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Who's fighting for justice?: advocacy in energy justice and just transition scholarship

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E-mail: Rebecca.Shelton@asu.edu**Keywords:** energy transitions, sustainability transitions, just transition, energy justice, justice advocacy**Abstract**

Recent political, economic and policy change in the US, Australia, and Europe, in particular, have put transitions towards low-carbon energy futures at the forefront of local and national policy agendas. How these transitions are managed is likely to affect the feasibility, timing and scope of transition policy. Recognizing the existing maldistribution of the benefits and burdens of fossil fuel-based extraction, energy generation, and distribution, advocates and scholars increasingly call for policies that not only support decarbonization goals, but also those of equity. Proposals that do not contain such goals may be met with resistance. This review examines the politics of achieving more just outcomes by asking, what is our current understanding of justice advocacy and the impacts of such advocacy on the energy transition? In this study, we systematically review articles that include the key concepts of 'just transition' or 'energy justice' and that examine advocacy in energy transition contexts. We find advocates from diverse communities and affiliated with varied organizational types are involved in advocacy. Diverse issues motivate advocates and the most common advocate type in the literature are residents that are affected by local impacts of energy transition decisions. Extra-institutional tactics are the most common means of advocate action. We also find that advocacy is often motivated by issues related to decision-making processes and environmental degradation. These findings illuminate that: (a) energy systems and transitions are governed by processes and institutions that are often inaccessible, (b) advocates often attempt to affect change using tactics external to such processes and institutions, and (c) issues of environmental degradation are often prominent in advocacy discourse concerning the energy transition. Future research should seek to more clearly determine advocates' primary motivations and the tactics and actions that ultimately aid or hinder more equitable outcomes.

1. Introduction

Governing society to achieve more ecologically and economically sustainable practices, protect groups made vulnerable by change, and reform institutions such that they are better able to cope with uncertain futures is politically fraught (Meadowcroft 1997, 2009). Global decarbonization efforts and governance in support of energy transitions epitomize the complex tradeoffs associated with governing for sustainability. Failure to act will result in the lives and livelihoods of many more people made vulnerable to the effects of climate change. Yet, the energy transition, itself, may increase the economic

vulnerability of families that rely on the fossil fuel industry (Carley *et al* 2018a, 2018b), leave abandoned energy infrastructure in communities, and redistribute the benefits and burden of energy extraction and production across the landscape (Bridge *et al* 2013, Healy *et al* 2019).

Practitioners and scholars have brought increased attention to the fact that the energy transition should not only be aimed at promoting a technological shift to decarbonize the economy, but leveraged as an opportunity to redistribute the benefits of the energy system more equitably (Clark and Harley 2020). The concepts of a 'just transition' and 'energy justice' have been central to both scholars and practitioners

examining the justice questions of *what benefits* and *for whom* of energy systems and transitions. While their meanings and origins are somewhat distinct, these two concepts are increasingly intertwined. Governance characteristics articulated in the energy justice framework are necessary for governing the transition process, energy justice principles must be applied to the decarbonized energy regime, and the transition will unlikely result in more equitable energy systems without the advocacy of workers and many other types of stakeholders.

The pathways to achieve energy justice and a just transition are not guaranteed, nor necessarily in the interest of those who currently benefit from controlling and profiting from energy resources. Thus, scholars are calling for more attention to the politics that drive energy decisions (Fuller and McCauley 2016, Healy and Barry 2017, Sovacool 2017). Justice will not be achieved without those advocates who are fighting for it. Social movement theory, policy process theories, and sustainability science all highlight the critical role of actors' strategic advocacy in societal and institutional change (Westley *et al* 2013, Hess 2014, Avelino and Wittmayer 2016, Herweg *et al* 2017, Jenkins-smith *et al* 2017). Advocates, movements, and agents of change engage in coalition building, shape political opportunities through lobbying and electoral strategies, leverage windows of opportunity caused by expected or unexpected events, organize acts of protest, marches, or other forms of resistance, and champion and frame ideas (Benford and Snow 2000, Herweg *et al* 2017, Jenkins-smith *et al* 2017, Temper *et al* 2018).

Issues of justice may be used to propel the energy transition forward. Broad, inclusive goals focused on social and economic change that appeal to groups outside of energy specific domains may be used to increase coalition membership and political power (Mayer *et al* 2010, Bergquist *et al* 2020). Rather than framing energy issues narrowly in terms of climate change and the need to decarbonize, framings related to jobs, energy democracy, fair pricing, just transition and due process have been identified as shared narratives that unite diverse organizations within energy transition coalitions (Hess 2018a, 2018b, 2019b). Thus, advocates seeking to build a more just energy system are not only proponents of decarbonization, but also looking to leverage the technological shift as a means through which to disrupt monopoly ownership and control of energy production, to provide decent, green job opportunities to those who have not been represented in the workforce of fossil fuel energy systems, and to reimagine the futures of workers and communities that have been economically reliant on the fossil fuel industry (Newell and Mulvaney 2013, Burke and Stephens 2017).

Attention to what constitutes 'good governance' in energy transition contexts is critical as issues of injustice and those affected have also stalled

energy transition policy and the deployment of new energy infrastructure. In some cases, transitions to cleaner energy sources have abruptly increased energy prices or disrupted energy supply resulting in protest (Verdeil *et al* 2015, Andreas *et al* 2018). Similarly, advocates—including incumbents who seek to stall or prevent the transition to new energy technologies—have used security or affordability concerns as discursive tactics to prevent the transition (Hess 2019b). Though in some cases communities have been proponents of renewable energy, in other cases lack of community support for and opposition to proximate renewable energy deployment has delayed or caused developers to abandon projects (Devine-Wright 2011, Bidwell 2016). While building retrofits to increase energy efficiency have been embraced in many locations, in others they have proven to be costly and led to the displacement of low-income households, as reflected in the mobilization of tenant activist groups in Berlin (Grossmann 2019). Communities and regions that have economically relied on the fossil fuel industry have resisted change when economic independence, career stability, identity, and culture are threatened (Olson-Hazboun 2018, Cha 2020, Colvin 2020, Sanz-Hernández 2020).

