

## Setting energy justice apart from the crowd: lessons from environmental and climate justice

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# **“Setting energy justice apart from the crowd: Lessons from environmental and climate justice”**

## **Abstract**

The continuation and exacerbation of many environmental failures illustrate that environmental and climate justice’s influence on decision-making is not being systematically effective, giving rise to a renewed emphasis on finding new, more focused, justice models. This includes the energy justice concept, which has received ready and growing success. Yet for energy justice, a key question keeps arising: what does it add that environmental and climate justice cannot? To answer this question this perspective outlines the origins, successes and failures of the environmental and climate justice concepts, with a view to both distinguishing the energy justice field, and providing cautionary tales for it. It then outlines three points of departure, which it argues increases the opportunity of success for the energy justice concept: (1) “bounding out”, (2) non-anti-establishment pasts and (3) methodological strength. This paper exists to stimulate debate.

**Key Words:** energy justice; environmental justice; climate justice; equity

## **Highlights**

- We need to distinguish environmental, climate and energy justice contributions
- The environmental justice agenda has had limited pervasive impact beyond the grassroots level
- Climate justice is too late and too complicated to tackle
- The energy justice concept provides a more focused means to tackle injustices with environmental and climate knock-ons

## **1 Introduction**

In terms of academic airtime, the energy justice concept has achieved rapid success. Although its roots extend further back, since its first use as a policy-oriented term by McCauley et al. in 2013 energy justice scholarship has emerged with regards to whole-systems, energy policy-making, consumption and mobility as prominent themes amongst myriad others (Jenkins et al. 2017a). Aiding the rapid development of this literature, there have been two special issues with “energy justice” in their title, one in *Energy Policy* (Jenkins et al. 2017a) and one in *Energy Research & Social Science* (Simcock and Mullen 2016).

Yet despite this apparent success key questions continue to emerge within the academic conference circuit: how is the debate on energy justice substantively different from environmental and climate justice? Is it the same thing labelled in a different way? Is the “energy only” focus reductionary? And what can it deliver that environmental and climate justice failed to? As one of innumerate examples from the literature, does the application of the energy justice concept to climate issues by Sovacool et al. (2016) illustrate overlap, or demonstrate something more productive? This perspective paper makes a first step towards answering these questions.

The paper begins by outlining origins, successes and failures of the environmental and climate justice concepts, with a view to both distinguishing the energy justice field, and providing cautionary tales for it. It then outlines three points of departure, which it argues increase the opportunity of success for the energy justice concept: (1) “bounding out”, (2) non-anti-establishment pasts and (3) methodological strength. This paper exists to stimulate debate.

## **2 Successes and failures of the environmental and climate justice movements**

The following paragraphs introduce the environmental and climate justice literatures and begin to build the case for energy justice as a more manageable approach with beneficial environmental and climate knock-ons.

### **2.1 Environmental justice**

Environmental justice is commonly defined as the distribution of environmental hazards and access to all natural resources; it includes equal protection from burdens, meaningful involvement in decisions, and fair treatment in access to benefits (see Sovacool and Dworkin 2015; Hofrichter 1993; Schlosberg 1999; Cole

and Foster 2000). The environmental justice movement emerged in 1970s North America as a response to the unequal distribution of environmental ills – pollution and waste facilities, for example – alongside the risks associated with them, which tended to be inequitably borne by poor black/minority ethnic Americans (Davies 2006; Williams 1999). Thus it manifests as a concern for “fair treatment and meaningful involvement of all people regardless of race, colour, national origin or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies” (Bass 1998: 83). Through a focus on alerting, educating and mobilising the public to the unequal distribution and environmental risks and benefits, and also on ensuring the meaningful participation of affected communities in decision-making, it represents distributive and procedural justice concerns (Evans and Phelan 2016).

