

# The role of rights, risks and responsibilities in the climate justice debate

Climate justice  
debate

Christopher Shaw

*Environmental Change Institute, University of Oxford, Oxford, UK*

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## Abstract

**Purpose** – This paper aims to use the results of a synthesis of six social science fellowships to explore how alternative framings of the climate justice debate can support fairer climate policies.

**Design/methodology/approach** – The original fellowships drew on sociology, economics, geography, psychology and international relations. Cross-cutting themes of rights, risks and responsibilities were identified following a series of workshops. Results of these workshops were discussed in a number of policy fora. Analysis of the feedback from that fora is used to propose the case for a rights, risks and responsibilities approach to building a more accessible climate justice debate.

**Findings** – Existing climate policy unjustly displaces a) responsibility for emission reductions, b) risks from climate impacts and c) loss of rights. Foundational questions of acceptable risk have been ignored and a just climate policy requires procedurally just ways of revisiting this first-order question.

**Research limitations/implications** – The contribution a rights, risks and responsibilities framework can bring to a process of educating for climate stewardship is at this stage theoretical. It is only through trialling a rights, risks and responsibilities approach to climate justice debates with the relevant stakeholders that its true potential can be assessed.

**Practical implications** – Policy actors expressed strong resistance to the idea of overhauling current decision-making processes and policy frameworks. However, moving forward from this point with a more nuanced and tactical understanding of the dialectical relationship between rights, risks and responsibilities has the potential to improve those processes.

**Social implications** – Educating for climate stewardship will be more effective if it adopts an approach which seeks a co-production of knowledge. Beginning with the foundational question of what counts as an acceptable level of climate risk offers an inclusive entry point into the debate.

**Originality/value** – Reveals limits to public engagement with climate policy generated by a ‘justice’ framing.

**Keywords** Rights, Education, Climate change, Risk, Engagement, Climate policy

**Paper type** Conceptual paper

## 1. Introduction

The words “justice” and “fairness” are often used interchangeably (Vanderheiden, 2008, p. 54; Environmental Protection Agency, 2008; Harris, 2013, p. 26). However, research on public attitudes to climate policy reveals the public are more likely to demonstrate a concern for fairness rather than justice (e.g. Parkhill *et al.*, 2013, p. 4). Climate justice is

The results discussed in this paper emerged out of the ESRC-funded Climate Crunch project, which ran from May 2013 to May 2014. I am grateful to the ESRC Climate Change Leadership Fellows for their help in synthesizing the results of their fellowships. Further details of the fellowships are available at: [www.esrc.ac.uk/research/major-investments/fellowships.aspx](http://www.esrc.ac.uk/research/major-investments/fellowships.aspx)



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a relatively complex matter drawing on philosophy, ethics and political science, with a range of sometimes diverse definitions (Walker, 2012, p. 39). Vanderheiden identifies four related concepts: equality (treating people as equals), distribution (how the outcomes of climate policy creates winners and losers), deserts (the extent to which that distribution ought to reflect or respond to the good or bad actions of the recipient) and, very much related to the notion of desert, responsibility (Vanderheiden, 2008, pp. 47-48). Justice, as a concept which seeks to address the interplay of claims and counterclaims within a global and intergenerational framework, is not a principle well suited for an engagement strategy intended to educate diverse lay audiences in becoming climate stewards. Research has shown that abstract constructions of climate change which look to impacts distant in space and time are not likely to resonate strongly with the public (Crona *et al.*, 2013). Hence, it might be argued that any socially inclusive process of learning and transition aimed at engendering a participatory climate stewardship would be better framed around discourses of fairness rather than justice. However, fairness is perhaps too simple an idea and elides the ways in which trying to create policy that is fair for one group generates unfair consequences for other groups. For example, a policy that is fair in respect of the West's historic responsibilities for emissions, such as imagined by the Contraction and Convergence proposal ([www.gci.org.uk/](http://www.gci.org.uk/)), might demand drastic emission reductions such that limits to fossil fuels use would have to be imposed. These policies could affect the choice of cars available to Western consumers, who in turn might respond such constraints are unfair. Without a more nuanced framework for assessing and adjudicating rights to emit any understanding of stewardship and the policy impact that can be achieved through such stewardship will likely be severely limited. This paper will suggest that while both justice and fairness are valid ways of thinking about who wins and who loses as a result of both climate change itself and the policy responses, any programme seeking to educate people for climate stewardship might better be able to address questions of justice and fairness through a framework that charts a middle way between these two concepts. It is argued that a framework of rights, risks and responsibilities might offer such a middle way. This framework has emerged out of the research conducted during the course of six Economic and Social Research Council (ESRC)-funded Climate Change Leadership Fellowships ([www.esrc.ac.uk/research/major-investments/fellowships.aspx](http://www.esrc.ac.uk/research/major-investments/fellowships.aspx)). These six Fellowships ran from 2008 to 2012, and funded the research of leading scholars from the fields of social psychology (Nick Pidgeon – risk perception, climate change and public engagement), human geography (Harriet Bulkeley – climate change, global cities and the transformation of socio-technical systems), international relations [Peter Newell – the governance of Clean Development Mechanisms (CDM)], economics (Karen Turner – investigating how accounting principles and embedded carbon shape international climate change negotiations), sociology (Elizabeth Shove – transitions in practice and the relationship between everyday life and climate change) and political theory (Simon Caney – equity and climate change). The Fellowships operated as separate research programmes over the four years.