While the term 'justice' is wielded discursively by disparate groups in ways that sometimes seem incongruent and divergent (i.e. both by proponents and opponents of decarbonization), collectively, the persistence of this advocacy is indicative of the continued challenges of procedural and recognition justice in energy policy processes. Low-income, indigenous, and rural communities and people of color may be on the frontlines of the energy transition, yet typically have low levels of political influence, little control over their own natural and energy resources, and low access to information about new or proposed energy projects (Newell and Mulvaney 2013, Darby 2017, Graff *et al* 2018a, Lakhanpal 2019, Pereira *et al* 2019, Carley and Konisky 2020, Temper *et al* 2020). Extra-institutional (EI) strategies such as protests and mobilizations may be one of the only modes through which to become visible, garner attention from decision-makers, and change existing institutions that 'are the vessels that provide the powerful with mechanisms to further the unjust energy systems' (Scherhafer *et al* 2017, Sareen and Kale 2018, p 626, Temper *et al* 2018). Coordination across multiple levels of governance is also an issue. Decisions about energy policy are often made in national, international, and state level arenas (Marquardt 2014, Edomah *et al* 2017). These decisions at higher levels of government may be made without due attention to the local jurisdictional and institutional structures that must be in place to allow local populations and governments to implement policy, adapt to policy changes, and access co-benefits in exchange for the provision of resources (Li and Yi 2014, Marquardt 2014, Ehnert *et al* 2018, Graff *et al* 2018a).

The tensions arising from such decision-processes often create conditions of local resistance (Aitken *et al* 2008, Lakhanpal 2019).

In the remainder of this review, we synthesize emerging insights on advocacy from a body of international academic literature that examines energy transition contexts from perspectives informed by either energy justice or just transition concepts. We recognize that this literature provides only a partial view into the diversity of justice work in the energy policy domain, given that much advocacy work is not formally documented, even in the gray literature. Nevertheless, by assessing the insights from academic works this review responds to the call for increased attention to the politics of achieving more just outcomes in energy policy. We ask, what insights can be gleaned from academic scholarship on the motivations, role and implications of justice advocacy in the energy transition process? We posit that even a partial view from the academic literature can illuminate salient relationships, motivations, and consequences of justice advocacy, providing an initial foundation for cross-case comparison, and, importantly, signifying where more attention is needed in scholarship.

We depart from the premise that if the research community is to understand the politics of justice, more attention needs to be paid to the context of advocacy, the advocates, the issues that motivate them and the strategies they use. By focusing our review on the subset of empirical energy justice and just transition literature that provides sufficient detail on the context and process of advocacy, we aim to begin to outline the landscape of issues that scholars or advocates explicitly or implicitly associate with justice. We do so by asking the following questions of this literature:

- (a) How and in what contexts does the literature examine the role of justice advocacy in energy transitions?
- (b) Who are the actors that are identified in the literature as advocates, what are the issues that motivate their advocacy, and what tactics do they use to progress their agendas?
- (c) What do the findings from this literature contribute to our understanding of how justice advocates influence or fail to influence energy transition policy?

A sincere effort to govern for sustainability should embrace those that contest the legitimacy of decisions on the basis of claims of injustice, and not just with the instrumental aim of ensuring that such issues do not become roadblocks for addressing environmental sustainability. Understanding the equity arguments that motivate resistance to or promotion of the energy transition is an important component of improving the design of more equitable institutions and energy governance.

2. Methods

We pursue a qualitative systematic review (Grant *et al* 2009) to synthesize qualitative evidence and themes on advocacy and politics in energy policy processes across a selection of articles that utilize the just transition and energy justice concepts. These two concepts—just transition and energy justice—have different histories and have been mobilized in differing social and political contexts. However, the definitions of the terms have evolved over time as practitioners and scholars have expanded and reinterpreted their meaning (Heffron and McCauley 2017, Heffron and McCauley 2018, McCauley and Heffron 2018). The concept of energy justice was first championed by a non-governmental organization in the US, the Energy Justice Network, in the late 1990s (Heffron and McCauley 2017). The primary activities of the network were grassroots and community organizing to oppose energy pollution and production of waste. Scholars have conceptualized energy justice in terms of distributional, procedural and recognition justice (table 1). In the academic literature, one of the most common energy justice frameworks is Sovacool *et al* (2017)'s framework. It urges decision-makers to consider how to design energy systems such that they support energy availability and affordability, energy resource sustainability, inter and intragenerational equity, consider intersectionality, and are governed by institutions that are characterized by due process, transparency, accountability, the ability to respond to resistance to address injustices, and that recognize that responsible governance is that which aims to protect the environment and minimize energy-related threats (Sovacool *et al* 2017).

Somewhat apart from the energy justice concept, the just transition concept is endowed with both general and specific meaning. The concept of just transition originated in the US labor movement nearly 40 years ago and united worker and community interests in developing occupationally and environmentally safe workplaces (Morena 2018). Today, the concept has been specifically utilized within national and international decarbonization policy debates such as the United Nations Framework Convention on Climate Change. The concept focuses on the goal to secure decent jobs for workers whose careers will be affected by decarbonization and is often also expanded to support entire communities with fossil fuel dependent economies (UNEP 2008, UNFCCC 2015). The concept is also increasingly used to articulate the need to address equity and justice in the transition process from fossil fuel to decarbonized energy regimes in broader terms and for diverse groups of stakeholders, not just workers (Morena *et al* 2018).

While we acknowledge that these two concepts—energy justice and just transition—are not the only lenses through which scholars examine advocacy and resistance in relation to justice and energy systems,

Table 1. Definitions of distributional, procedural and recognition justice in Jenkins *et al* (2016), a conceptual review of energy justice.