Initially, environmental justice complaints focused on local, activism-led, community-oriented means of ensuring the just distribution of toxic burdens; a distributionally-based form of environmental justice inquiry that could be operationalised and measured on a local scale (Holifield et al. 2009). Since its inception, however, many authors have noted that the concept of environmental justice has grown both substantively and theoretically (Bevc et al. 2007; Pulido 1996; Walker 2009; Schlosberg 2013). Williams (1999) illustrates, for example, that federal governments established policies to protect against future inequity in environmental decisions, recognising not just local, but also national impacts of noxious facilities. Thus the geographical scale of application within the United States changed. In this regard, Agyeman and Evans (2004) identify two inter-related dimensions of this form of environmental justice: (1) a local, activist level using it as a vocabulary for mobilisation, action, and political opportunity, and (2) a government level that sees environmental justice as a policy principle, stating that no public action will disproportionately disadvantage any particular social group.

Further, in their review of environmental justice literature Reed and George (2011) state that whilst much research is still framed around the distribution of hazards and risk, the scope of what these risks are perceived to be has grown too. In the years following their analysis this is increasingly the case. Indeed, within the literature topics of concern range from prominent debates on toxic waste, air pollution and landfill sites, to new technology, ecological restoration, transport, health, energy, housing, access to food and forest management, amongst others (Sze and London

2008; Schlosberg 2013; Liu 2000; Walker 2009). Yet despite this, Hess and Ribeiro (2016) identify that energy has yet to become a major concern for environmental justice, and that injustices along the global supply chain have not yet been tackled satisfactorily.

Holifield et al. (2009) also highlight a shift within the movement towards a more multi-faceted understanding of the concept, where environmental justice is increasingly used in coalition with other theories and agendas, including the capabilities approach, social movement theories, assemblages, and actor network theory. In this regard the environmental justice agenda has gradually expanded from a social movement to a policy vocabulary, and a research field in its own right (Bulkeley et al. 2013; Agyeman 2014; Walker and Bulkeley 2006).

On the grounds of this expanding scope, some see the literature as flourishing, expanding, and deepening. They do so as apparent recognition of a growing international scholarship, with many instances of engagement through both activism and policy processes (although the successes of these are challenging to verify) (Chakraborty 2017). The expanding scope of environmental justice interpretations and applications are also understood by some as necessary, given that justice is an inherently complex and contested concept which will inevitably be taken to mean different things in different settings, cultures, and political arenas. Conscious of this positivity, it is therefore problematic to determine whether the environmental justice concept or movement is either a “success” or a “failure”, despite the following negative critiques. With this in mind, this paper does not prescribe a positive or negative outcome or suggest an abandonment of environmental justice work. Instead, it argues that this growth limits the material impact of environmental justice claims.

Notwithstanding the widespread uptake of the topic within academia, the environmental justice agenda is widely criticised for its failure to have a pervasive impact beyond the grassroots level – the result, perhaps, of increasing diffusion of its meaning and application, and a lack of a strong conceptual core. As an illustration, Bickerstaff and Agyeman (2009) note the limited uptake of the environmental justice concept in the UK, where the environmental justice movement does not utilize the vocabulary of mobilising minority and low-income groups, and, in their words, is yet to make any significant impact on policy and decision-making. Reed and George (2011) demonstrate that despite some overseas proliferation, on the whole

environmental justice research remains US-centric. Heffron et al. (2015: 175) later reinforce this critique by stating that environmental justice faces two problems: (1) that the definitions are too broad and (2) that this has resulted in difficulty of translation into economics and therefore, policy formation.

This perspective identifies that energy justice faces (at least) two major weaknesses. Firstly, whilst the concept has been used as a mobilizing tool, it lacks defined and recognised content—a structure or approach that can be readily applied at a range of scales in a systematic manner. Secondly, because of the way the concept has been used, it has not achieved much environmental protection or conservation. Instead, the main motivation of the movement has been the affect on less affluent areas—a concern for people, not their environment. The result, arguably, is a floundering concept, with little benefit beyond the grassroots level.

