



# The concept of energy justice across the disciplines



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## ABSTRACT

Over the last decade, 'Energy Justice' is a concept that has emerged in research across many disciplines. This research explores the role and value of the energy justice concept across the disciplines. It provides the first critical account of the emergence of the energy justice concept in both research and practice. A diagrammatical image for examining the energy justice concepts is presented and this is a tool for interdisciplinary engagement with the concept. In this context, restorative justice is introduced and how it results in energy justice applying in practice is detailed. Energy research scholarship at universities is assessed and it is clear that through universities there is a platform for energy justice scholarship to build on the interdisciplinary energy scholarship at universities. Further, the role of education is vital to policy-making, and the understanding and development of the energy justice concept. Finally, in analysing how the energy justice concept can impact on policy-making, there is a critical examination of the energy justice and its relationship with economics, and how it can transfer directly into practice by assisting in balancing the competing aims of the energy trilemma.

## 1. Introduction

'Energy Justice' is a concept that is being used across many academic disciplines in energy research at the moment. This development has occurred over the last decade and is currently accelerating. One of the concept's recent highlights has been its listing by the prestigious *Nature* journal series (*Nature Energy*) as a research topic covered by the journal.

There is one main research question that drives this paper and that is, what is the role of the 'energy justice concept' across the disciplines? In answering this question, there is a sub-set of questions and these include exploring how has the energy justice concept emerged, how will it continue its emergence, and how has it, and will it engage in practice and therefore become relevant to policy. This paper in essence examines the impact of the energy justice concept in academia, practice (i.e. the non-academic public and private sectors) and policy.

This paper contributes to the research literature in a number of ways. It offers the first historical overview of how the energy justice emerged. It also analyses energy research at university which demonstrates why 'energy justice' as a concept is likely to increase in its value to a range of disciplines across the sciences and social sciences at universities. Further, it will demonstrate a number of ways of how 'energy justice' is emerging in practice and how it can be adopted and utilised in policy (through restorative justice) and become economic policy relevant in the energy sector. Finally, this paper pioneers the exploration directly

of a core concept that is emerging across all disciplines that conduct energy research and a concept that could be 'ethos' and provide society's ethical framework for decision-making in the energy sector. In these ways this paper contributes to this special edition on 'Exploring the Energy Justice Nexus' in the following ways in terms of advancing the literature (and which are explored in more detail in the later sections) (Jenkins et al., 2017): (1) provides a critical theoretical explorations of energy justice frameworks; (4) exploration of energy justice's role as a decision-support tool for policy-makers; and (5) presents understandings of energy justice across multiple scales; considering the heterogeneous ways in which energy justice might be negotiated and implemented.

The paper begins in section two by providing a critical account of the emergence of the energy justice concept. This involved the identification of three specific stages in its development and how these have influenced the development of the energy justice concept. It discusses the reasoning for why there is a need and an opportunity to work on building further the energy justice concept and having a common concept across the disciplines. It presents a diagrammatical representation of energy justice for researchers and policy-makers to interact with. Finally, restorative justice is advanced as a way of ensuring energy justice is applied in policy. Three recent examples demonstrate this: (1) Environmental Impact Assessments and the post-acceptance monitoring phase; (2) a Social-License-to-Operate that will ensure develop cooperation with the local community over the life-span

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of the energy infrastructure; and (3) the Energy Financial Reserve Obligation where the company needs to demonstrate they have the financial capacity to clean and restore the mine.

Section 3 details the importance and role of energy research at universities and how this provides the support for more integrative research on energy and that energy justice scholars are ideally placed to take advantage of this given what the concept brings to energy research through its focus on 'just' decision-making in the energy sector. It highlights the importance of education in ensuring that the energy justice concept is utilised in research and education and there then is a knowledge transfer to policymakers. The second half of the section highlights a pitfall for energy justice and that is due to the lessons learned from how the environmental and climate justice concepts developed.

Section four presents an account of energy justice research crossing into policy-making, in essence going from theory to practice. It highlights the importance of ensuring energy justice impacts upon economic policy and how this might be achieved and the potential success it can deliver. It emphasises the importance of understanding the concept and also provides a detailed analysis of how economics engages with justice issues before demonstrating how energy justice can resolve the economic problem of balancing the competing aims of the energy trilemma.

## 2. A critical account of the emergence of the energy justice concept

This exploration of the emergence of the energy justice concept in both academic and practice is the first in the literature. Exploring when and how it emerged in use is necessary in order to understand: (1) its potential application in practice and policy development; and (2) its potential longevity, value and impact in energy research. This sections aims to provide a critical theoretical exploration of energy justice as a concept and its frameworks – similar to one of the challenges identified for this special issue (Jenkins et al., 2017).