Type of justice	Definition
Distributional	The physically unequal allocation of environmental benefits and ills, and the uneven distribution of their associated responsibilities.
Procedural	Access to decision-making processes that govern distributions. Calls for equitable procedures that engage all stakeholders in a non-discriminatory way.
Recognition	Individuals must be fairly represented, free from physical threats and granted complete and equal political rights. A lack of recognition can manifest as various forms of cultural and political domination, insults, degradation and devaluation.

given that these two terms are expanding in use, we use them to constructively identify the literature that is explicitly engaging with these concepts in their presentations of advocacy. Through reference to these terms, we assume that the scholars are studying advocacy/resistance associated with or discursively connected to or motivated by issues of justice/injustice. We assume that this connection may originate either with the advocates, themselves, or with the researcher who is informed by conceptual energy justice and/or just transition frameworks. Both concepts are employed across disciplines and lineages of thought and are studied through the lens of multiple theories and conceptual frameworks. This review synthesizes knowledge across these disciplines and frameworks and thus furthers our understanding of the phenomenon of justice advocacy and political outcomes without being hindered by disciplinary silos. It provides insight into how, to date, scholars have examined actors advocating for just transitions and how—as proposed in the energy justice conceptual framework of Sovacool *et al* (2017)—advocates are actively and deliberately opposing energy injustices.

We used both extensive and intensive approaches to select articles for inclusion in the review. We developed two search strings with Boolean operators to search for articles. In August 2020, we searched the title, abstract, and key words of articles in SCOPUS for those that combined the terms ‘just transition’ or ‘energy justice’ or ‘energy and transition and justice’ with politic*/policy making/policy-making/politic*/political strategy/coalition. The search string identified 324 candidate articles. We replaced ‘justice’ for ‘injustice’ in the search string, which yielded an additional four articles after eliminating duplicates, for a preliminary total of 328. By using this systematic selection strategy, we were not predetermining the specific issues, problem contexts or advocates that might be associated with justice (i.e. poverty alleviation, job security, environmental degradation, health). Rather, our interest was to let these types of issues emerge as findings in our analysis.

To complement this extensive search, we further searched intensively within the top three journals in which our sample of SCOPUS articles were published: *Applied Energy*, *Energy Policy*, and *Energy Research*

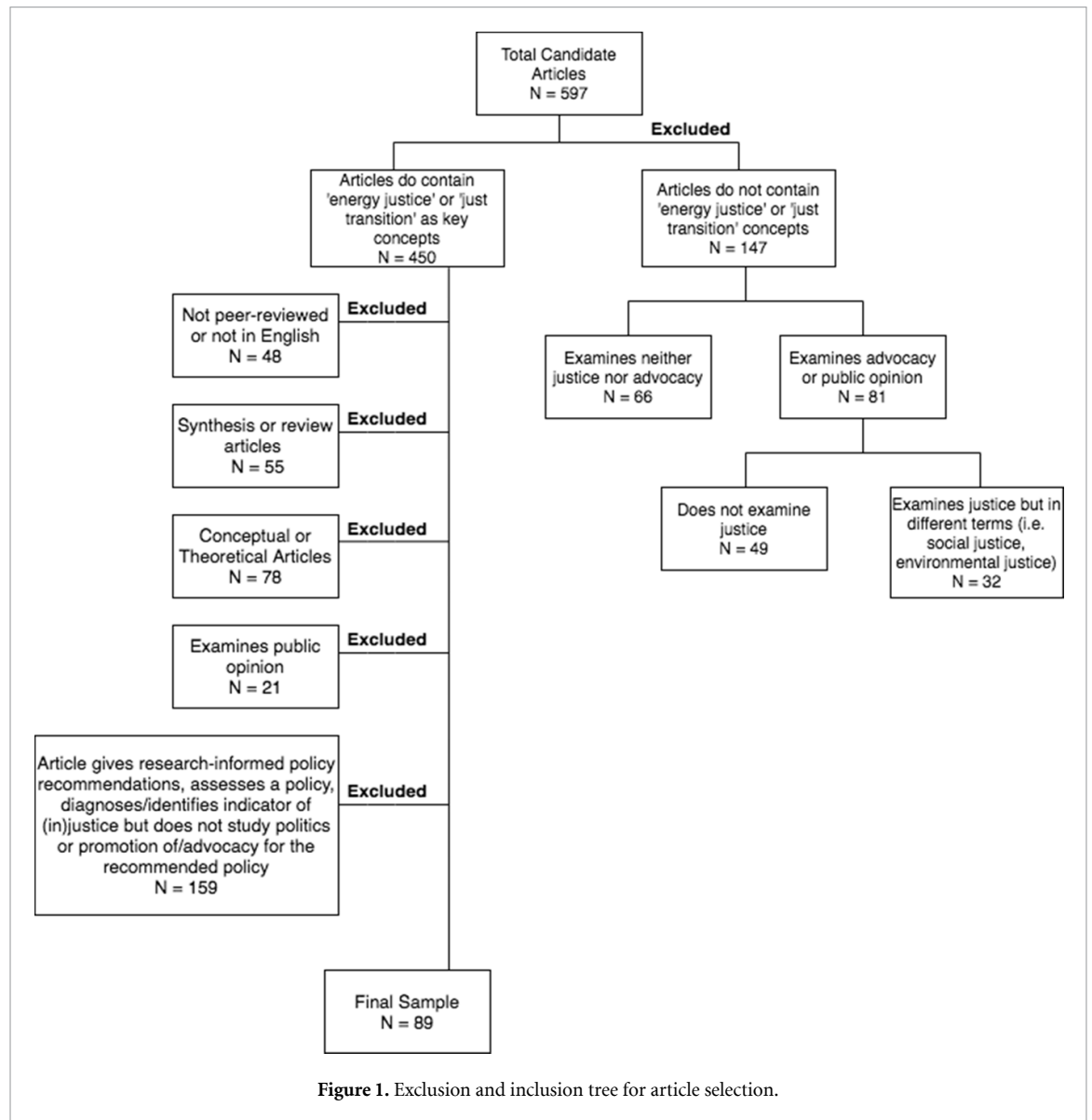
& *Social Science* (over 37% of the articles returned in the search were in these three journals). In the intensive search, we searched for the combination of terms in ‘all fields’. Similarly, we used the terms ‘just transition’ or ‘energy justice’ or ‘energy and transition and justice’ in combination with more specific search terms such as ‘political strategy’, ‘policy process’, ‘coalition’, and ‘policy making’. A total of 229 additional articles were produced for review after eliminating duplicates.