## **2.2 Climate justice**

The evolution of the climate justice concept and movement sits alongside the methodological and theoretical growth of environmental justice. Climate justice first evolved from climate change activism, where a focus on the grassroots environmental justice movement combined with concern for global climate change. The concept, or movement, began gathering pace in the 1990s, with a focus primarily on: assisting those affected by climate change; sharing the burdens and benefits of climate change; mitigation and adaptation; and reducing CO<sub>2</sub> emissions (Lyster 2015). Goodman (2009: 509) thus describes the role of climate justice as an “interpretative frame” for the climate crisis, and a concept that addresses the “triple inequity” of mitigation, responsibility and vulnerability by (1) asking who benefits from CO<sub>2</sub> emissions and how should they bear the burden for mitigation, (2) recognising the vast divergence in capabilities to respond to global climate change, and (3) addressing the issue of adaptation, the burdens of which are unequally focused on the world’s poor.

Bulkeley et al. (2013: 915) summarise the agenda as the mobilisation of justice with respect to climate policy, and state that the concept has “provided a means through which to bring concerns for the outcomes and processes of climate policy into the same frame of analysis”. They go on to state that in contrast to the origins of environmental justice in local struggles, arguments or debates about climate justice appear predominantly at the international level (see also Lahn 2017 and Ciplet

and Roberts 2017). Heffron et al. (2015) point to the perceived failure of the international Kyoto Protocol for example, which triggered climate protests and calls for climate justice. The climate justice framework has, however, also been applied to nation states and cities, demonstrating national, local *and* international applicability (e.g. Ambrey et al. 2017, Bulkeley et al. 2013 or Zhang et al. 2017). In addition, although climate justice has predominantly concerned itself with issues of justice among and between existing and future humans (Palmer 2011), work such as that of Schneider and Lane (2006) on “inter-species equity” conceptualises its impact more widely (Sovacool et al. 2017).

The challenge that climate justice is a struggling concept is, to some scholars, not going to be a welcome one. As with environmental justice, counter arguments may come as the defence that the concept is understood and used in different ways due to different understandings and manifestations of (in)justice—a perhaps understandable diversity. Moreover, some may assert that the relatively limited application of climate change policy hides its successful application in a local setting or on a smaller scale, where it may hold more promise. Indeed, you could claim that without climate justice arguments being mobilised in international and local forums, progress would have been even *more* phlegmatic and even *more* inequitable. Yet, despite this positivity, a number of authors have increasingly begun to reflect on the failures of the climate justice literature (Schlosberg and Collins 2014; Heyward and Roser 2016).

The climate crisis is an all-enveloping one. Is climate justice scholarship coming too late and is it too complicated to tackle? How do we define the right to sustainable development, deal with currently untapped oil and gas reserves and the rights to them, and contend with the unequal distribution of wealth, and therefore the unequal potential to successfully adapt? No answers are on the horizon, and the multiple possibilities for change are confusing.

If we consider the target to keep global average temperatures well below 2-degrees above pre-industrial levels, the mitigation of climate change is certainly already a failure (Rogelj et al. 2016). Despite some countries taking positive action, major global contributors have yet to sanction climate change agreements. At the end of March 2017, 141 of 197 member countries had ratified the Paris Accord that was adopted in 2015 (Marquardt 2017). The United Nations Framework Convention on Climate Change now puts this total at 168 (UNFCCC 2017). The United States, one

of the largest global CO<sub>2</sub> producers, shows a recent and potentially extremely damaging trend in climate change policy with a proposed move to withdraw from the agreement (that said, its national policies may nevertheless still result in significant CO<sub>2</sub> reductions).

This limited success of the climate justice movement is well documented through negotiations at the UNFCCC COP meetings (see Goodman 2009 for a comprehensive history) as well as the continued steady increase in CO<sub>2</sub> emissions (Rogelj et al. 2016). Climate justice presents what Goodman (2009) describes as a “proactive ideological agenda”, arguing, in some cases, for the need to curtail global growth rates in order to get runaway climate change under control. The questions of “responsibility” this raises (who does what and for whose benefit?) are contentious for two main reasons. First, continued inadequacy of action is increasing the potential for profound loss from climate impacts. Secondly, the increasing urgency of increasing emissions and the shifting locus of emissions has put pressure on countries already facing continued human development challenges (Klinsky 2015). The result is that few are taking responsibility on a large enough scale and that as an outcome adaptive resilience is becoming more critical.

