



Perspective

Towards impactful energy justice research: Transforming the power of academic engagement

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ABSTRACT

The field of energy justice is at a critical juncture. As the social dimensions of energy systems are becoming more salient, it is time to reflect on what has been achieved, and look towards a future of greater impact and transdisciplinary methods in energy justice research and practice. In the past 10 years, the energy justice literature has grown exponentially demonstrating the appeal and the value of its tangible, applicable explanatory framework. Yet more pessimistically, this rapid growth could also represent a trend in uncritical commitment without appropriate reflectivity and without maximizing societal impact. Carefully considering these different interpretations, this perspective article reflects on four core challenges and opportunities for energy justice scholarship and practice in its next wave of development: (1) the alignment, connectivity and orientation of energy justice terminology, (2) leveraging impact and achieving outcomes in partnership between academic and non-academic communities and activists, (3) the need to acknowledge and define the audience for energy justice contributions and (4) the need for energy justice scholars and practitioners to “practice what we preach”. Given the timely salience of energy justice work, more intentional consideration of the possibilities for societal impact is increasingly valuable.

1. Introduction

The emerging field of energy justice is at a critical juncture; after years of productive scholarship and activism, and growing interdisciplinary interest, it is time to take stock, reflect on all that has been achieved, and look towards a future of greater impact and transdisciplinary methods. There are several reasons why now is a particularly important time to reflect on energy justice research: the literature is flourishing; more and more authors join the community every year; global political landscapes are rapidly evolving, and the climate change agenda is ever more pressing as the full force of global warming and more intense and extreme weather events become a reality. Simultaneously, rapid energy systems change and technological advancements are occurring with only minimal attention to issues of social justice. The role of academic researchers is also evolving as disciplinary boundaries in academic research are diminishing and there is increasing awareness that scholarly work in this field is detached from “real world” practice. During this time, reflectivity and reflexivity are essential to enhance the impact of energy justice work.

In the past 10 years the popularity of the energy justice literature has grown exponentially. Applications have emerged across a range of spatial and temporal scales, including studies of low-carbon innovations in domestic settings [1]; studies of the mismatches between local, national and international developmental priorities [2], and notions of urgency in energy justice research [3]. It has also become an increasingly interdisciplinary field, with contributions from law [4,5], public health [6], business and innovation studies [7] and even religious scholars [8] sitting alongside dominant geographical, sociological and broader social science perspectives. Positively, this growth speaks to the appeal of energy justice as a tangible, explanatory framework that is positioned as a conceptual, empirical *and* decision-making tool [9]. More pessimistically, it may represent a trend in competing definitions, a lack of theoretical effort in conceptual systematization [10] *and* uncritical commitment that without appropriate reflectivity and impact, may mean energy justice scholarship and – assuming a positive relationship between the two – practice falls short of its potential impact. We use the term “practice” here to intentionally acknowledge that whilst energy justice is a predominantly scholarly term, the concept

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also reflects decades of work beyond the ivory tower and for many on the frontlines, aspirations of positive impact and change; contributions that we expand upon below.

Cautious of the precarious line between this growth of energy justice work and uncritical commitments, this perspective article serves as a critical comment proposing four priorities for energy justice scholarship and practice in its next wave of development: (1) the need for clarity, connectivity, and alignment in the orientation of academic terminology, (2) leveraging impact and achieving outcomes in partnership between academic and non-academic communities and activists, (3) the need to acknowledge and define audiences for energy justice contributions and (4) the need for energy justice scholars and practitioners to “practice what we preach”. Our perspective engages with each challenge in turn.

2. What is in a name? Clarifying terminological orientation

Given the diversity of academic backgrounds of energy justice scholars, there is a risk of miscommunication among researchers who use different language to describe similar phenomena. By clarifying, connecting and aligning the descriptive and conceptual words used, there is potential to expand the collective impact and enhance connectivity among the diverse energy justice community.