The total selection of candidate articles, 597, was then reviewed for inclusion. Table 2 contains the inclusion and exclusion criteria and figure 1 further depicts how and why articles were excluded. One of the primary reasons for exclusion was that the article did not include ‘energy justice’ or ‘just transition’ in the text of the article but rather was captured by our search because the terms were found in the titles of articles in the reference list. Secondly, many of the articles captured by our search terms did not explicitly study advocacy in terms of advocates, tactics, strategies, and goals. Rather, the articles provided research-informed policy recommendations or assessed energy systems to determine whether they were just/unjust, but did not examine the politics of or resistance to such contexts. After exclusions, the total number of articles for the dataset was $N = 89$ (see figure 1). With the exception of a paper published in 1998, the articles were published in 2013 or later, rapidly increasing after 2016. The selected articles were then categorized into three groups according to the justice concepts used in the paper: $N = 58$ for articles that used the ‘energy justice’ concept, $N = 18$ for the articles that used the ‘just transition’ concept, and $N = 13$ for articles that included both concepts.

MAXQDA (VERBI Software) was used for coding and analysis. Articles were coded for three key variables: the country/countries in which the advocacy event(s) occurred, the economic status of those countries, and the primary fuels, infrastructure, or energy issue at which advocacy was directed. Economic status of the country was assigned following the 2020 UN country classification contained in the World Economic Situation and Prospects report. Documents were then coded for what the articles’ authors reported as primary motivations for advocacy; we did not make our own judgments about whether or

Table 2. Inclusion and exclusion criteria.

Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> • Article is peer-reviewed. • Article contains the concepts of ‘just transition’ and/or ‘energy justice’ in the text of the article. • Article examines the tactics, targets, and strategies used by actors in pursuit of justice or in response to some kind of injustice related to a policy, program, or lack thereof in empirical contexts. 	<ul style="list-style-type: none"> • Article not written in English. • Article is primarily conceptual or theoretical, or is a synthesis or review. • Article provides research-informed policy recommendations on whether a policy or program was just or how to improve just outcomes, but did not study advocacy or actors promoting a particular outcome.



not the reported motivations, issues or concerns were normatively or philosophically associated with some etic conceptualization of justice. Rather, our analysis recognized that in most advocacy situations there are no absolutes: political agendas, interests, and opportunities are likely to shape whether and how an issue is framed as just or unjust more so than philosophical and moral understandings of justice. Nevertheless, the article authors, by employing justice terminology,

are likely framing their interpretations in etic as well as emic perspectives.

As there is no singular definition of either the just transition nor energy justice concept and the injustices explicitly associated with these terms (Ramazan *et al* 2017, Morena *et al* 2018, Pellegrini-Mesini *et al* 2020), the codes for advocacy motivations were developed both deductively and inductively. A total of 99 motivations for advocacy

were identified and grouped into 11 categories of issues that motivated advocacy: environmental degradation, public health and safety, energy poverty and fairness in pricing, livelihood or economic change, energy ownership and control, displacement, opposition to proximate energy infrastructure, recognition injustices, procedural injustices, greenhouse gas emissions, as well as motivations that are not injustices but focused on new benefits of the energy transition such as green jobs. Informed by the trivalent approach to justice as described in Jenkins *et al* (2016), rather than only distributive issues of injustice, we also coded for issues of procedure and recognition. In order to better understand the connections between the motivations for advocacy and the strategies advocates use to progress their agendas, we coded for the three main elements of political strategy identified by Hess (2019a): advocate type, tactics or means of action, and the target of such an action (see [appendix](#) for the final coding scheme).

Analysis was conducted at both a document level as well as at the level of a case. Some articles included multiple cases from different geographies or cases in the same geography but that were distinct in terms of time period or actors' goals. We defined a case as a series of strategies, collaborations, and other advocacy actions executed to achieve a particular policy or governance goal. The number of times an advocate type was associated with a particular advocacy motivation as well as the number of times particular advocate types were described as working in coordination or, at minimum, described in the document as working towards a shared interest, were also documented.

Our approach to this research through a systematic review does have limitations. Any review based on the academic literature cannot be interpreted as a robust assessment of the full complexity of advocacy contexts and processes 'on the ground'. Our findings will reflect the selection biases of researchers concerning those conflicts and events that were seen as notable and compelling for research and our analysis of advocates, motivations, strategies and alliances is necessarily limited to what the authors of each study felt salient to describe. In some cases, the analysis of advocacy may not have been the primary point of investigation for the author. For this reason, we do not expect that our sample will be a fully representative sample of the many forms of justice advocacy that exist in energy transition contexts.

3. Results

3.1. Energy transition contexts and advocacy

3.1.1. Fuel, infrastructure, or primary energy issue driving advocacy

Energy transition cases were examined in 52 different countries. There were 23 articles that examined cases in the United States, 13 in Germany, nine in

Australia, eight in Great Britain, seven in the Netherlands, six in India, six examined global dynamics, and five in Canada. The remaining 45 countries were studied five or fewer times but did include countries outside the global north. There were 64 articles that examined cases in developed countries and just 37 that examined developing countries. The energy transition contexts examined in the literature were diverse and give insight into the many types of energy infrastructure or issues driving conflicts or policy events and the range of issues that motivate advocacy. Fourteen types of energy transition contexts were identified ([table 3](#)).

The two most common contexts were those related to either coal or gas. Broadly, articles that examine conflicts involving coal fall into one or more of the following categories: (a) negotiations of energy transition policy to meet environmental and labor community demands; (b) advocacy against coal power plants or coal mining; (c) pro-coal advocacy by political leaders, industry or by mining communities in an effort to preserve livelihoods or affordable energy; (d) conflict between actors advocating to shut down coal and others fighting to maintain livelihoods; and (e) international initiatives aimed at shutting down coal to mitigate climate change and the corresponding international political tension related to reducing energy poverty or maintaining economic growth.