There is also a role for climate justice through legal cases. Abate (2016) describes the evolution of “atmospheric trust litigation” (ATL) in the United States (US), where ATL targets government entities and uses a “public trust” doctrine to challenge the government’s environmental stewardship responsibilities. The headline case in the US is “Kelsey Cascadia Rose Juliana et al. v. United States of America et al.” (2016), where a group of plaintiffs filed action against the US, the then President, Barack Obama and several executive agencies for their failure to phase out fossil fuel exploitation and avert environmental catastrophe. Recently, a 9-year old girl in India has filed a lawsuit against the Indian government for failing to take action on climate change.

In the end, however, these discussions have neither achieved internal coherence on the purpose and form of the climate justice concept, nor achieved climate justice for any particular individuals or groups. Moreover, where positive examples do occur, they remain small scale and too disparate to face larger, immediate climate challenges and risks. Thus, this perspective argues that a bright future for fast, successful climate justice action is clouding over, and a more manageable framing of the challenge is required.



### 3 Energy justice: Three explanations for difference

The continuation and exacerbation of many environmental failures illustrate that environmental and climate justice's influence on decision-making is not effective enough. These failures have manifested as an increasing drive to find new, more focused, justice models, including those centered on energy issues. One result is the energy justice concept. Against the background of the environmental and climate justice literatures and sharing the same basic philosophy, energy justice aims 'to provide all individuals, across all areas, with safe, affordable and sustainable energy' (McCauley et al. 2013: 1). It does so with a framework informed by the environmental justice movement, including attention to the core tenets of distributional justice, procedural justice and justice as recognition. As identified by Sovacool and Dworkin (2015), this means that energy justice exists as a *conceptual* tool for uniting usually distinct justice concerns, an *analytical* tool for energy researchers seeking to understand how values are embedded in energy systems or resolve their neglect and, importantly, a *decision-making* tool that can help energy planners make more considered energy choices.

It is necessary, at this stage, to acknowledge the scope of the concept. Evidently, the focus of environmental, climate and energy justice are different. Energy justice is concerned with energy systems, whereas climate justice and environmental justice extend beyond this, including both energy and non-energy sources of (in)justice. Whilst energy justice can, in some cases, capture non-energy impacts of projects such as local biodiversity impacts of new facilities (Goldthau and Sovacool 2012), this is undoubtedly on a smaller scale. Thus, the argument here is not that that energy justice is a superior alternative to environmental and climate justice, but instead, that it is a more strategically impactful one.

Heffron and McCauley (2017: 663) state that "energy justice has the opportunity to avoid the pitfalls of environmental and climate justice scholarship and build a more solid and lasting foundation to its core meaning and value". Further, Hernández (2016: 152) adds "as both a social and environmental issue, the intersection of energy and poverty presents untapped and timely possibilities for seeking justice and equity for those sacrificed and sacrificing vis-à-vis energy". As it is specifically focused on energy issues, the energy justice frame possesses more traction (by several metrics) than the other approaches. It is a rapidly applicable

approach that can make more meaningful progress. By building the argument that energy justice is a tighter and more manageable justice framing that already comes with a clear, definable content, this article now asks why the resultant energy justice concept is better placed to do this.

### **3.1 “Bounding out”**

So far, this perspective has argued that one of the challenges and therefore potential failings of the environmental and climate justice movement is their breadth and lack of clearly defined content. The expanding scope of environmental justice displays a diffusion of meaning, and the concept is not readily applied globally. Climate justice considers the rights of every global individual both now and in the future, for both known and unforeseen injustices. In both cases the result is concepts too discursively diverse to tackle. Energy justice on the other hand, provides a means of focusing our efforts, with beneficial environmental and climate justice knock-ons.