To demonstrate the challenges of terminology, let us start with an overview of the current complexity of academic language in this field to date. Partially led by the rapid development of the energy and social science agenda through journals such as *Energy Research & Social Science*, there has been a boom in scholarship reflecting ideas of normativity and morality in energy systems. As the first of a series of examples, Jenkins et al. [11] introduce *energy justice* as a framework that evaluates (a) where injustices emerge, (b) which affected sections of society are ignored, and (c) which processes exist for their remediation in order to (i) reveal and (ii) reduce such injustices. This framework represents an approach focusing on three tenets: distributional justice, justice as recognition and procedural justice. For Sidortsov et al. [12], this literature can be divided between two strands of energy justice thought: (1) ‘systems’ approaches that consider energy systems using existing understandings of forms of justice and (2) ‘foundational’ approaches, which centre on energy service provision as the primary justice consideration. Emphasising a different focus, Szulecki [13] positions *energy democracy* as either the normative goal of decarbonisation and energy transformation or a descriptive term for pre-existing examples of decentralized and (typically) bottom-up civic energy initiatives. Burke and Stephens [14] identify the ability of *energy democracy* to connect concentrated versus distributed wealth and power with concentrated versus distributed energy provisioning. In this way, *energy democracy* becomes a process that goes beyond public involvement in energy production to a focus on the political implications of collective energy decisions. Bouzarovski and Simcock [15] consider *fuel poverty*, *energy vulnerability and spatial inequality*, where issues of *energy poverty* become linked to domestic energy deprivation. Yet for Carley et al. [16: 622], *energy vulnerability* is defined as a function of where US policies go into effect (exposure); the susceptibility of different communities to the impacts of these policies (sensitivity); and the capability of communities to attenuate, cope or mitigate the negative effects (adaptive capacity).

Continuing the complexity and our select examples, *energy precarity* is taken to signify uncertainties, risks and vulnerabilities associated with household’s ability to secure socially- and materially-necessitated levels of energy services [17] and echoing similar concerns, Hernández [18: 2] positions *energy insecurity* as a multidimensional concept composed of economic, physical and behavioural factors that interact to produce “an inability to adequately meet basic household energy needs” in both acute and chronic forms [19]. Last but by no means exhaustively amongst relevant terminology, Smith and High’s [20: 7] work considers *energy equity* as “a call for us to be cognisant of the

moral aspects of social life as it pertains to matters of energy”.

Of course, this brief review could be more expansive. Grouped by a common concern for energy systems- or service-based applications, these contributions sit alongside (often) complementary literatures related to the just transition, environmental justice and climate justice, amongst others. They are equally embedded with notions of justice, equity and rights (however defined) and in many cases, also find their applications in energy settings. The just transitions literature in particular has emerged as a powerful dialogue linked, in part, to United Nations Framework on Climate Change (UNFCCC) processes, for example. Here, issues of normativity and morality are raised by the rapid transition to renewable energies that in many instances can destabilise labour-based communities that are dependent upon and socially defined by fossil fuel production [21,22].

There are also geographical differences and contradictions in the use of energy justice terminology. Some of the terms reflect global north and global south divides, and thus emerge both from different fields (law and the health sciences, for instance) and from different national contexts. The focus of the terms also varies. Whilst a few focus on poverty and some reflect issues with access to energy services, others consider participation in the decision-making processes as they pertain to energy matters. Thus, in effect, these terms offer different lenses to describe a complex, multi-faceted problem. This partially explains the proliferation of terms and how little they correspond to one another, even if there is considerable overlap.

Clearly these terms are not just embedded in the scholarly literature either. They reflect a long history of “on the ground”, grassroots practice and policy proposals that centre on energy and the environment in a changing climate marked by growing social inequalities. As just a small set of examples, the National Association for the Advancement of Coloured People (NAACP) in the United States considers environmental and climate justice as one of the core areas of their organization’s concern. To that end, the NAACP has developed a series of Just Energy Policies and Practices following their belief that “everyone has the right to safe and affordable energy” [23]. Similarly, the Energy Justice Network, created in 1999, exists as a long-standing organisation in the United States with a number of relevant goals. This includes aims “to enable community activists to defeat polluting industries” and “reshape the energy and waste industries, eliminating support for false solutions and supporting clean energy and zero waste policies, methods and technologies” [24]. Moreover, America’s Green New Deal is framed as a means of mobilising a shift to a sustainable environment and economy that is environmentally just and distributes benefits equitably. In this regard, even in cases where organisations or policy do not self-identify under the “energy justice” term per se, their practices and intent certainly symbolise its ethic and, in many cases, its practical approach.

Although brief and by no means comprehensive, this discussion serves to illustrate two core ideas. First, given there are many complementary but terminologically distinct ways of discussing the issues that arise at the interface of technical energy systems and human livelihoods, the impact of the work in these domains could be enhanced if there was more intentionality about how and when different terms are used and how they relate. To aid this clarity, it seems paramount to consider the orientation of these “labels”. Here we distinguish between *problem-focused* (potentially measurable) *terms* – fuel poverty, energy poverty, energy insecurity, for instance – and *aspirational terms* such as energy justice, energy democracy and just transitions that establish normative agendas (although not always consistently across varying contexts). In some instances, this call for clarity also necessitates realignment with philosophical concepts. As just one example, the environmental justice literature largely draws on ideas of “distributive justice” (with some notable exceptions including Schlosberg [25] and Walker [26]), whereas energy justice tends to use the language of “distributional justice” and yet, the distinction between them is rarely discussed. Said another way, clarity stems from the intentionality of terms and their relations, the orientation of labels and their precision.

