



Original research article

Urgency in energy justice: Contestation and time in prospective shale extraction in the United States and United Kingdom

Tristan Partridge^{a,c,d}, Merryn Thomas^b, Nick Pidgeon^b, Barbara Herr Harthorn^{a,c,*}

^a Department of Anthropology, University of California, MC: 3210, Santa Barbara, CA 93106, USA

^b Understanding Risk Group, School of Psychology, Cardiff University, Wales, CF10 3AT, UK

^c NSEC: Center for Nanotechnology in Society, University of California, MC: 2150, Santa Barbara, CA 93106, USA

^d ICTA-UAB: Institute of Environmental Science and Technology, Universitat Autònoma de Barcelona, Spain



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ABSTRACT

Changes to the material and social systems that underpin energy infrastructures are inextricably linked to energy justice concerns, and the timeframes of those changes significantly affect their outcomes. Temporal aspects of energy initiatives and their impacts are thus an important site for examining emergent public views on new energy proposals, inequality, and energy justice. We propose *urgency* is a particularly rich concept through which to study (i) the justice and socioenvironmental implications of energy systems and technological change and (ii) how people make sense of contested energy timeframes. Here, we present findings from a series of public deliberation workshops held in the United States and United Kingdom to discuss projected impacts of shale oil and gas extraction by hydraulic fracturing. We encountered critical similarities across sites, as in widespread public resistance to issue framings that foreground urgency-based claims in support of their objectives. Participants assessed energy initiatives with particular reference to temporality and urgency, and we argue these views raise justice concerns regarding distribution, the creation of environmental inequalities, public participation, and recognition. We also suggest a focus on urgency provides fresh perspectives on justice issues surrounding the speed and direction of technological development in general and of energy transitions in particular.

1. Introduction

Energy justice addresses inequalities in how energy is produced, distributed or consumed around the world. Developed as both an analytical and practical decision-making concept [1,2], energy justice builds on decades of environmental justice work addressing systemic marginalization, the uneven distribution of ills and benefits across societies, and disparities in the recognition of diverse voices within decision-making procedures [3,4]. A number of scholars have argued that changes made to energy infrastructures are inextricably linked to justice concerns, and the timeframes of those changes significantly affect their outcomes [5]. For example, recent analyses of energy transitions have assessed their capacity to create or exacerbate inequalities [6,7], highlighting the effects of different speeds of transition, what the impacts are, who wins, and who loses [8]. Analyzing the temporality and relative speed of interventions in ongoing socio-historical processes also supports the study of environmental injustice as a dimension of those processes and not merely an outcome of isolated events [9]. We propose *urgency* is a pivotal concept both in researching the justice and

socioenvironmental implications of energy systems and technological change and in understanding how people make sense of contested energy timeframes. Here, we focus on public views on prospective shale oil and gas extraction in the United States and the United Kingdom.

Shale development is contested in both countries, as are urgency-based pleas made by governments and other actors in support of its rapid implementation and expansion. For some supporters, there is an urgent need to capitalize on shale extraction to potentially increase economic activity, reduce fuel prices, stabilize energy supplies, or to use gas from shale in energy generation as a ‘bridge fuel’ in the transition from high-carbon coal to alternative low-carbon energy sources [10,11]. Opponents of fracking highlight the urgency of preventing its negative impacts, including localized environmental and social costs and, globally, its contribution to climate change through growing fossil fuel production [12]. This paper draws on qualitative data from a series of deliberation workshops we held in the US and UK to discuss documented and projected impacts of shale oil and gas extraction, its role as part of wider changes to energy systems, and conflicting claims made in popular and political discourse in support of or against different energy

* Corresponding author at: Department of Anthropology, University of California, MC: 3210, Santa Barbara, CA 93106, USA.

E-mail addresses: tristan.partridge@ucsb.edu (T. Partridge), ThomasMJ6@Cardiff.ac.uk (M. Thomas), PidgeonN@cardiff.ac.uk (N. Pidgeon), barbara.harthorn@ucsb.edu, harthorn@anth.ucsb.edu (B.H. Harthorn).

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initiatives.

2. Background

2.1. Urgency, risk, and energy justice

Prior deliberative work conducted by our team on nanotechnologies and geoeengineering has found notions of urgency highlight important issues of risk, benefit, harm, and inequality [73,78]. Urgency as a theme emerged when people discussed technological developments and their impacts as being located in an immediate temporal plane and when these impacts were considered to be pressing, acute, present, imperative, timely or similar. Urgency also appears when short-term concerns, needs and views are emphasized and/or prioritized over those that operate in the longer-term or are associated with precaution, increased regulation and ‘techno-skepticism’ [73]. This happens, for example, when perceived urgency about short-term issues filters out or attenuates longer-term societal and environmental concerns.

An analytical focus on urgency thus facilitates, among other topics, the study of tensions between views on different timeframes of energy initiatives and their impacts, as well as the effects of urgency in government and corporate rhetoric on those views. Notions of urgency often appear in the framing of energy initiatives, particularly with reference to increasing energy demand [13]. Urgency discourse and framing are also common in the world of emergent technologies, where market forces and the accelerated pace of innovation are said to create a ‘tyranny of urgency,’ creating challenges for regulators and often prompting calls for moratoria to slow down development [14]. Urgency as a concept is thus an important dimension of core concerns for risk research, science, technology and society (STS), and energy justice, and thus warrants further focused analysis.