Bickerstaff et al. (2013: 2), identify that the energy justice concept “provides a way of ‘bounding’ and separating out energy concerns from the wider range of topics addressed within both environmental and climate justice campaigning”. Energy justice does this by focusing on each stage of the whole energy system, encompassing resource mining through to waste management and energy consumption (Jenkins et al. 2014, 2016). Thus, it provides a combination of the social science account of energy (policy) with its natural science counterpart (systems) (Jenkins et al. 2014; Jenkins et al. 2016). This is a positive. Such an approach makes justice and equity questions understandable to people by breaking them into smaller chunks. At each stage of the energy system – resource mining or energy production, for example – energy justice can engage with local, regional and national justice questions. If each systems component is combined with its fellows, energy justice then provides a global lens through which to assess our energy infrastructure.

Whilst it is easy to turn ones eyes from insurmountable, diffuse challenges such as climate justice, an energy systems justice focus brings them closer and makes them more understandable. After that, the challenge becomes one of how we discuss, negotiate and implement what will likely be transnational energy justice claims.

### **3.2 Non-activist past**

Although only in passing, Heffron et al. (2015) and Jenkins et al. (2016) allude to the strength of energy justice because of its “non-activist past”, which gives it a clearly defined content and approach. While referenced in principle during the environmental justice movement by non-academics, and having emerged indirectly from decades of activist campaigning for environmental and climate justice, energy justice has principally been developed as an academic concept. Indeed, apart from one larger network in the United States (The Energy Justice Network: [www.energyjustice.net](http://www.energyjustice.net)) and more recently, the UK-based group Global Justice Now ([www.globaljustice.org.uk](http://www.globaljustice.org.uk)), it is not a term that is frequently and explicitly used in activist discourse. This lack of an anti-establishment past opens the door for significant contributions to mainstream policy-making (Jenkins et al. 2016). Energy justice does so by overcoming what may be identified as the “naïve” approaches of environmental and climate justice – the presumption that society would support their ideals (Heffron and McCauley 2017) – focusing instead on embedding justice in policy. This “top-down” methodology offers the potential for a refined “practice” framework rather than disparate grassroots call, although it is also acknowledged that top-down approaches present their own pitfalls.

This statement comes with the primary caveat that we must not negate the importance of activism entirely. It seems dangerous and somewhat technocratic to make the assumption that change takes place most effectively or entirely without it. Indeed, some may highlight circumstances and case studies when policy actors have only paid attention to questions justice when society and broader political processes have demanded it. Further, the idea of justice as recognition is particularly rooted in the idea of those who are discriminated against, de-valued and stigmatized—groups most easily identified as those making claims and those that must be revealed in policy-decision making. Nonetheless, the presence of a strong policy-oriented focus provides opportunity for more rapid, systematic implementation. In tandem, activist discourses retain the important role of assessing and directing energy policy (Jenkins et al. 2017b).

### **3.3 Methodological approach**

As documented by Jenkins et al. (2017a), a number of different approaches have emerged to exploring the social dimensions of energy supply and use (see Day

and Walker 2013; Day et al. 2016). Heffron *et al.* (2015) sought to quantify energy justice, for example. A recent special issue in the journal *Energy Policy* delivered papers oriented towards energy justice scholarship as normative, change-driven and policy focused, questioning which methods are needed for assessing the prevalence of injustices and remediating them. The papers within delivered approaches to energy justice that incorporated the novel, practice-oriented approaches of participatory energy budgeting (Capaccioli et al. 2017), odds ratio analysis (Liljenfeldt and Pettersson 2017), economizing energy justice through electricity equity tariffs (Palavicino and Ureta 2017) and policy assessments (Healy and Barry 2017), alongside qualitative approaches using semi-structured interviews (Jenkins et al. 2017b) – thus gaining insight from *across* the academic disciplines. The outcome is an early set of tools that can take energy justice past academic discourse to practical action.