Second, a greater consciousness of the risks and pitfalls of diluting the links between concepts or of not making connections between them must be recognized. In this regard, connections and communication become the goals as well as interdisciplinary language beyond silos. To be clear, the parallel and interdisciplinary existence of the diversity of terms is not problematic *per se*, but the failure to connect them is. The failings highlighted by discussions of aspirational terms are seldom informed by the lessons from the problem-focused ones, and the problem-focused approach is often not followed to its logical, systematically-radical conclusion. Thus, we suggest a far stronger connection between both areas of scholarship. Moreover, we acknowledge too that the solutions proposed in energy justice research often overlook decades of dedicated work on the part of organizations that have been working toward raising awareness about such issues and proposing solutions from their vantage point and oftentimes using less technical terminology. In short, these divides—both between problems and solutions and between how solutions are derived—threaten the direction, responsiveness and viability of energy justice ambitions. This also leads us to our second observation, that alongside clarity in the connectivity and orientation of terminology, there is large potential for greater impact through transdisciplinary research that involves academics co-producing knowledge with practitioners and activists.

3. Leveraging non-academic outcomes

One potential goal of social science research is to elevate marginalized voices and reveal/expose hidden or wicked phenomena, such as the labour rights issues associated with transitions away from fossil fuels [27,28]. Given the focus in energy justice research on inequities and disparities, the potential for influencing non-academic, “real world” outcomes in such contexts is therefore significant. With this in mind, this section develops the stance that achieving these outcomes of (1) elevating marginalized voices and (2) revealing/exposing relevant phenomena must also depend on (3) leveraging non-academic outcomes. To develop this point, we consider what “justice” may mean in this context, how energy justice goals and visions are being defined within the literature and latterly, how we, as a community of scholars and practitioners, can work with heterogeneous definitions both within and beyond academia to harness impact.

At this stage, we must acknowledge emerging stances on the word “justice” and critiques that the energy justice literature has yet to contend with the true nature of it [29, 30]. To clarify, in discussing “energy justice” scholarship and practice, we do not point towards a single, universalist “just” outcome; an outcome that Kant, Mills or Rawls might represent as an abstract metaphysical imperative, for instance. Instead, “justice” is positioned as an outcome of social construction, where communities develop commitments to act in a certain way and accept or reject particular processes and outcomes. Said another way, our energy justice does not present deterministic approaches to “just” outcomes, but allows for a plurality of definitions that emphasise the contextualised voices of affected populations including “cries for justice” through grassroots social movements. Although often only tacitly, this pluralism is already captured in energy justice scholarship.

Although hard to evidence in any quantitative sense, any author heavily involved in the energy justice literature may start to observe trends in and perhaps even competing agendas around the *goal or visions* of energy justice. Using the scalar approach again, if one was to ask, “who is energy justice for?” at domestic, regional or even international levels, different stakeholders of concern would emerge. Reames [31] draws attention to the need of particular racial/ethnic and socioeconomic groups in urban settings of Kansas City, Missouri. Bedi [32] focuses on specific communities around the Rampal coal-fired energy project in the Sundarbans region of Bangladesh, and Baker [33] on the indigenous communities of Oaxaca, Mexico, for instance. Equally, if we ask, “who is responsible for energy justice?” across the

same scales, a similar conundrum arises. Issues of temporality are also apparent as we consider whether we should focus on restorative justice—which in the context of energy transitions aims to “repair the harm that has been done to an individual, rather than simply focusing upon punishing the offender” [21: 5] —, intergenerational justice for future generations [34] or even longitudinal studies of long-term transitions impacts. This in itself is not problematic either, of course, as each group indeed deserves their own energy justice outcome. Moreover, a diversity of approaches, goals and agendas can be more productive than trying to create alignment, especially considering that each group is likely to be defined by different demographic and social characteristics such as race, gender, age, wealth, and their degree of social and material vulnerability, amongst other factors. It does, however, give one clear indication: that energy justice scholarship is commonly concerned with the elevation of marginalized voices. With this commonality then comes a logical, next-step question; how, if at all, does this concern for a diverse set of actors translate into goals and visions for energy justice?