In 2013, the ESRC funded a follow-up one year project called the Climate Crunch ([www.lwec.org.uk/climate-crunch](http://www.lwec.org.uk/climate-crunch)) with the intention of synthesising the results of the separate Fellowship research outputs into a coherent statement which was then presented to UK and international policy audiences. The term “climate crunch” derives from the credit crunch and reflects the underlying assumptions of the

project, namely, that climate policy has, like the financial markets, become dysfunctional. At the heart of the problems of institutional failure and policy impasse that the Fellowships uncovered are fundamental questions about the rights, risks and responsibilities involved in responding to climate change (Bulkeley *et al.*, 2014). Though never conceived as an intervention in the climate justice debate, consideration of the cross-cutting themes of rights, risks and responsibilities provides several different ways of discussing climate justice and better reflects the diversity of starting points and value positions different actors bring to this issue. The “climate crunch” project concluded that engaging the public requires an open dialogue as to how we respond to climate risks, and the questions of rights and responsibility these responses raise. Opening up discussions about the different means by which the same ultimate ends of warmth and welfare, freedom and mobility and economic and energy security might be achieved, brings into focus issues of risk, responsibility and rights associated with different trajectories that are more or less carbon intensive (Bulkeley *et al.*, 2014). As such, this framework has much to offer any inclusive process of educating for climate stewardship. Education, for the purposes of this paper, is not the formal education that takes place in schools, colleges and universities, but rather refers to the pedagogical nature of participatory deliberation of our respective climate futures (Carvalho and Peterson, 2012). This definition of education is important, for without just processes of deliberation, there can be no just outcomes. Stewardship itself has several different meanings, though these definitions are united by the common theme of responsibility. Stewardship, for the purposes of this analysis, is taken to mean “the responsible overseeing and protection of something considered worth caring for and preserving” (<http://dictionary.reference.com/browse/stewardship>) with the caveat that this definition raises some of the problems at the heart of the justice debate:

- that climate stewardship is actually beyond the scope of any one individual;
- there will likely be disagreement over what is worth caring for;
- what risks are worth bearing to offer this protection might be disputed; and
- there are vested powerful interests standing in the way of effectively exercising this stewardship.

There are many deep philosophical questions about justice which are not addressed in this paper. Rather, this is a tactical discussion of how one might better understand and differentiate between different justice issues so as to better build greater public understanding of and engagement with the climate policy agenda. This is about education through a co-production of knowledge. It has been argued that a process of co-production including lay and expert perspectives will socialise the debate and consequently might lead to more socially acceptable mitigation and adaptation strategies (Lowe *et al.*, 2006; Ockwell *et al.*, 2009; Carvalho and Peterson, 2012).

After first explaining why justice is an important topic in educating for climate stewardship, this paper will outline what role the issues of rights, risks and responsibilities can play in deepening our understanding of how policy can deliver a programme of climate change mitigation and adaptation. This is followed by examining how these ideas might be used when educating for climate stewardship.