In findings from our previous deliberations on energy applications of nanotechnology in the US and UK, we note that perceived urgency of meeting current and projected future levels of energy demand was surprisingly strongly linked to public support for new nanotechnologies for energy applications, although this was somewhat tempered by competing concerns about energy conservation and efficiency [73]. The case of nanotechnology energy thus produced an urgency-based risk attenuation effect, notable in contrast with nanotechnologies for health and therapy, about which publics in both countries were more risk sensitive or ambivalent over distributive justice issues [73]. This is unlike, for example, perceived risks and benefits of genetically modified foods in the UK, where ambivalence manifested as high perceived technological benefits working in concert with high perceived human health risks and lack of trust [15]. The specific case of shale development presents a unique field for further examining interrelated issues of temporality, urgency, risk, and (in)justice since it is deeply implicated in overlapping local, national and global dimensions of energy system change.

Addressing such cross-scalar dimensions, energy justice has emerged as a framework for analyzing and redesigning the social and material relations that constitute energy systems. Engaging core tenets of distributional, procedural, and recognition justice [16], energy justice scholarship has expanded beyond a focus on fuel poverty and siting issues to also address questions of “cross-boundary impacts” of energy policies, activism, and ethics [17]. Such work has also addressed potential intergenerational inequalities that result from energy systems, and the risk of environmental damage impinging upon the ability of future generations to achieve their conception of the good life [18,19]. Drawing on established theories of distributive justice (who experiences what risks, harms and benefits across society, as a result of what principles of distribution), procedural justice (who participates in decision-making processes), and cosmopolitan justice (that justice principles must apply globally), Sovacool et al. [20] developed prohibitive/affirmative principles of justice that identify access to energy as a fundamental basis for material well-being, which itself is threatened by

externalities and costs that result from energy systems. For people living without ready access to energy, this can be one among a number of urgent needs including healthcare, water, sustenance, shelter and employment [21]. Work on energy justice as a decision-making framework has also addressed the need to establish policy-applicable mechanisms for energy availability, affordability, accountability, and sustainability [22].

The work of environmental justice activists and academics offers strategies for further refining energy justice approaches, including systematic interrogation of the racialized relations embedded in the creation and perpetuation of environmental inequalities [3,9], and questioning the ‘why’ of inequity, rather than relying on philosophical or ideal schemes of justice in liberal societies, while also examining social histories that impede the functioning of those schemes ([23–25], p. 519). Individual and community empowerment, both as a pivotal legal strategy and a foundation for grassroots political action [26], has also been identified as a means for achieving comprehensive justice objectives [19]. Such justice concerns are not easily addressed by urgent measures or short-term initiatives. An analytical focus on urgency thus responds to the need for a critical perspective on process and temporality in justice issues while also scrutinizing how decision-making undertaken in conditions of urgency may contribute to or work against empowerment and the realization of justice aims.

2.2. Shale extraction, urgency, and climate change

Shale development offers a particularly illustrative case through which to study the temporal dimensions of energy system change. Energy policy in the UK has been subject to political ‘streamlining’ and the introduction of policy mechanisms specifically to expedite energy development, at times with the effects of diluting environmental protection [27] and curtailing opportunities for participatory decision making [28]. In particular, UK governmental support for ‘going all out for shale’ and stimulating shale development has, along with official Acts on Planning and Localism, led to fracking-related reform measures with the aim of streamlining planning and consent applications [29]. In recent decades in the US, direct government investment in fracking-related technologies has helped facilitate a rapid and significant increase in domestic oil and gas production through a ‘shale revolution’ involving many different states [30,31]. In addition, in both countries, the development of shale resources has become central to policy and political rhetoric around issues often described as ‘urgent’ such as climate change and energy security [32]. Shale development thus offers a critical site for exploring the discursive and ethical aspects of urgency and arguments for streamlining framed in terms of urgency.

Supporters of shale development promote shale gas as cleaner-burning than coal in electricity generation and suggest the expansion of fracking operations could help nations to reduce their CO₂ emissions [33]. Opponents of shale development, however, take a contrasting view on the relationship between US shale extraction and climate change mitigation [34,79,80]. Continued global extraction of shale gas, for example, threatens to perpetuate existing patterns of energy use and generation [35], competing for investment and political support and potentially displacing or delaying the uptake of ‘zero-emission’ nuclear energy and renewables [36]. Some environmental groups in both the UK and US assert an urgent need to reduce global use of fossil fuels within current energy systems, and thus call for limiting or reversing the expansion of fracking [12,37,38]. In both countries, current systems of governance for fracking have been linked to a number of justice implications due to procedural inequalities and democratic deficits [39,40].

The promotion of shale gas as a low-emissions energy source highlights how perspectives on urgency in relation to climate change are varied and contested. These variations have been identified as a hurdle to adaptation and mitigation efforts because a sense of urgency and of responsibility have been found to be requisite conditions for

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