Most energy justice research papers do not clearly define which vision of energy justice they are assuming. They either repeat the concept's overarching framework or they do not explicitly define it. Take the following definitions as evidence. In what is often considered a seminal energy justice article, McCauley et al. [35: 107] state that energy justice “aims to provide all individuals, across all areas, with safe, affordable and sustainable energy”. Islar et al. [36: 671], on the other hand, define it as “respecting universal human rights and ensuring that every person has a right to the level of energy required to attain a minimum of well-being”. Monyei et al. [37] foreground a “realistic utopia” based on the concepts of egalitarianism, libertarianism, utilitarianism and sufficientarianism, with each term relating to a core normative principle. Egalitarianism reflects the notion that there should be equality among living entities, whereas libertarianism emphasises freedom, liberty, voluntary association and respect of property rights, for instance. Finally, but again not exhaustively, Sovacool et al. [38] refer to eight core principles of availability, affordability, due process, transparency and accountability, sustainability, intra-generational equity, intergenerational equity, responsibility, resistance and intersectionality.

Of course, our aspirations for energy justice do not just come down to a defining sentence on a page either. The picture is more much complex. More broadly, our energy justice approaches are defined by a set of aspirations that are both implicitly *and* explicitly stated. Echoing core questions in the transitions literatures, this includes whether we are looking at transitional versus transformative (energy justice) change; technological innovation, social innovation, or both; and incremental change or systematic disruption [39]. They also determine a focus on either domestic settings or the whole energy system; urban versus rural contexts, and global north, global south emphasises or a combination thereof. We may also aspire to reveal and track the *embodied* energy justices across energy systems, as introduced by Healy et al. [40] in order to break down boundaries of conceptualizing energy justice. Additionally, looking towards evolving climate futures, energy justice goals are diverse. Some scholars are primarily concerned with increasing energy access (to the extent determined by a rights-based approach to energy justice, perhaps [41,28] while others may define their goals as also reducing the energy consumption of some groups as a tandem climate imperative. This echo calls to consider not only whom energy justice is for, but also who is responsible for it [42]. Further, it speaks to power dynamics and potential calls for their redistribution.

Again, these examples do not cover all possible avenues, goals or questions. We have given no explicit voice to the goals and aspirations of non-academic groups in this section, for instance. Nonetheless, it does raise a pressing question; how can we best leverage impacts and outcomes amidst a diversity of terms, visions and potential agendas? This question remains largely unanswered and so as a first step, we propose that in order to make progress amongst these contested visions, represented by various marginalized voices and the relevant

phenomena that energy justice work reveals or exposes, we must more explicitly engage with the challenge of leveraging impact and energy justice outcomes. Here we foreground the value of partnership between academic, non-academic communities and activists working collaboratively and inclusively. With partnership, co-creation and collaboration, impact and positive change can become the unifying element rather than attempts to develop alignment with a single homogenous definition or energy justice goal.

In both academic scholarship and practice, this approach necessitates a range of creative methodologies that challenge and work across temporal and geographic boundaries. As scholars, we must engage with the voices of the past to capture unfulfilled promises and failures in due process. Energy justice scholars can also capture the perspectives of diverse societal groups who are imagining better outcomes for themselves in the present. Most abstractly, and as a particularly exciting and novel agenda, energy justice scholars can collaboratively determine future energy justice landscapes that are technologically, socially and *systematically* radical; outcomes that not only reflect the climate imperatives that drive energy policy at present (in many countries, at least) but that embed energy justice thinking into future socio-technical energy landscapes. Such a call to arms may also give nod to the changing role of a more critical academia that pushes towards the performativity of scholarship and above all, learns from and contributes to practical work being undertaken beyond its walls. As an indicative example, energy justice groups might consider how to legally restructure utilities and finance models to promote equity, for instance. We return to this potential later.

4. Communication beyond rhetoric, to whom?

Another suggestion for enhancing impact is to articulate a more intentional, collective consideration of how to establish the right audience for academic contributions to energy justice scholarship and move from theory to practice, knowledge to action. In essence, this involves engaging more directly with how to move what is confined to academia beyond the written page, a process sometimes referred to as translational research.