## 2. Defining climate justice for climate stewardship

Climate change and justice are inextricably linked (Harris, 2013; Walker, 2012) because climate change is at root of an issue of fairness in a finite world (Anthanasidou and Baer, 2002, p. 64). Therefore, the issue cannot be meaningfully addressed without taking the promotion of justice as a central aim of global climate policy efforts (Vanderheiden, 2008, p. xiv). This means responding to climate change requires a commitment to fairness (Vanderheiden, 2008, p. xiii). It has long been known that the impacts of climate change will fall disproportionately upon developing countries and poor persons within all countries, and thereby exacerbate inequities in health status and access to adequate food, clean water and other resources (IPCC, 2001, p. 12) and global poverty (Harris, 2013, p. 123). For this reason, justice issues have prominence in the language used in the main international treaties. The UNFCCC espouses a declared commitment to justice in both process and outcomes, proposing a hybrid standard by which liability is assigned according to three criteria; equity, historical responsibility and the respective capabilities of nations to reduce their emissions (UNFCCC, 1992; Vanderheiden, 2008, p. 73). Recurring themes in definitions of climate justice are equality, involvement/participation, fairness, access (to resources and information) and protection from environmental risks. These themes are very much interrelated, with discussion of one inevitably leading to discussion of another aspect of justice (Walker, 2012, p. 12). This interrelatedness echoes discussions of risks, rights and responsibility in the climate justice debate.

Many of the issues of (in)justice are the result of imbalances in the power relations amongst climate change stakeholders, and these imbalances are, despite the wording of international climate treaties, sustained through language and the way language constructs climate change as a problem solvable through top down interventions. Harris (2013) has shown how sustainability discourses, with their emphasis on markets, consensus and ecological modernisation mean questions of equality and procedural rights are too easily downplayed and pushed aside (Harris, 2013). Power is related to the ways everyday life is structured by the form of cities and infrastructures, by technologies and cultural expectations that serve to lock-in established ways of doing things (Bulkeley *et al.*, 2014). An inclusive programme of climate stewardship will need to reflect and express the values, hopes and aspirations of the stewards, which means building a bottom-up dialogue for climate policy. This means turning our attention to questions of procedural justice. Increasingly aspects of decision-making are being withdrawn from the democratic sphere (Roberts, 2010) and so building more inclusive and democratic procedures for deliberating on climate policy is a difficult challenge to address. The manner in which the arguments are framed will be an important determinant of how successful such a process will be, which is why consideration of the rights, risks and responsibility frame is important.

Clive Hamilton has recently suggested that confusion about such vital questions as who should take responsibility for the current condition, how to preserve equity between generations and how best to think about our responsibility towards non-human animals does not stand up to scrutiny, and that really it is not so hard to know what we should do (Hamilton, 2014, p. 335). Knowing what to do, for Hamilton, means reducing warming to two degrees (Hamilton, 2014). From that starting position, Hamilton develops a critique of the current stalemate. Unfortunately, his analysis of the ethical dimensions of the climate change debate does not extend to recognising the deep

injustices underlying the two-degree target (Shaw, 2013). This is echoed by Vanderheiden (2008), who argues one central task of a global climate regime is to allocate the atmospheric capacity to absorb future emissions according to the principles of distributive justice, without analysing the power play enshrined in the setting of those targets. The analysis presented in this paper will extend questions of justice into this most foundational, but currently marginalised, aspect of the climate justice debate.

### 3. Rights, risks and responsibilities

The “climate crunch” project starts from the assumption that global climate policy, as evidenced by rising greenhouse gas emissions, has reached an impasse. This impasse can in part be attributed to the consequence of how policy allocates risk, attributes responsibility and confers rights (Bulkeley *et al.*, 2014). These policy responses often place responsibility for reducing emissions on to the shoulders of individuals and organisations which lack the ability to make the changes needed. They are also often disempowering in terms of engagement and understanding of climate change and limited in terms of what can legitimately be discussed and acted upon (Bulkeley *et al.*, 2014). For example, the public have been excluded from discussions of what constitutes an acceptable level of climate risk (Shaw, 2015). This is clearly exemplified in the idea of a two-degree dangerous limit to climate change, a technocratic interpretation of climate risk which enacts a constrained range of discourses that exclude opportunities for public deliberation on what sort of future is possible and desirable (Shaw, 2013). The next section of this paper looks at rights, risks and responsibilities aspects of the climate justice separately. However, this is a qualified separation of the themes; the boundaries between the topics of risks, rights and responsibilities are sometimes fuzzy and the relationship between them inherently dialectical, though that is not to say those dialectics are always manifest or positive. An example of this dynamic relationship has been articulated by Mary Robinson when she says:

A human rights framework highlights the human misery that results from our failure to mitigate emissions and draws attention to who is at risk and what needs to be done to protect them (Robinson, 2010).