Articles examining gas were associated with the following: (a) advocacy against gas extraction, including new drilling and fracking techniques; (b) advocacy to stop gas infrastructure build-out such as pipelines and liquefied natural gas export terminals; (c) resistance at sites of natural gas power generation; (d) resistance to extraction of gas resources due to insufficient local, economic benefit; (e) affordability and availability issues due to a transition to gas as a primary fuel source; and (f) advocacy for natural gas as a bridge fuel to preserve affordability and stability of energy supply during the energy transition.

Community resistance to renewables, primarily wind, solar, and hydropower were also prominent, particularly in developing countries (70.5% of cases) (Yenneti and Day 2015, Martínez and Castillo 2016, McCauley *et al* 2016, Yenneti *et al* 2016, Klain *et al* 2017, Rasch *et al* 2017, Avila 2018, Delina and Sovacool 2018, Aunphattanasilp 2019, Jayapalan and Ganesh 2019, Kluskens *et al* 2019, Sayan 2019, Schapper and Urban 2019, Inderberg *et al* 2020, Lieu *et al* 2020, Martínez 2020). One article highlighted opposition to geothermal power generation (Cuppen *et al* 2020) and three articles examined contexts in which there was opposition to renewable technologies due to deployment that resulted in energy affordability issues (Andreas *et al* 2018, Monyei *et al* 2018, Huang and Liu 2020). In many cases, notably in six of the seven articles that examined hydropower projects, opposition to renewable deployment came from

Table 3. Fuel, infrastructures, or primary issues shaping energy transition case studies and the percent of those cases in which the six most common motivations for advocacy occurred (i.e. in 44% of articles with a case study related to coal there were advocates motivated by issues of procedural injustices).

Fuel, infrastructure or issue driving energy transition context	Number of total articles	Procedural injustices	Environmental degradation	Energy ownership/control	Recognition injustices	Livelihood and economic change	Opposing proximate infrastructure
Coal	25	44%	48%	12%	36%	56%	44%
Gas	23	60.8%	65.2%	39.1%	52.2%	26.1%	60.8%
Resistance to renewables	14	35.7%	28.6%	21.4%	50%	21.4%	50%
Advocacy in support of renewables	13	30.8%	23%	53.8%	23.1%	15.4%	0
Control of energy	12	50%	33.33%	100%	0	8.3%	25%
Oil	12	58.3%	66.7%	50%	50%	33.3%	33.3%
Fossil fuels, nonspecific	11	27.3%	45.5%	36.4%	27.3%	45.5%	18.2%
Hydropower	7	85.7%	85.7%	71.4%	85.7%	42.9%	57.1%
Nuclear	7	0	0	71.4%	0	14.3%	71.4%
Energy Poverty	6	0	0	0	33.3%	0	0
Carbon capture and sequestration	2	100%	0	0	50%	100%	100%
Other mining	2	0	100%	0	100%	50%	0
Agriculture	1	100%	100%	0	100%	100%	0
Petrochemicals	1	0	100%	0	0	0	0

indigenous communities that were impacted by and excluded in the energy siting decision-making process (e.g. Schapper and Urban 2019, Martinez 2020).

Several articles also featured conflicts or events in which actors were in support of renewables, primarily in developed countries (85.7% of cases) (e.g. Islar *et al* 2017, Rasch *et al* 2017, Lacey-Barnacle and Bird 2018). In some cases, renewables were proposed as an alternative to fossil fuels infrastructure. In one case, in Greece, solar was advocated for in place of wind (Avila 2018). Actors supporting renewables were also motivated by an interest to reduce greenhouse gas emissions or the opportunity to gain access to any energy. Several of the pro-renewables articles focused on actors advocating for more distributed forms of energy to achieve greater energy sovereignty, and thus were also categorized as those focused on change in energy ownership and control (e.g. Forman 2017, Saintier 2017, Akizu *et al* 2018, Lacey-Barnacle and Bird 2018, Campos and Marín-González 2020). Articles categorized as ‘fossil fuels, nonspecific’ were typically focused on responding to climate change and reducing emissions from all fossil fuel sources rather than a specific source. Again, these responses were predominately in developed countries (80% of cases). For example, Cohen-Rosenthal *et al* (1998) examined United States union responses to the Kyoto Protocol and to rising greenhouse gas emissions, Rätzl *et al* (2018) examined South African trade union responses to climate change, and Lenferna

(2018) examined different international attempts and conversations that aimed to determine which fossil fuel reserves should or should not be developed.

There were some differences between the papers using only the energy justice concept compared to those using only the just transition concept. Gas and issues/conflicts related to renewable energy deployment were more common in energy justice articles and in the just transition articles the most common focus was that of coal as well as articles that were offering more general discussions of fossil fuels.

3.1.2. Motivations for advocacy

The six most common types of motivations were: procedural injustices, environmental degradation, energy ownership or control, recognition injustices, changed livelihood opportunities or economic conditions, and opposition to proximate energy infrastructure (table 3, figure 2).

Issues of process and recognition were prevalent across fossil fuel and renewable energy contexts. Within procedural injustices, some of the most specific issues included a lack of opportunity to participate in decision-making (30 documents) and government display of bias towards the energy industry (15 documents). Procedural injustices occurred in both fossil fuel and renewable energy contexts, most predominantly in conflicts related to gas, oil and hydropower (table 3). Lack of recognition also occurred frequently in contexts associated with gas,