Numerous scholarly articles claim to present ways to operationalise energy justice. Heffron et al. [43] introduce an “energy justice metric” with an aim to quantify energy justice by analysing the energy justice performance of different countries, utilising data from international institutions and national governments as part of the analysis. They situate their audience for this amongst what could be labelled “powerful elites”; economists and policy-makers at large. Alternatively, Sovacool et al. [44] present an energy justice checklist, which Sidortsov and Sovacool [45: 306] later advance with an Arctic specific focus for “various decision-makers”. As a third example, Alvia-Palavicino and Ureta [46: 647] introduce the idea of economizing energy justice as mechanism for enacting comprehensive regulations towards higher levels of energy justice. In this approach, energy justice practitioners would (1) acts as translator between economic evaluations and actors carrying other forms of value, (2) contribute to their steering and re-direction by making the connection and trade-offs between different framings explicit, and, if needed, (3) be able to recognize and act by raising the alarm if the attempted policy intervention does not contribute to higher levels of justice in the energy sector. Each of these three perspectives privileges the idea that energy justice approaches *can* enable pervasive change if embedded alongside or within pre-existing political and economic systems—the so-called “regimes” of everyday life.

Yet of course, to say that energy justice must start in academia and culminate with policy or economic outcomes¹ represents a one-way

trend in thinking that, to borrow from a science and technology studies lens, neglects the co-construction of socio-technical systems. Said plainly, the communication challenge of energy justice is also one that must consider whose energy justice story it is and who is given voice to communicate that story. In this regard, there must be a tandem interest in learning from, privileging and proactively engaging with and translating the concerns of affected communities and an inclusive set of stakeholders. This is, in effect, a call for some energy justice scholars to take on the principles of “participatory justice” and “justice as recognition” that we often abstractly use, and to directly learn from and collaborate with those living with energy injustices. Methodologically then, researchers have the potential to create spaces to elevate these voices and ensure that those readily impacted by energy issues are part of the conversation and engaged in the research process, potentially even through co-production. This approach follows Forman’s [47: 649] critique that “energy justice scholarship has, for the large part, paid limited attention to the ways in which people and communities might contribute towards an energy-just future from the ground-up”. It offers potential to elevate the often-neglected work led by grassroots actors that we mentioned above.

Essentially, we are arguing for a diversity of approaches including more dialectic and inclusive process for energy justice scholarship and practice that unites these two fronts. To clarify, we do not mean to imply that all energy justice scholars need to change their approach, but rather, we are encouraging some researchers to pursue different methodologies and prioritize different forms of impact. We acknowledge too that energy justice work can contribute both to bottom-up and top-down perspectives and actions, and there is much to be learned from both.

It is also critical to acknowledge that this two-way dialogue reflects a real challenge for scholars working in a constrained academic job market with limited sources of funding. Much as we are encouraged as individuals to establish novel, field-leading ideas that establish our names as experts, we are also pre-conditioned to publish frequently and to write grants with carefully crafted “impact agendas”, the conditions of which are led by funding bodies. Thus, just as Sovacool et al. [48] challenge us to take time and develop novelty, rigor and style in our methods, we position the field of energy justice scholarship as one that both working within and pushing the boundaries of these everyday conditions, should take time to develop well-rounded contributions that engage with and speak to both bottom-up and top-down perspectives.

We also require greater reflexivity on what *form* this communication takes. Is it simply including more empirical accounts of real world issues—the discourses of elderly populations facing issues around engagement with smart technologies to cite Brown and Markusson [49], for instance? Or might there be new ways of expanding energy justice communication, including toolkits, a workbook, creating a pipeline of diverse scholars that contribute to this literature and also represent affected populations, or new metrics or indicators? There are multiple options depending on the context, scale, and audiences and they present a breadth of possibilities. They could, for instance, exist as tools for crisis response and/or long-term change. Additionally, in operationalising them, academics may either act as the voice for a range of energy justice perspectives, the proposers of tangible methods that other actors can then use to resolve concerns, or a combination of both. Beyond the terminology we use and the common agenda we are working towards, this observation reveals the need for real criticality around *how* we seek to contribute and *for whom*. It also requires an understanding of enabling environments—the pressure points in policy which can lead to change and the social movements that are gathering pace for shared agendas. With awareness of the changes and challenges taking place outside of academic walls, as well as dialogue around (1) defining our audience and (2) determining which mechanisms would be *most* helpful, a more ambitious energy justice narrative could have a greater societal impact.

¹ Which in all openness, the lead author acknowledges she has previously advocated for.

5. Practicing what we preach

A final area that could enhance impact involves practicing what we preach. This *could* refer to individual responsibility for making pro-energy justice choices (e.g. by purchasing from particular companies, investing in micro-renewables or consciously reducing energy demand as potential “social goods”), but also how we engage on energy justice issues in our communities, organizations and within our political spheres. Yet here we refer to another set of particular issues: how to reimagine the co-production of research that has a goal of societal impact *and* is embedded with a goal of direct societal engagement from the beginning. This second aspect goes beyond (but does not dismiss the necessity of) operationalizing or communicating energy justice outcomes towards an ambitious trend in fundamentally different approach to doing research.