If we recognise that the question about what needs to be done to protect those at risk is essentially a question about responsibility, then the interplay between these three ideas is evident.

The purpose of exploring the “climate crunch” assumptions within a justice framework is to understand the potential for such a framing to make the climate justice debate more accessible and reflective of diverse cultural ideas of justice. If there is to be an educational programme for climate stewardship worthy of the name than that process will be more just if it is not simply a one-way process of indoctrination, but instead takes the form of a more collaborative partnership. Engaging the public in this collaboration requires an open dialogue as to how we respond to climate risks, and the questions of rights and responsibility they raise. If climate policy is not fair, or not seen to be fair, the “climate crunch” will persist.

#### 3.1 Rights

Whether it is about the right to development in the climate negotiations or the impacts of climate change on basic human rights, such as access to water, “rights talk” runs through all aspects of climate policy (Bulkeley *et al.*, 2014). The “climate crunch”

examined rights from two perspectives: the right to emit CO<sub>2</sub> (distributive justice) and the right to a fulfilling life. While the former is rather narrowly defined, the latter definition extends to include broader human welfare concerns; rights as “entitlements, minimum thresholds, right to protection from certain harms” (Caney, 2012). From this perspective, climate change is unjust because it undermines fundamental rights, for example: “the right of everyone to the enjoyment of the highest attainable standard of physical and mental health” (International Covenant on Economic, Social and Cultural Rights (1976) Article 12.1. Cited in Caney, 2012). The two concepts of rights, distributive and quality of life, are to some extent in conflict with each other.

*3.1.1 Distributive rights.* The distributive rights framework rests on the acceptance that the atmosphere is a common and finite resource to which all have rights (Vanderheiden, 2008, p. 46). The question then becomes do we have equal rights to enjoy the dwindling capacity of the atmosphere to absorb any more carbon (Anthanasidou and Baer, 2002, pp. 71-72). One of the questions we therefore asked in the “climate crunch” is how to allocate those rights to emit, though time constraints meant our analysis did not include an in-depth consideration of intergenerational justice. However, it is important to recognise that questions about how to distribute the rights to emit amongst existing generations has important implications for the rights of future generations to emit (Caney, 2012). It is also worth noting that this debate overlaps with the responsibility debate. Arriving at a just distribution of the right to emit today is to a large extent dependent on consideration of who has responsibility for past emissions. In addition, it is not clear who has responsibility for emissions today, to whom rights should be attributed – the state or the individual? (Harris, 2013; Caney, 2012). This latter question speaks to a core cross-cutting issue in the climate crunch analysis; how to attribute responsibility for mitigation and adaptation among the various stakeholders involved and should such attribution reflect issues of justice or agency?

Attempts to develop a framework for the right to emit have sought to allocate that right at three scales – the nation state (Kyoto), among large industries (EU Emissions Trading Schemes and the Clean Development Mechanism (CDM) and at the level of the individual (personal carbon trading schemes). The “climate crunch” analysis revealed how in fact many of the efforts to achieve EU emission targets through schemes such as the CDM were undermining the rights of the host communities (Newell, 2012; Newell and Bumpus, 2012; Nuffield Council on Bioethics, 2011). At one climate crunch workshop, we analysed research on the multi-level governance structures involving communities in developing countries that were emerging out of the CDM Mechanism (CDM), the Reducing Emissions from Deforestation and Forest Degradation programme (REDD), and voluntary carbon markets (VCMs) initiatives (Mathur *et al.*, 2014). The evidence from this research concluded that host communities often benefit little from carbon market projects and find it difficult to protect their interests as it is not unusual either for the supposed benefits of the project to never materialise or the benefits are subject to elite capture or simply strengthen the existing gender and intergenerational injustices of the host communities (Mathur *et al.*, 2014). The EU’s Renewable Energy Directive mandates 10 per cent of transport fuels to come from renewable sources by 2020. This target is said to be contributing to human rights abuses outside of EU borders by acting as a stimulus to oil palm production in countries such as Indonesia and Malaysia resulting in the consolidation of oil palm production into large-scale plantations, squeezing out smallholders who are unable to compete (Nuffield Council on

*Bioethics*, 2011, p. 85), undermining the rights of many within these communities to a livelihood and hence the right to a fulfilling life. This brief account highlights again the shifting boundaries between rights, risks and responsibilities – actors are displacing responsibility for mitigation overseas, which in some cases undermines the rights of some members of the host community, risking both the success of the projects and the viability of those communities.