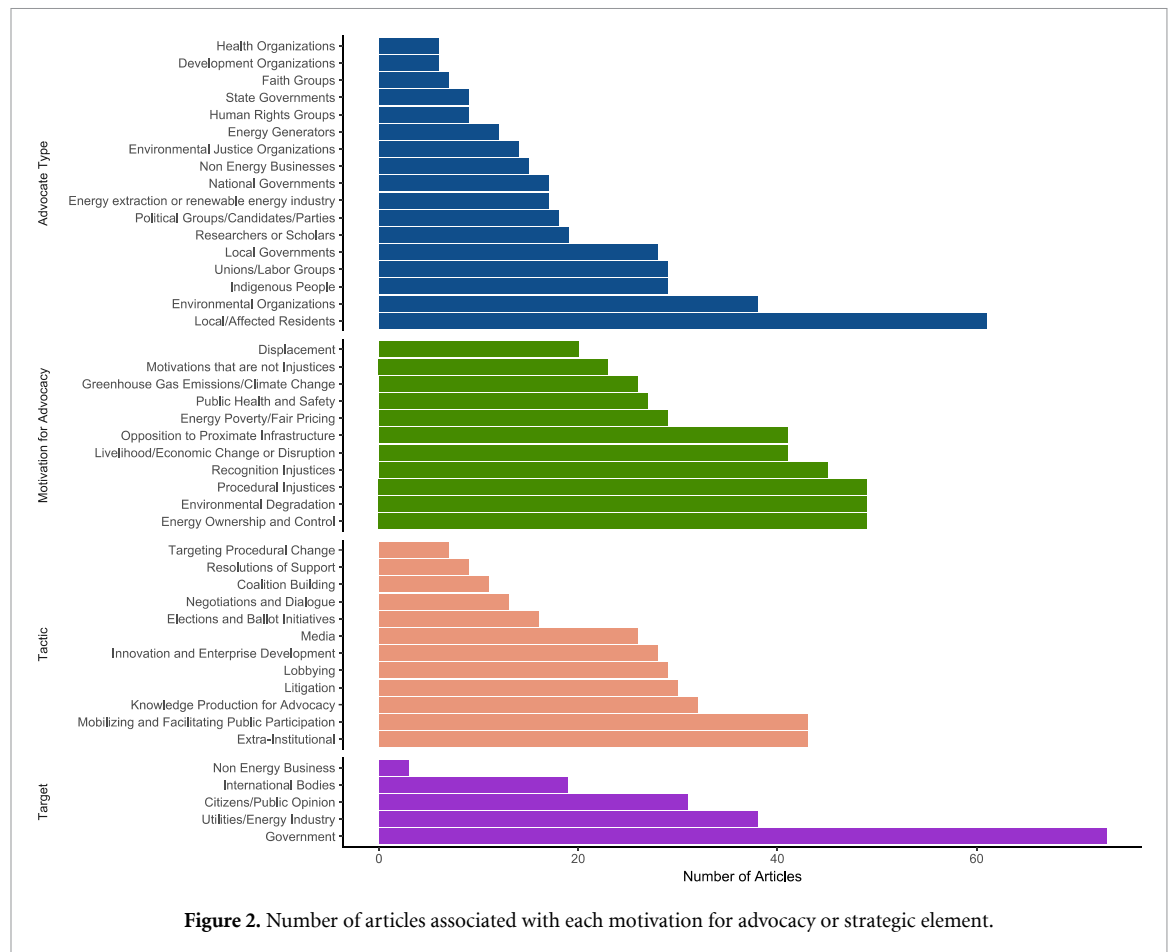


Figure 2. Number of articles associated with each motivation for advocacy or strategic element.

oil, and hydropower in addition to contexts in which advocates were acting against deployment of renewable energy. In general, issues of process and recognition were the most frequent injustices associated with solar and wind deployment proximate to communities.

Issues of environmental degradation and public health and safety were primarily associated with fossil fuels, and, in relation to degradation, hydropower. Issues of public health and safety were associated most commonly with natural gas. Within the category of environmental degradation, the most common issues that motivated advocates were broad environmental harm (24 documents) and impacts on water quality or quantity (21 documents). Notably, advocates motivated to address environmental degradation also were associated with varied agendas: some were pursuing environmental conservation (Kotikalapudi 2016, Pearse 2016, Sicotte and Joyce 2017, Avila 2018, Sareen and Kale 2018), others were interested in human health and safety (Phadke 2018, Aunphattanasilp 2019, Jayapalan and Ganesh 2019, Colvin 2020, Macpherson-Rice *et al* 2020). In some cases it was clear that while advocates involved in a given conflict were motivated by a variety of issues, if an energy project could be articulated as having an environmental impact issue, advocates would do so in instances when that appeared strategic (Finley-Brook

et al 2018, Phadke 2018, Healy *et al* 2019, Sayan 2019). For example, problems associated with environmental permitting and impacts can be instrumental in halting an infrastructure project, whereas justice arguments may have less legal footing.

In articles focused on advocacy in support of renewables, advocates commonly sought not only a technological shift, but a shift in ownership and control. More broadly, actors advocating for energy ownership and control are commonly associated with a specific effort to achieve improved compensation or benefits from energy extraction or production (36 documents) and occurred in articles examining energy conflicts related to hydropower, nuclear, oil or as part of actors' pro-renewable energy advocacy (table 3).

Issues of livelihood and economic change surfaced frequently in conflicts involving coal in Australia, Germany, and the US (e.g. Abraham 2017, Goddard and Farrelly 2018, Prinz and Pegels 2018, Harrahill and Douglas 2019, Weller 2019, Colvin 2020, Feng 2020, Herberg *et al* 2020), but also in the papers that were broadly examining fossil fuels as well as in conflicts related to hydropower (e.g. Aunphattanasilp 2019, Jayapalan and Ganesh 2019). However, the livelihoods affected in hydropower conflicts were not those of energy workers in the global north. Rather they were those of adjacent

communities with established livelihoods such as subsistence farming, fisher people, and tourism in India, Thailand, Malaysia, and Ethiopia. In general, issues of inadequate compensation and benefits or of energy poverty and fair energy pricing were more common in energy justice articles whereas livelihood and economic change, greenhouse gas emissions, unacceptable working conditions and advocacy for green jobs were more common in just transition papers.

3.2. Elements of political strategy

3.2.1. Advocates

Overall, we identified 46 types of advocates, but almost half of the advocate types appeared less than ten times across the sample. In addition, we identified that in many cases authors did not specify the type of actors involved in advocacy. Instead, nonspecific language such as movement, campaign, coalition, alliance, NGOs, civil society, or activists was used to describe actors. In our analysis, we included government actors as advocates given that articles would often describe these actors as advocating for, or taking action on, a justice agenda. Thus, government actors are depicted as both advocates and targets of advocate actions.