Using the framework of Miller *et al.* (2015), the result is an energy justice concept that can be implemented throughout (1) the practices and techniques through which potential energy futures are envisioned, analysed, modelled where required, and evaluated, (2) the forums and methods for deliberating, debating, and making energy choices, and (3) the institutions for fashioning, operating, and regulating new energy systems.

Of course, the claim that energy justice can be implemented through a variety of techniques, methods and institutional arrangements has limitations. Due to the recent emergence of the concept, there is little empirical evidence of its traction on energy decision-making. Instead, this evaluation is made on the basis of the early existence of these approaches and their early application to date as well as political interest in the topic area. Additionally, it is necessary to recognise that even with ‘clean cut’, well-planned tools, energy justice is likely to encounter contested, tricky and political dilemmas and resistances. As above, this institutionalised view of decision-making processes and change is subject to assessment from both activist groups and wider society. Nonetheless, the presence of and growing literature around these approaches shows intention not just to discuss, but to *apply* justice concepts.

#### **4 Conclusions**

This paper concludes, in part, that energy justice provides a lens through which we can begin to tackle related environmental and climate justice issues more

effectively. Outlining the contribution of energy justice beyond this broad claim, this paper has established that there are (*at least*) three distinguishing aspects of energy justice, which set the concept and movement apart from the environmental and climate justice scholarship and aid its potential success. Energy justice is (1) more targeted in its topic of concern and systems focus, and therefore has increased potential for policy uptake, (2) unlike environmental and climate justice, is not the outcome of anti-establishment social movements, and (3) is backed by a strong methodological tradition which shows a range of both academic and policy-relevant applications. Each of these factors increases its potential for widespread applications. By implication, there should be a continued and fervent increase in energy justice scholarship and application.

Yet, recognising the limitations of this piece, we also require more reflexivity across the disciplines. Outside of the statements made in this paper, there have been few attempts to distinguish this scholarship and to understand and translate lessons across the concepts (Heffron and McCauley 2017). Whilst they are united by a concern for justice, they are segregated into academic silos. Thus, this paper closes with a call for both conceptual and empirical accounts of contrast and corroboration. The result, it is hoped, will be refined and practically applicable concepts ready to face the complex challenges of justice in an ever-changing environmental, energy and climate landscape.

## References

- Abate RS (2016) 'Climate justice: case studies in global and regional governance challenges', *Faculty Books and Book Contributions* 34: 543-570
- Agyeman J (2014) 'Global environmental justice or Le droit au monde?', *Geoforum* 54: 236- 238
- Agyeman J and Evans B (2004) "'Just Sustainability': The emerging discourse of environmental justice in Britain?", *The Geographical Journal* 170(2): 115-164
- Alvial-Palavicino C and Ureta S (2017) 'Economizing justice: Turning equity claims into lower energy tariffs in Chile', *Energy Policy* 105: 642-647
- Ambrey C, Byrne J, Matthews T, Davison A, Portanger C and Lo A (2017) 'Cultivating climate justice: Green infrastructure and suburban disadvantage in Australia', *Applied Geography* 89: 52-60
- Bass R (1998) 'Evaluating environmental justice under the national environmental policy act', *Environmental Impact Assessment Review* 18(1): 83-92
- Bevc CA, Brent K M and Picou SJ (2007) 'Environmental justice and toxic exposure: towards a spatial model of physical health and psychological well-being', *Social Science Research* 36(1): 48-67