The principles of distributive justice also find expression at an international level though the Contraction and Convergence mechanism ([www.gci.org.uk/](http://www.gci.org.uk/)) and additionally through the idea of personal carbon trading schemes (Parag and Fawcett, 2014; Fleming and Chamberlin, 2011). Such schemes derive their rationale from the hard caps on carbon budgets imposed by legislation such as the UK Climate Change Act. This starting premise provides the budget from which an equal per capita distribution of carbon allowances is derived, and any purchases made would have the carbon involved in the provision of those goods and services deducted from the purchaser's weekly carbon allowance. It is assumed that a market for unused carbon credits would emerge, allowing light users to sell their unused emissions to those citizens with more carbon intensive lifestyles. At one level, the simplicity of this idea is very engaging, and it has in the past met with a positive response from the UK government (Defra, 2008). However, some commentators have articulated challenges to such frameworks from a rights perspective, namely that this distributive justice framework overrides some very important alternative approaches to thinking about rights, and it is to these considerations we now turn.

*3.1.2 What rights are ignored by the distributive justice framework?* One of the questions at the core of the climate crunch analysis incorporates discussion of responsibility, namely, do citizens have the right to expect a leading role from the state in creating conditions for low-carbon economy? To what extent is the state off-loading its responsibility towards its citizens for meeting mitigation targets? These are questions we return to below when discussing risks and responsibilities, and they lie at the core of the climate crunch analysis. They also have relevance for this part of the debate, for to reduce the justice question down to the per capita calculation of emission allowances masks many underlying injustices and rights issues.

It has been argued that a more just climate policy would be based on an individuals' ability to reduce emissions, or their ability to pay, or even to focus on most efficient reductions (most carbon savings at least cost) (Parag and Fawcett, 2014), not simply distribute emission quotas on an equal per capita basis. Caney questions whether it is possible to argue for egalitarian emission rights as a special case, while other inequalities are left to stand and concludes that emissions matter in the right to "secure access to the means of a decent life" only insofar as they further that right (Caney, 2012). Starkey and Anderson (2005, p. 7), in a discussion of the potential for personal carbon trading schemes, suggest other rights approaches to climate justice do not support the case for an equal per capita allocation.

Alternative conceptions of rights in the climate justice debate include, but are not limited to, the right to subsistence emissions (Shue, 1993) and the right to emissions needed to develop (Baer *et al.*, 2008). Caney's research which informed the climate crunch draws more on Sen's (1999) "capabilities approach" and argues we should not fetishise emissions but should instead prioritise the right to right to meet higher-order interests needed to lead a fulfilling life.

#### 4. Responsibilities

While the idea of responsibilities has long been at the core of international negotiations, in the oft-cited idea of “common but undifferentiated responsibilities” (UNFCCC, 1992), not all scholars are convinced that responsibility is a useful idea in discussions of climate justice. Stirling (2014, p. 5) argues that accountability is undermined by moves away from principles like “sustainability”, “precaution”, “equity”, “justice” and “liability”, with hard-fought established bodies of practice in favour of notions like “responsibility” which, in its capture by elite policy discourses, reduces collective capacities for open, progressive, plural and critical political discourse. Vanderheiden (2008, p. 23) has provided a detailed rationale for the responsibility citizens of democratic societies have for the (in)actions of their governments; these citizens share culpability for the harms created by the emissions generated by their government’s policies if they did not use all democratic means to fight those policies.