The most common specific type of advocate identified in the literature were local/affected residents (figure 2). Included within this categorization are formally or informally organized local groups, local chapters of regional or national groups, intentional communities (i.e. ecovillage, communal living facilities), neighborhoods, and what the literature refers to as 'prosumers' or residents that want to produce their own energy. Environmental organizations were the second most common type of advocate followed by unions/labor groups, local governments, and indigenous people. Proportionally, local/affected residents were more common in energy justice articles whereas the primary type of advocate in just transition articles were unions/labor groups.

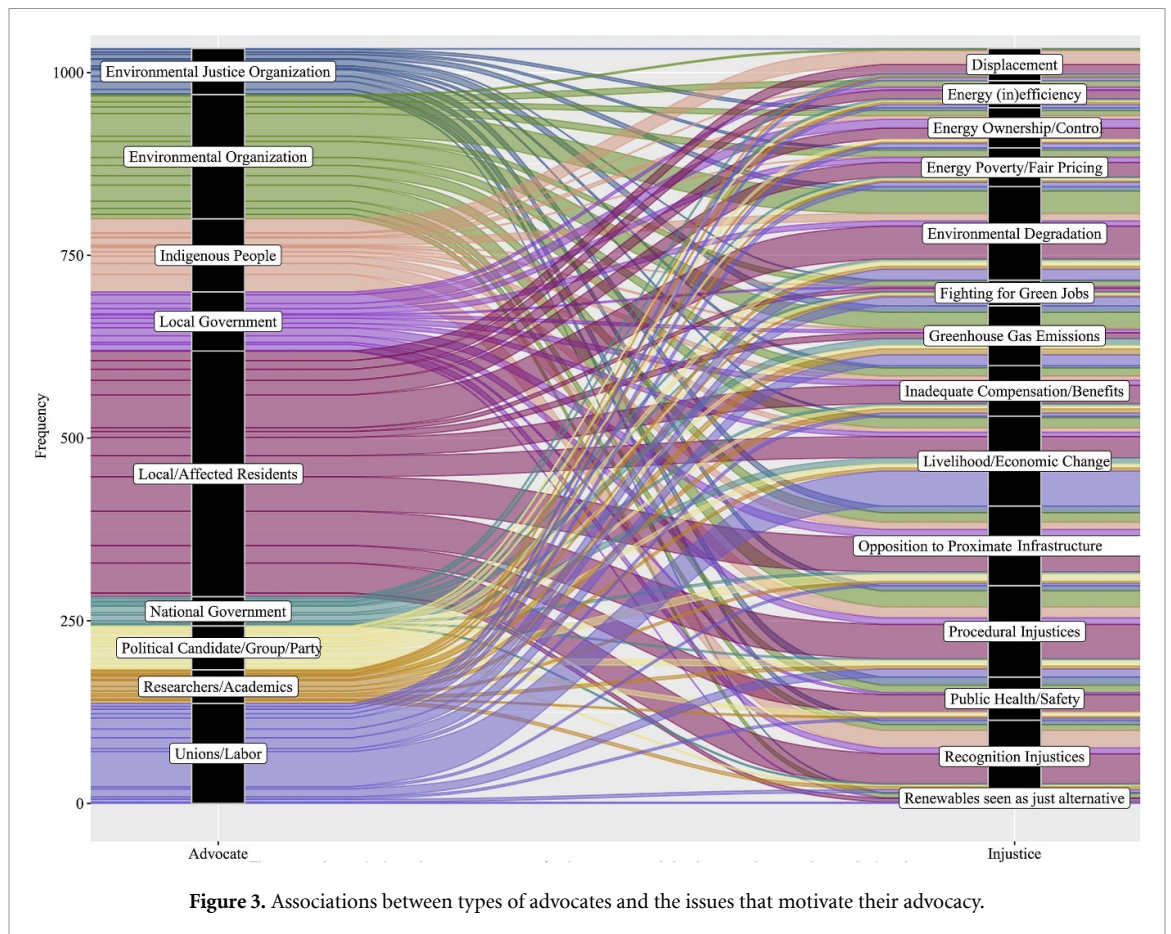
In the sample of literature, we found that justice framing and claims about justice are not limited to actors that are challenging the status quo, but are also utilized by incumbents in the US, European countries, and Australia, (e.g. Newell and Mulvaney 2013, Fuller and McCauley 2016, Stephan 2017, Phadke 2018, Goddard and Farrelly 2018, Healy *et al* 2019, Hess 2019b, Žuk and Szulecki 2020, Colvin 2020, Macpherson-Rice *et al* 2020, Lenhart *et al* 2020). For example, extractive industries or energy generators use arguments associated with justice, such as affordability concerns, to justify their position (e.g. Goddard and Farrelly 2018, Hess 2019b, Lenhart *et al* 2020). Competing claims of justice also arise between those seeking to prevent future injustices associated with climate change, those seeking to address present injustices associated with the impact of the fossil fuel industry, and the workers and communities seeking

to preserve their jobs in the industry and standard of living (e.g. Colvin 2020, Macpherson-Rice *et al* 2020).

3.2.1.1. Advocates and injustices

The most frequent association between a particular advocate type and a specific motivation for advocacy was that of unions/labor groups reacting to livelihood or economic change (48 occurrences) (figure 3). This was followed closely by the prominence of associations between local/affected residents with procedural injustices, opposition to proximate infrastructure, environmental degradation (primarily water quality and quantity), and recognition injustices (47, 47, 45, and 41 occurrences, respectively). Environmental organizations, expectedly, most often advocated for issues related to environmental degradation (31 occurrences) and greenhouse gas emissions (20 occurrences), but also against procedural injustices (22 occurrences). Indigenous people were associated with recognition injustices and displacement (24 and 19 occurrences, respectively). Local governments were most often associated with supporting changes in energy ownership and control or opposing proximate infrastructure (primarily related to natural gas). Energy generators, extraction companies and renewable energy industry actors were most often advocating for energy ownership and control and energy poverty and fair pricing. As described in the preceding section, it was not uncommon for incumbent actors to leverage these issues, particularly as justification for maintaining the status quo. For example, extractive industries may argue that fossil fuel resources are necessary for maintaining low cost, reliable electricity generation (Stephan 2017, Goddard and Farrelly 2018). Similarly, renewable energy industry actors argue that renewables are lower cost and will provide more affordable electricity (Moore 2013, Toft and Rüdiger 2020). National government actors were most commonly depicted, with equal focus, as advocating to address greenhouse gas emissions and/or livelihood and economic change.