- Bickerstaff K and Agyeman J (2009) 'Assembling Justice Spaces: The Scalar Politics of Environmental Justice in North-east England', *Antipode* 41(4): 781-806
- Bickerstaff K, Walker G and Bulkeley H (2013) 'Energy justice in a changing climate: social equity and low-carbon energy', Zed Books, London
- Bulkeley H, Carmin J, Broto VC, Edwards GAS, and Fuller S (2013) 'Climate justice and global cities: mapping the emerging discourses', *Global Environmental Change* 23(5): 914-925
- Capaccioli A, Poderi G, Bettega M and D'Andrea (2017) 'Exploring participatory energy budgeting as a policy instrument to foster energy justice', *Energy Policy* 107: 621-630
- Chakraborty J (2017) 'Focus on environmental justice: new directions in international research', *Environmental Research Letters* 12(3): 1-4.
- Ciplet D. and Roberts JT (2017) 'Climate change and the transition to neoliberal environmental governance', *Global Environmental Change* 46: 148-156
- Cole LW and Foster SR (2000) 'From the ground up: environmental racism and the rise of the environmental justice movement', *New York University Press*
- Davies A (2006) 'Environmental justice as subtext or omission: examining discourses of anti- incineration campaigns in Ireland', *Geoforum* 37: 708-724
- Day R and Walker G (2013) 'Household energy vulnerability as "assemblage"' in Bickerstaff K, Walker G, and Bulkeley H (2013) 'Energy justice in a changing climate: social equity and low-carbon energy', *Zed Books*, London (Chapter 1)
- Day R, Walker G and Simcock N (2016) 'Conceptualising energy use and energy poverty using a capabilities framework', *Energy Policy* 93: 255-264
- Evans G and Phelan L (2016) 'Transition to a post-carbon society: Linking environmental justice and just transitions', *Energy Policy* 99: 329-339
- Goldthau A and Sovacool KB (2012) 'The Uniqueness of the Energy Security, Justice, and Governance Problem', *Energy Policy* 41: 232-240
- Goodman J (2009) 'From Global Justice to Climate Justice? Justice Ecologism in an Era of Global Warming', *New Political Science* 31(4): 499-514
- Healy N and Barry J (2017) 'Politicizing energy justice and energy systems transition: Fossil fuel divestment and a "just transition"', *Energy Policy* 108: 451-459
- Heffron R and McCauley D (2017) 'The concept of energy justice across the disciplines', *Energy Policy* 105: 658-667
- Heffron RJ, McCauley D and Sovacool BK (2015) 'Resolving society's energy trilemma through the energy justice metric', *Energy Policy* 87: 168-176
- Hernández D (2015) 'Sacrifice along the energy continuum: A call for energy justice', *Environmental Justice* 8(4): 151-156
- Hess CEE and Ribeiro WC (2016) 'Energy and environmental justice: Closing the gap', *Environmental Justice* 9(5): 153-158
- Heyward and Roser (Eds.) 2016 'Climate justice in a non-ideal world', *Oxford University Press*
- Hofrichter R (Ed.) (1993) 'Toxic Struggles: The Theory and Practice of Environmental Justice', *New Society*, Philadelphia
- Holifield R, Porter M and Walker G (2009) 'Introduction Spaces of Environmental Justice: Frameworks for Critical Engagement', *Antipode* 41(4): 591-612
- Jenkins K, McCauley D and Forman A (2017a) 'Energy justice: a policy approach', *Energy Policy* 105: 631-634
- Jenkins K, McCauley D, and Warren CR (2017b) 'Attributing responsibility for energy justice: A case study of the Hinkley Point Nuclear Complex', *Energy Policy* 108: 836-843