Stirling’s pertinent comments notwithstanding, we instead sought to explore the extent to which we should look to individual responsibility for limiting emissions in order that people the world over have an equal right to lead a fulfilling life. This is not to deny the important debate about responsibility for adaptation and also responsibility for compensating those negatively impacted by climate change, nor is it to deny the relevance of thinking about the way these responsibilities become intertwined through the processes of trade and development (Caney, 2012), but merely reflects the research agendas of the fellowships from which the climate crunch analysis draws. Robinson has argued for individual responsibility, suggesting that “immediate causes are generally found in private acts” (Robinson, 2010, p. 18). The climate crunch has indeed identified an increasing emphasis on giving individuals responsibility for dealing with climate change by taking personal action to reduce greenhouse gases (GHG) emissions (Bulkeley *et al.*, 2014). However, our research revealed that ascribing responsibility to individuals who often do not have agency is not only ineffective but also may alienate people from the political process while masking the systemic and structural nature of the problem (Bulkeley *et al.*, 2014). This risks undermining social support for climate mitigation policy.

Nation-states, firms and individual households have radically different levels of agency in respect of emission reductions yet the ways in which institutions, infrastructures and past and present policy measures enable and constrain future patterns of consumption and demand is routinely overlooked and consequently unchallenged (Bulkeley *et al.*, 2014). For example, in our engagements with policy audiences within the UK, it was apparent the ability of a region such as Wales to deliver its emission targets was to some extent determined by the powers which had been devolved to Wales by the UK government. These are quite limited in terms of energy policy, and the climate change agenda is to some extent subservient to other social justice issues such as fuel poverty and job creation. However, it was apparent that agency for emission reductions resides with the state because ways of being are inscribed in socio-technical systems. (Shove, 2010, 2011). As with obesogenic environments, policy makers should pay attention to the making and the erosion of “envirogenic” environments, these being ones that favour the reproduction of variously sustainable ways of life (Shove, 2010, 2011). Dominant paradigms (attitudes, behaviour choice) locate responsibility with individual consumers and remove it from the policy arena itself. This is politically convenient but problematic in that policy, at all scales,

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and past and present, is unquestionably implicated in reproducing social practices including those that entail unsustainable consumption (Shove, 2010, 2011).

Rather than being a result of individualised decisions, greenhouse gas emissions are systematically associated with the practices and routines of everyday life – from cooking to travelling. When these issues are ignored, attributions of responsibility reproduce an individualising logic that fails to account for the radical differences within and between nation-states, firms, cities or households. It is not individuals who are driving forward a norm that wherever you are in the world, all buildings should have air-conditioning that provides an interior at 21°C (Shove, 2011). There is a need to have a bigger debate about which conventions, ways of life and expectations society is prepared to challenge to respond to climate change. Presumed rights to certain indoor temperatures, limitless car use or imported food on the part of richer consumers have huge implications for the rights of other poorer people to merely live or to have access to food and energy themselves.

Another very important aspect of the responsibility debate that emerged from Nick Pidgeon's Fellowship was the idea of a "governance trap" (Pidgeon, 2012). The term "governance trap" describes the standoff where governments refuse to take bold action on climate change because, they argue, they lack a mandate from the public for such steps, whereas research into public attitudes reveals a recognition on behalf of respondents that the changes needed are too big for them to enact, and so they are looking to the state and large organisations to take the necessary action and will support that action as long as it is just and fair (Pidgeon, 2012). This impasse seems particularly important to address in light of work from Brulle *et al.* (2012) demonstrating that the actions and words of the state and other authority figures is a key determinant of public attitudes to climate change.

The "climate crunch" research also demonstrated that the debate about responsibilities does not currently reflect the highly integrated but hugely uneven nature of the global economy. Globally, attempts to allocate responsibility have also served to create a misleading picture based only on the *production* of GHG emissions, rather than on where they are *consumed* in embodied products. This potentially displaces responsibility in unjust ways and raises a real challenge about how to allocate responsibility differently, across systems and boundaries (Turner *et al.*, 2011). For example, the UK's emissions are lower under production accounting principles than they would be under consumption accounting principles, having outsourced much of the production overseas. However, the picture is reversed for Wales, where the Tata steel works in Port Talbot mean Wales' emissions are higher under production accounting principles than they would be under consumption accounting principles, though much of the steel produced is exported to the rest of the UK (Turner *et al.*, 2011).

Our discussion of responsibility now shades into a brief discussion of risk, which traditionally has less of a part to play in deliberations on justice in climate mitigation policy. This overlap is apparent when we recognise that fulfilling responsibility by undermining the rights of other actors or increasing the risk faced elsewhere only risks entrenching the antagonisms and distrust which has hampered international mitigation efforts to date (Bulkeley *et al.*, 2014). This has been the key focus of the climate crunch analysis, less about the risks of climate change impacts themselves but the risks arising from poorly conceived policy. We also explore the implications for procedural justice arising from ineffective communication policies.