Embedding societal engagement in the process of research may take a number of forms and can occur at different stages of research. A wider set of stakeholders may engage with the *development* of research bids themselves. Ideally, this would be enabled by the restructuring of funding systems to better recognise and financially remunerate these contributions. Alternatively, stakeholder engagement may challenge our “in-research” methodologies, driving us towards workshops or innovative case studies, for instance, where the outcomes aren't just beneficial for academics and academia, but for the non-academic participants too. Thus, such a call for radical research that embeds social engagement necessitates a range of practices encapsulated in the drive towards interdisciplinary, multi-method, comparative, and where appropriate, contextually sensitive research that seeks to understand energy justice manifestations in-depth. Most fundamentally, it would be part of the motivation to encourage scholars to engage more directly with a range of stakeholders—including activists and communities—in order to enable this co-production of knowledge and impact. As per Hoolohan et al. [50]'s work, which directly tackles this challenge in the context of the water-energy-food nexus, this may productively result in collaboratively determined scenarios for future action or Decision Support Tools that lead to practical action rather than just publications, reports or soon to be out-dated webpages.

Throughout all processes—whatever form they may ultimately take—it is also imperative that we recognize our own privilege and responsibility as academic researchers and that critically, we realize we could be inadvertently perpetuating systems of oppression and injustice throughout our work. This is especially the case when scholars are “extracting” data and knowledge from communities and activists without actually collaborating with them (a critique of academic work that stretches far beyond energy justice scholarship). In this instance, we must also simultaneously develop methods for evaluation and reflexivity that sees energy justice research as a continuum rather than an object of study defined by 1, 3 or 5-year funding terms. We conclude that by attempting to practice what we preach, we can move towards proactive as opposed to reactive change, positioning energy justice at the forefront of and as a leader of evolving energy transitions. We hope this contributes to elevating energy justice to be a wider-scale public concern.

6. Conclusion

Our perspective aims to both open up opportunities for more impactful scholarship and practice and to serve as a call to arms. Building on and intentionally extending the points above, we now conclude with six particularly provocative suggestions on how to enhance the impact of energy justice research and contribute to change. We suggest these ideas amidst a changing academic landscape that we believe increasingly emphasises the performativity of scholarship.

- 1 Abandon the pursuit of homogenous definitions of energy justice approaches, goals and agendas in favour of effective and adaptable

conceptual frameworks that foster transformative thinking. Simultaneously, explore the tensions and trade-offs between competing perspectives across scales, geography or energy systems.

- 2 When presenting terms and visions in academic outputs, proactively go beyond stating them to suggesting *how* they might realistically be translated to practice and who is responsible for this.
- 3 Consider calls for the redistribution of energy justice burdens *and* benefits and which social and political structures would be required to mobilise these, moving towards the advocacy of systematically radical change, practical action, and transformative politics.
- 4 Challenge funding and publication traditions to develop well-rounded contributions that prioritise and adequately recognise bottom-up and top-down perspectives as well as a co-productive combination thereof.
- 5 Proactively engage with and strategically align energy justice scholarship to enabling environments, including evolving policy processes and social movements. This involves researchers being creative and innovative in how they relate to and collaborate with non-academics.
- 6 Recognize and explicitly discuss the potential that scholarship, and practice, in this area could inadvertently perpetuate injustices. This level of reflexive scholarship that fosters humility is critically important.

Given the rapid pace of both energy system innovation and climate change, increased attention to issues of energy justice is desperately needed. We conclude with the idea that when coupled with changes in expectations and interdisciplinarity in academia, the potential to expand the field of energy justice is large, promising and exciting. Even so, the academic community needs to consider carefully its role and its potential for impact in advancing energy justice and collaborate more directly with communities of practice.

Conflict of Interest

There are no conflicts of interest to declare.