- Jenkins K, McCauley D, Heffron R J, Stephan H and Rehner R (2016) 'Energy justice: A conceptual review', *Energy Research and Social Science* 11: 174-182
- Jenkins K, McCauley D, Heffron RJ and Stephan H (2014) 'Energy justice, a whole systems approach', *Queen's Political Review* 29(2): 74-87
- Kelsey Cascadia Rose Juliana et al., (Plaintiffs) v. United States of America et al. (Defendants) (2016) Case 6:15-cv-01517-TC Document 83
- Klinsky S (2015) 'Transitional justice in the climate context? Discussion paper', *Climate Strategies*: 1-11
- Lahn B (2017) 'In the light of equity and science: scientific expertise and climate justice after Paris', *International Environmental Agreements: Politics, Law and Economics* 1-15.
- Liljenfeldt J and Pettersson O (2017) 'Distributional justice in Swedish wind power development – An odds ratio analysis of windmill localization and local residents' socio-economic characteristics', *Energy Policy* 105: 648-657
- Liu F (2000) 'Environmental Justice Analysis: Theories, Methods and Practice', *CRC Press Textbook*
- Lyster R (2015) 'Climate Justice and Disaster Law'. *Cambridge University Press*, Cambridge, UK
- Marquardt J (2017) 'Conceptualizing power in multi-level climate governance', *Journal of Cleaner Production* 154: 167-175
- McCauley D, Heffron R, Stephan H and Jenkins K (2013) 'Advancing Energy Justice: The Triumvirate of Tenets', *International Energy Law Review* 32(3): 107-110
- Miller CA, Richter J and Jason O'Leary (2015) 'Socio-energy systems design: A policy framework for energy transitions', *Energy Research and Social Science* 6: 29-40
- Palmer C (2011) 'Does Nature Matter? The Place of the Nonhuman in the Ethics of Climate Change. The Ethics of Global Climate Change', *Cambridge University Press*, Cambridge, UK, 272–291
- Pulido L (1996) 'A critical review of the methodology of environmental racism research', *Antipode* 28(2): 142-159
- Reed GM and George C (2011) 'Where in the world is environmental justice?', *Progress in Human Geography* 35(6): 835-842
- Rogelj J, den Elzen M, Hohne N, Fransen T, Fekete H, Winkler H, Schaeffer R, Sha F, Riahi K and Meinshausen M (2016) 'Paris Agreement climate proposals need to boost to keep warming well below 2 °C', *Nature Perspectives* 534: 631-639
- Schlosberg D (1999) 'Environmental justice and the new pluralism: the challenge of difference for Environmentalism', Oxford University Press world', *UCT Press*, South Africa
- Schlosberg D (2013) 'Theorising Environmental Justice: The Expanding Sphere of a Discourse', *Environmental Politics* 22(1): 37-55
- Schlosberg D and Collins LB (2014) 'From environmental to climate justice: climate change and the discourse of environmental justice', *WIREs Climate Change* 5(3): 359-374
- Schneider SH and Lane J (2006) 'Dangers and thresholds in climate change and the implications for justice. Fairness in adaptation to climate change'. *MIT Press*, Cambridge, MA, 23–51
- Simcock N and Mullen C (2016) 'Energy demand for everyday mobility and domestic life: Exploring the justice implications', *Energy Research and Social Science* 18: 1-6
- Sovacool BK and Dworkin MH (2015) 'Energy Justice: Conceptual Insights and

- Practical Applications', *Applied Energy* 142: 435-444
- Sovacool BK, Burke M, Baker L, Kotikalapudi CK, and Wlokas H (2017) 'New conceptual frameworks for energy justice', *Energy Policy* 105: 677-691
- Sovacool BK, Heffron RJ, McCauley D and Goldthau A (2016) 'Energy decisions reframed as justice and ethical concerns', *Nature Energy* 1: 1-6
- Sze J and London JK (2008) 'Environmental Justice at a Crossroads', *Sociology Compass* 2(4): 1331-1354
- UNFCCC (2017) 'Paris Agreement – Status of Ratification', United Nations Framework Convention of Climate Change. Available online. Accessed on 6<sup>th</sup> June 2017 [http://unfccc.int/paris\\_agreement/items/9444.php](http://unfccc.int/paris_agreement/items/9444.php)
- Walker G (2009) 'Beyond Distribution and Proximity: Exploring the Multiple Spatialities of Environmental Justice', *Antipode* 41(4): 614-636
- Walker G and Bulkeley H (2006) 'Geographies of Environmental Justice', *Geoforum* 37: 655-659
- Williams WR (1999) 'Environmental injustice in America and its politics of scale', *Political Geography* 18: 49-73
- Zhang Y, Chao Q, Zheng Q and Huang L (2017) 'The withdrawal of the U.S. from the Paris Agreement and its impact on global climate change governance', *Advances in Climate Change Research*. In Press