## 5. Risks

It has already been noted that displacement of responsibility for mitigating emissions through mechanisms such as CDM risk undermining the rights of the people of the South, who historically have less responsibility for emissions, and fewer opportunities for exercising the right to realize a fulfilling lifestyle than those in the North, who have greater responsibility for emissions and, at the national level, often greater capability to reduce emissions. The relevant justice questions then become focused on who bears the risks (of particular projects, investments, etc.), how and why? (Newell, 2012). The “climate crunch” project proposed that research is required to understand the ways in which current policy interventions serve the interests of some rather than others and lead to new distributions of the risks and benefits of responding to climate change (Bulkeley *et al.*, 2014). In addition, as part of the “climate crunch” project, attention was paid to recent research highlighting how the threat to remove insurance from those households most at risk from flooding adversely affects the most deprived households (Walker, 2013).

However, for the purposes of this paper, and the implications of justice debates for educating for climate stewardship, this brief outline of how risk featured in the climate crunch will address the claim that knowledge producers have responsibility for accessible communication of risks and uncertainties in projections to the public and policy makers. Communication of climate science must be aligned with viable options, giving audiences the chance to act on the information (Pidgeon and Fischhoff, 2011). Without that communication, the foundational principle of procedural justice is dead in the water and presents a serious obstacle to educating for climate stewardship.

### *5.1 Educating for climate justice to reduce policy risks: the role of procedural justice*

Comparatively little attention has been paid to issues of procedural fairness in the development of international climate policy (Vanderheiden, 2008, p. 57). Procedural rights include rights to information, consultation and democratic inclusion in the decision-making process. In the context of decisions about CDM carbon offset projects, for example, lack of procedural justice has a negative impact on other forms of justice. Those communities most affected by having to host projects are often not aware of the consultations or the projects they are set up to discuss, resulting in allegations of dispossession, violence and even human rights abuses which bodies like the Clean Development Mechanism’s Executive Board then have to address (Newell and Bumpus, 2012).

But there is a more foundational issue of procedural justice at stake. It has been claimed that fair climate policy means avoiding dangerous climate change (Adger *et al.*, 2006). Educating for climate stewardship should then have as its end goal the avoidance of dangerous climate change. Normal definitions of education have at their core some sense of sharing knowledge. One might suppose then that the first objective is to agree how much climate change is too much, what level of warming is dangerous. And that decision needs to be arrived at through processes derived from a shared understanding of procedural justice if the process and outcomes are to be perceived as fair and also to some extent reflect the risks people will face from current mitigation policies, assuming those policies are successful.

Discussions of what constitutes an acceptable level of climate risk have been ongoing in academic and policy circles for nearly 40 years (Oppenheimer, 2005, p. 1,399), but,

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despite a long standing recognition of the need for citizen participation in this debate (UNEP, 1992), such debates have remained largely absent from the public sphere (Shaw, 2013). The need for citizen participation reflects the understanding that deciding how much climate change is too much is a value choice, only partially defined by climate science. While climate science can project, with varying degrees of certainty, what impacts will arise, and where, at particular levels of warming, science cannot decide which of these changes constitute an acceptable level of risk. However, policy makers and the news media commonly report two degrees of warming as the dangerous limit as a scientific fact, beyond debate. Without a proper understanding of the risks posed by current climate policies, citizens cannot properly engage with climate policy debates, nor can an education for climate stewardship programme hope to succeed, if it is stewardship for a policy trajectory built on injustice.

*5.1.1 Implications for educating for climate stewardship.* It is apparent from the analysis undertaken for the “climate crunch” that each of the rights, risks and responsibilities frameworks comes with its own complexities. Further, these three frameworks are interdependent and not always separated by distinct boundaries. Yet, any educational curriculum for climate stewardship which does not account for the dialectic relationship between these properties may skirt over the challenges which existing climate policy has struggled to resolve. Surveys indicate issues of equity and fairness are important to public when considering acceptable climate policy (Parkhill *et al.*, 2013). To support the public to become climate stewards, it is important to find justice framings which allow the public to bring those values to bear and reflect on whose rights count. Breaking justice debate down into rights, risks and responsibilities can make it easier for diverse stakeholders to navigate these conflicts, but that does not necessarily make it easy, as many of these debates are still grounded in particular social, cultural and class-based assumptions which can exclude those not familiar or comfortable with these norms. Bringing the debate back to basic questions about climate risk can overcome some of these challenges.