There is little in the literature that details the emergence of the concept of energy justice. Even in the two early monographs which both aim to explore energy justice in detail they do not reference its' beginning (Sovacool and Dworkin, 2014; Guruswamy, 2016). Further, in a first review of the concept entitled '*Energy justice: a conceptual review*', the authors do not review the origin of the energy justice concept itself, they conduct an academic literature review of its development in academic research and with little mention of its use in practice (Jenkins et al., 2016).

This paper highlights and advances that there are three specific phases of research that mark the beginning of energy justice research and practice and these are outlined below in the proceeding paragraphs. The first is its use in practice, and in particular, by NGOs. The second is its early use in academia and this is notable in that the concept of energy justice was not advanced or examined by the literature. The final, third phase, is where energy justice is defined as a concept and the research literature builds upon these concepts.

### (1) Its use in practice

Energy justice is a term that has been used in practice (i.e. in non-academic life, such as in the commercial and public sectors) far longer than in research, albeit to a very limited degree. There are two NGO's that have used the term pre-dating academia – one in the US (since 1999)<sup>1</sup> and in the UK<sup>2</sup> (at the very least in 2009 or

<sup>1</sup> Energy Justice Network (US) (2016). Available at: <http://www.energyjustice.net/about> (last accessed 20 October 2016). And see more concerning its accomplishments, available at: <http://www.energyjustice.net/accomplishments> (last accessed 30 October 2016).

<sup>2</sup> Centre for Sustainable Energy (UK) (2016). available at: <https://www.cse.org.uk/contact> (last accessed 30 October 2016).

before). There is another later reference to its use in 2011 by the Chief Executive of National Energy Action (UK) who referred to it in the context of the UK energy sector only and which is a charity whose focus is on ending fuel poverty (Saunders, 2011).

### (2) Its early use in academia

The term energy justice was first used in academic research literature in 2010 in an article entitled *Energy justice and sustainable development*, however, the article is more on sustainable development than energy justice (Guruswamy, 2010). Indeed, apart from at the beginning when energy justice is defined essentially as energy poverty there is little further mention of it, and it receives little attention in the conclusion where it is clear sustainable development is the focus of the article. This is similar to an article in 2013 entitled '*Energy justice and ethical consumption: comparison, synthesis and lesson drawing*' which is about ethical consumption in the energy sector and does not address the energy justice concept itself - nor however does the author claim too and in addition, the author states there is no definition of what it means (Hall, 2013). Then there was a book entitled '*Energy Justice in a changing climate*' published in late 2013 however, the emphasis was not on exploring the energy justice concept itself but in relating the term to other issues in relation to climate change – which is a rather limited perspective since the concept or what it means is never fully debated (Bickerstaff et al., 2013).

### (3) Its use in academia when a defined concept

It was in early 2013 when the term 'energy justice' began to receive more attention in the literature and become the object of study. This is when scholars started to define it as a concept and develop frameworks. In an article in early 2013 energy justice was defined as having three central tenets (McCauley et al., 2013). This was followed by an article exploring specifically, energy justice across the energy life-cycle or system in early January 2014 (Heffron and McCauley, 2014). Thereafter the literature on energy justice as a concept has increased and there now is a seminal article in *Nature Energy* (Sovacool et al., 2016) and even a review paper (Jenkins et al., 2016).

In terms of defining the concept there are two main definitions. There is the first from 2013 that defined energy justice as having three central tenets (McCauley et al., 2013) and what was referred to as a *triumvirate of tenets* – distribution, procedural and recognition justice (or sometimes as referred to as justice as recognition) which were applied throughout the energy system (Heffron and McCauley, 2014). Second, a principled approach to energy justice was advanced that is based on eight core principles from 2014 and which has been worked on since (Sovacool et al., 2016) and these include: availability, affordability, due process, transparency and accountability, sustainability, intra-generational equity, inter-generational equity, and responsibility. These are the two frameworks for thinking on energy justice and defining it as a concept. There has been one addition which has been to consider energy justice within an energy system (i.e. the application of energy justice at each activity in the energy life-cycle) (Heffron and McCauley, 2014, and subsequently in Jenkins et al., 2014). These defined concepts of energy justice compete with each other and at the same time complement each other – as will be demonstrated later in this section.

It is not the aim of this paper to critically assess these frameworks but in terms of assessing their value to different disciplines and exploring their merit, this section of this article is aiming to be critical of how scholarship has engaged with them and how these concepts have engaged with policy. Through this critical assessment, preliminary assumptions can be established in terms of the energy justice concept and its potential future longevity, value and impact in energy research and consequently, in policy.

A major limitation of the approaches outlined above – the triumvirate of tenets, energy life-cycle (systems) approach and the

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