higher-income households? While these are different households, it could be argued that the low levels of social mobility in the UK mean that currently richer households have, on average, benefited materially from the wealth derived from their forebears' high carbon emissions.

As another example, how important is it to reflect the circumstances in which each household finds itself in terms of how easy or difficult these make it for the household to cut its carbon emissions?

If we are intent on distributing the burden of cutting carbon emissions fairly, we need to improve our understanding of the nature of that burden and how it varies between households. The real burden for a household of cutting emissions is not simply a cost handed down through fuel bills by policy-makers and thence energy suppliers. It is dependent also on how easy it is for that household to respond to policies and their resulting programmes, which in turn depends on:

- what money the household has available to fund its response
- which energy saving and low carbon measures are suitable for their homes and what are the costs and benefits of their installation
- what transport options are accessible and useable by the household
- what resources, education and interventions have been made available to enable the householder to take control of their own energy using behaviour and transport choices.

And while some households (almost by definition those in fuel poverty) are failing to meet their basic energy needs, should they be expected to contribute at all to the costs of UK carbon reduction policies? To do so would be to further undermine their ability to meet their basic needs and contradict a core principle of sustainable development.

Understanding what is feasible

On top of all of these ethical questions, we also need to be attuned to what is politically and technically possible. However 'fair' and 'just' a framework of policies can be designed, it only develops genuine value if it can be applied in the 'real world'. This relates not only to what politicians might think the public will accept, but also what data and information is available to enable refined targeting of policies and allocation of costs and benefits. It does not help to want to avoid loading policy costs onto fuel poor households if there is no way of identifying such households at the point where costs are 'loaded'. There is therefore a need for both:

- better policy design more informed by an explicit sense of distributional justice
- much improved gathering, organising and analysing of data to enable policy makers to achieve their ambitions within policy and programme delivery

The working seminar on 30 November is designed to explore these issues in more detail, with group working sessions stimulated by an expert contribution and then examining:

- What else do we need to know?
- Does inequality matter in tackling climate change in the UK – and if so, why?
- What would 'fairness' look like in UK climate policy?
- Do we need to rethink fuel poverty policy?
- How can we reduce the social impacts of UK climate policy?
- What are the next steps?

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Centre for Sustainable Energy

The Centre for Sustainable Energy (CSE) is an independent national charity that shares our knowledge and practical experience to help people change the way they think and act on energy. Born in Bristol in 1979 we now have 45 staff, a turnover of £2.3 million and a national reputation for delivering innovative practical energy projects. The twin challenges of climate change and fuel poverty are at the heart of all our research work and have led to the following recent ground-breaking studies on the distribution of carbon emissions across the UK population and the implications for UK energy policy:



Roberts S with V White, I Preston and J Thumim (2007) *Assessing the Social Impacts of a Supplier Obligation: A study for Defra, CSE, Bristol*. See www.cse.org.uk/downloads/file/pub1085.pdf

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Centre for Sustainable Energy (forthcoming). *Moderating the distributional impacts of Personal Carbon Trading. A report to the Institute for Public Policy Research, IPPR, London*.

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Other references

Caney S (2008) *Justice and the distribution of greenhouse gas emissions: "The Climate-changing emissions distribution: criteria for a shared justice"*, paper to Sixth International Conference on Ethics and Environmental Policies, Ethics and Climate Change. Scenarios for Justice and Sustainability, Padova, 23-25 October 2008. See. <http://tinyurl.com/Caney-2008>

Wilkinson R and K Pickett (2009) *The Spirit Level: why more equal societies almost always do better*, Allen Lane, London. See www.equalitytrust.org.uk



This policy workshop builds on 30 years of the Centre for Sustainable Energy.

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