As was noted above, the policies we have been examining to date are based around ideas of acceptable climate risk, which the public have been excluded from discussing. Therefore, stewardship education ought to begin with the debate about acceptable climate risk. This is not just for normative reasons or to meet criteria of just outcomes, vital those considerations are; there is a very practical rationale for beginning the education process with the basic premises of the policy discourse. The question about what counts as an acceptable level of climate risk is in essence a question about what sort of world we want to live in and what sort of world we want to leave for our children. There is no need to be in possession of a PhD to answer that question. Everyone aged over 10 years can provide an answer to that question, no matter what their level of education or income, regardless of their culture. Of course, it may be that the world they want cannot be delivered for everyone in a carbon-constrained world. And that is where a collaborative educational curriculum begins, built on the foundations of procedural justice, and addressing how the interplay between rights, risks and responsibilities can help navigate a path which might deliver an inclusive programme of just climate stewardship for a planet of over seven billion people.

## 6. Conclusion

The idea of educating for climate stewardship seems a laudable, and indeed essential aim, if we are to flourish in a carbon-constrained world. Yet, as the experience of the past 25 years of international negotiations has shown, there are profound difficulties associated with the political economy of adjudicating who has responsibility for bearing the costs of the changes required, deciding what counts as an acceptable level of risk, and whose rights count. Should it be the job of climate policy to solve all the injustices of the world, injustices which have persisted for many thousands of years? Perhaps not, but as we have seen, climate change is born of injustice, exacerbates those injustices and would seem immune to unjust solutions. Justice and fairness provide valuable umbrella terms for the guiding principles of climate change policy. But their usefulness as umbrella terms limits their value in the more tactical negotiations involved in adjudicating between the winners and losers in a world where climate change impacts, and the necessary policy responses, are increasingly starting to bite. Designing policy and societal responses that tackle climate change in ways which, at a minimum, do not exacerbate or entrench existing inequalities and injustices, such as energy poverty or food insecurity presents an enormous challenge. This paper has outlined how breaking the justice issue down into risks, rights and responsibilities can reveal the way in which climate policy has, in many instances, done just that. It has been suggested that these frames might act as useful pathways into the climate justice debate for any educational initiative aiming to build a broad based sense of climate stewardship. Opportunities for success would be enhanced by ensuring a collaborative process which starts at the very foundations of the climate policy debate, and asks participants – what sort of world do you want to live in? Yet, the debate would still quickly run up against the questions posed by considerations of justice and fairness. As the climate crunch researchers have worked through the process of reflecting on the results from the engagement activities carried out between 2013 and 2014, it has become increasingly apparent that rights, risks and responsibilities, though interrelated, do not figure equally in climate policy. There is an interest in focusing on the question of responsibility, a core consideration of the UNFCCC (1992). This offers a powerful lens through which participants in any programme of education for climate stewardship can begin to explore what has been a central concern of many actors in climate policy negotiations – who has responsibility for reducing emissions? Such discussions will inevitably shade into the global debate about responsibility for historic emissions. However to make the debate accessible for non-expert participants, it would seem educating for climate stewardship would be have more chance of success by focusing initially on obligations within nation states as agreed under existing arrangements. In this framework stewardship becomes a partnership between the public and the state. To take such a programme forward would, as a first step, require a series of exercises involving representatives of the relevant stakeholder groups separately deliberating on what they think responsibility means in terms of climate policy. This could then move to workshops which bring the different groups together to identify common ground on where responsibility lies and how responsibility can be shared going forward. This should be followed by exploring what stewardship would look like in terms of these responsibilities, and from there begin to develop a programme for educating all stakeholders in taking on the responsibilities of climate stewardship.

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### About the author

Christopher Shaw is a Knowledge Exchange Fellow at the Environmental Change Institute. His background is in human geography and sociology. His research focuses on public engagement with climate policy, with a particular focus on the way language constructs our understanding of climate change. Christopher Shaw can be contacted at: [C.J.Shaw@sussex.ac.uk](mailto:C.J.Shaw@sussex.ac.uk)

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