References

- [1] B.K. Sovacool, M.M. Lipson, R. Chard, Temporality, vulnerability, and energy justice in household low carbon innovations, *Energy Policy* 128 (2019) 495–504.
- [2] G. Siciliano, F. Urban, M. Tan-Mullins, G. Mohan, Large dams, energy justice and the divergence between international, national and local developmental needs and priorities in the global South, *Energy Res. Soc. Sci.* 41 (2018) 199–209.
- [3] T. Partridge, M. Thomas, N. Pidgeon, B.H. Harthorn, Urgency in energy justice: contestation and time in prospective shale extraction in the United States and United Kingdom, *Energy Res. Soc. Sci.* 42 (2018) 138–146.
- [4] Baker, S.H. (2019) 'Anti-Resilience: A Roadmap for Transformational Justice within the Energy System', *Harvard Civil Rights- Civil Liberties Law Review (CR-CL)*, Vol. 54: 1-48.
- [5] I. Maher, O. Stefan, Delegation of powers and the rule of law: Energy justice in EU energy regulation, *Energy Policy* 128 (2019) 84–93.
- [6] D. Hernández, E. Siegel, Energy insecurity and its ill health effects: a community perspective on the energy-health nexus in New York City, *Energy Res. Soc. Sci.* 47 (2019) 78–83.
- [7] R. Hiteva, B.K. Sovacool, Harnessing social innovation for energy justice: a business model perspective, *Energy Policy* 107 (2017) 631–639.
- [8] J. Ambrozic, Beyond public reason on energy justice: solidarity and Catholic social teaching, *Colo. J. Int. Environ. Law Policy* 21 (2) (2010) 381–398.
- [9] B.K. Sovacool, M.H. Dworkin, Energy justice: Conceptual insights and practice applications, *Appl. Energy* 142 (2015) 435–444.
- [10] G. Pellegrini-Masini, A. Pirmi, S. Maran, Energy justice revisited: a critical review on the philosophical and political origins of equality, *Energy Res. Soc. Sci.* 59 (2020) 101310.
- [11] K.E.H. Jenkins, D. McCauley, R. Heffron, H. Stephan, R. Rehner, Energy justice: a conceptual review, *Energy Res. Soc. Sci.* 11 (2016) 174–182.
- [12] R.V. Sidortsov, R.J. Heffron, T. Mose, C. Schelly, B. Tarekgegne, In search of common ground: energy justice perspectives in global fossil fuel extraction, *A Research Agenda for Environmental Management*, (2019) Cheltenham, UK.
- [13] K. Szulecki, Conceptualizing energy democracy, *Environ. Politics* 27 (1) (2017) 21–41.
- [14] M.J. Burke, J.C. Stephens, Energy democracy: Goals and policy instruments for sociotechnical transitions, *Energy Res. Soc. Sci.* 33 (2017) 35–48.

- [15] S. Bouzarovski, N. Simcock, Spatializing energy justice, *Energy Policy* 10 (2017) 640–648.
- [16] S. Carley, T.P. Evans, M. Graff, D.M. Konisky, A framework for evaluating geographic disparities in energy transition vulnerability, *Nat. Energy* 3 (2018) 621–627.
- [17] S. Petrova, Encountering energy precarity: Geographies of fuel poverty among young adults in the UK, *Trans. Inst. Br. Geogr.* 43 (2018) 17–30.
- [18] D. Hernández, Understanding “energy insecurity” and why it matters to health, *Soc. Sci. Med.* 167 (2016) 1–10.
- [19] S. Jessel, S. Sawyer, D. Hernández, Energy, poverty, and health in climate change: a comprehensive review of an emerging literature, *Front. Public Health* 7 (2019) 257.
- [20] J. Smith, M.M. High, Exploring the anthropology of energy: ethnography, energy and ethics, *Energy Res. Soc. Sci.* 30 (2018) 1–6.
- [21] Jenkins, K.E.H. (2019) ‘Implementing just transition after COP24: Policy brief, January 2019’, *Climate Strategies*.
- [22] D. McCauley, R. Heffron, Just transition: Integrating climate, energy and environmental justice, *Energy Policy* 199 (2018) 1–7.
- [23] NAACP, ‘Just Energy Policies and Practices’, National Association for the Advancement of Coloured People, (2020) Available online at: <https://www.naacp.org/climate-justice-resources/just-energy/> Accessed on: 09.02.20.
- [24] Energy Justice Network, ‘Energy Justice Network’, (2019) Available online at: <https://www.democracyconvention.org/organization/energy-justice-network> Accessed on: 25.06.19.
- [25] D. Schlosberg, Reconceiving environmental justice: global movements and political theories, *Environ. Politics* 13 (3) (2004) 517–540.
- [26] G. Walker, Beyond distribution and proximity: Exploring the multiple spatialities of environmental justice, *Antipode* 41 (4) (2009) 614–636.
- [27] N. Healy, J. Barry, Politicizing energy justice and energy system transitions: fossil fuel divestment and a “just transition”, *Energy Policy* 108 (2017) 451–459.
- [28] J.A. Crowe, R. Li, Is the just transition socially accepted? Energy history, place, and support for coal and solar in Illinois, Texas and Vermont, *Energy Res. Soc. Sci.* 59 (2020) 101309.
- [29] R. Galvin, What does it mean to make a moral claim? A Wittgensteinian approach to energy justice, *Energy Res. Soc. Sci.* 54 (2019) 176–184.
- [30] R. Galvin, “Let justice roll down like waters”: reconnecting energy justice to its roots in the civil rights movement, *Energy Res. Soc. Sci.* 62 (2020) 101385.
- [31] T.G. Reames, Targeting energy justice; Exploring spatial, racial/ethnic and socio-economic disparities in urban residential heating energy efficiency, *Energy Policy* 97 (2016) 549–558.
- [32] H.P. Bedi, “Our energy, our rights”: national extraction legacies and contested energy justice futures in Bangladesh, *Energy Res. Soc. Sci.* 41 (2018) 168–175.
- [33] S.H. Baker, Mexican energy reform, climate change, and energy justice in Indigenous communities, *Nat. Resour. J.* 56 (2) (2016) 369–390.
- [34] Y. Malakar, M.J. Herington, V. Sharma, The temporalities of energy justice: examining India’s energy policy paradox using non-western philosophy, *Energy Res. Soc. Sci.* 49 (2019) 16–25.
- [35] D. McCauley, R. Heffron, H. Stephan, K.E.H. Jenkins, ‘Advancing Energy Justice: The Triumvirate of Tenets’, *International Energy Law Review* 32 (3) (2013) 107–110.
- [36] M. Islar, S. Brogaard, M. Lemberg-Pedersen, ‘Feasibility of energy justice: exploring national and local efforts for energy development in Nepal’, *Energy Policy* 105 (2017) 668–676.
- [37] C.G. Monyei, A.O. Adewumi, K.E.H. Jenkins, Energy (in)justice in off-grid rural electrification policy: South Africa in focus, *Energy Res. Soc. Sci.* 44 (2018) 152–171.
- [38] B.K. Sovacool, M. Burke, L. Baker, C.K. Kotikalapudi, H. Wlokas, New frontiers and conceptual frameworks for energy justice, *Energy Policy* 105 (2017) 677–691.
- [39] B.K. Sovacool, How long will it take? conceptualizing the temporal dynamics of energy transitions, *Energy Res. Soc. Sci.* 13 (2016) 202–215.
- [40] N. Healy, J.C. Stephens, S. Malin, Embodied Energy Injustices: Unveiling and politicizing the transboundary harms of fossil fuel extractivism and fossil fuel supply chains, *Energy Res. Soc. Sci.* 48 (2019) 219–234.
- [41] D. Hernández, Sacrifice along the energy continuum: a call for energy justice, *Environ. Justice* 8 (4) (2015) 151–156.
- [42] K.E.H. Jenkins, D. McCauley, C. Warren, Attributing responsibility for energy justice: a case study of the Hinkley point nuclear complex, *Energy Policy* 108 (2017) 836–843.
- [43] R.J. Heffron, D. McCauley, G.Z. de Rubens, Balancing the energy trilemma through the energy justice metric, *Appl. Energy* 229 (2018) 11191–11201.
- [44] B.K. Sovacool, R.B. Sidortsov, B.R. Jones, *Energy Security, Equality, and Justice*. Earthscan, Routledge, London and New York, 2014 2014.
- [45] R. Sidortsov, B.K. Sovacool, Left out in the cold: energy justice and Arctic energy research, *J. Environ. Stud. Sci.* 5 (2015) 302–307.
- [46] C. Alvia-Palavicino, S. Ureta, Economizing justice: turning equity claims into lower energy tariffs in Chile, *Energy Policy* 105 (2017) 642–647.
- [47] A. Forman, Energy justice at the end of the wire: enacting community energy and equity in Wales, *Energy Policy* 107 (2017) 649–657.
- [48] B.K. Sovacool, J. Aksen, S. Sorrell, Promoting novelty, rigor, and style in energy social science: towards codes of practice for appropriate methods and research design, *Energy Res. Soc. Sci.* 45 (2018) 12–42.
- [49] C.J. Brown, N. Markusson, The response of older adults to smart energy monitors, *Energy Policy* 130 (2019) 218–226.
- [50] C. Hoolohan, A. Larkin, C. McLachlan, R. Falconer, I. Soutar, J. Suckling, L. Varga, I. Haltas, A. Druckman, D. Lumbroso, M. Scott, D. Gilmour, R. Ledbetter, S. McGrane, C. Mitchell, D. Yu, Engaging stakeholders in research to address water-energy-food (WEF) nexus challenges, *Sustain. Sci.* 13 (2018) 1415–1426.