Environmental groups were often depicted in the literature as advocating for issues beyond the scope of their traditional focus on environmental integrity or greenhouse gas emissions reduction, or at least framing their rationale as beyond those issues alone. There were cases in which environmental groups were mostly working in isolation but justifying their position on an environmental issue by describing other social consequences (Phadke 2018, Jayapalan and Ganesh 2019), cases in which environmental groups were working in alignment with other types of organizations and making the same demand (Tysiachniouk *et al* 2018, Hess 2018a, 2019b), and also cases in which environmental groups were working in isolation and seeking to, for example, stop an energy infrastructure project but their demands were in alignment with other types of organizations (Avila 2018). Though a



community group may have been concerned about energy infrastructure due to livelihood impacts and an environmental group concerned about conservation, both types of actors wanted to stop the infrastructure project.

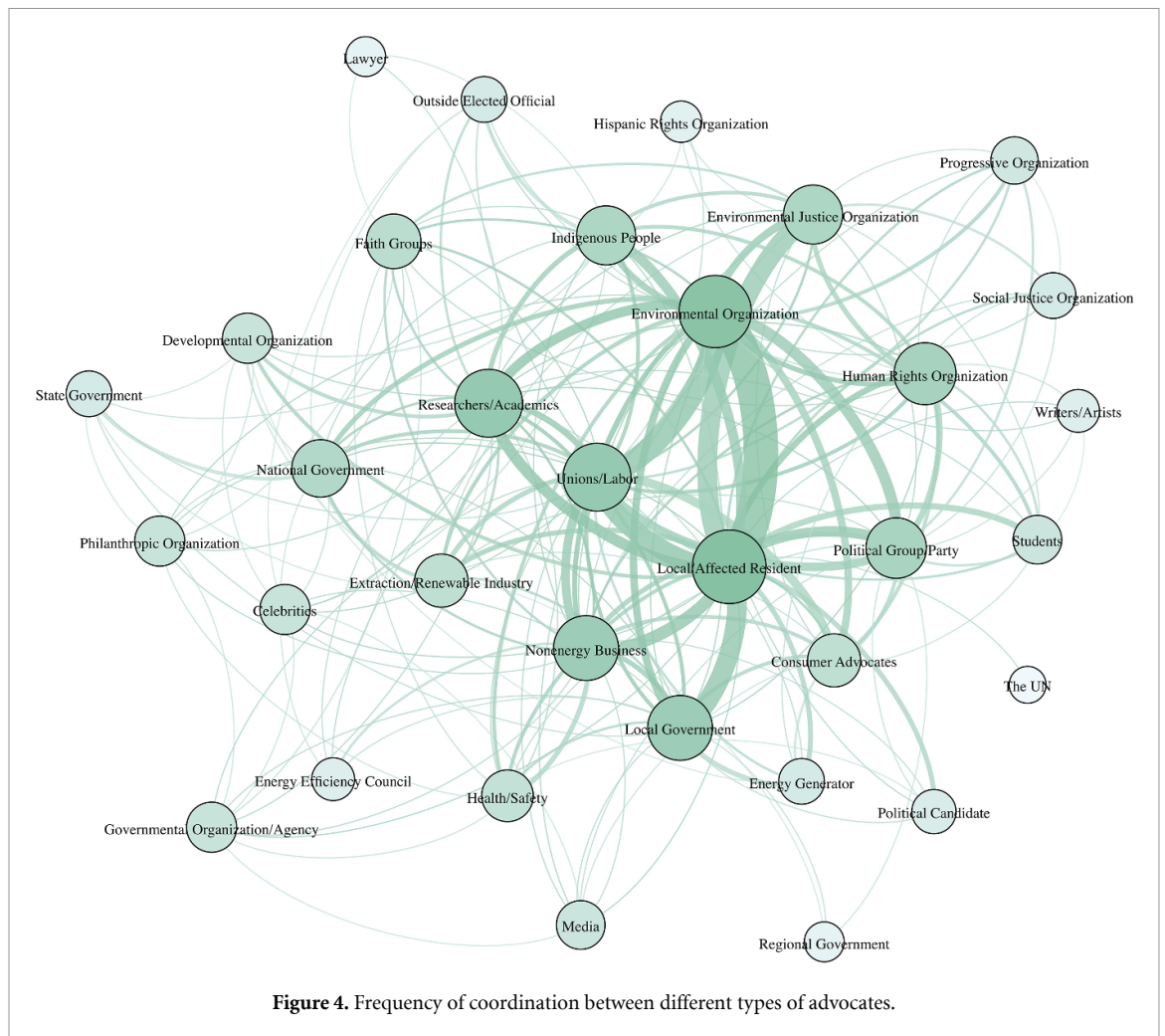
There was also some reflection in the literature of efforts to bridge the environment and labor divide that has been such a strong focus of just transition initiatives. Environmental organizations were associated with advocacy in support of addressing affected livelihoods in 14 occurrences and unions and labor groups were associated with issues of environmental degradation and greenhouse gas emissions in 15 occurrences each. Articles feature examples of such alliances highlighted a dialogue and consultation process for transition in Alberta (Harrahill and Douglas 2019), the German Coal Commission (Herberg *et al* 2020), the US, American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) coalition building with environmental groups in the late 1990s and a Canadian roundtable on the environment in the late 1990s (Cohen-Rosenthal *et al* 1998), and the actions of Blue-Green Canada, a coalition of labor and environmental groups, related to a green new deal (MacArthur *et al* 2020).

The instances of union/labor groups advocating for environmental concerns were primarily concentrated in a single paper examining unions in the US (Cohen-Rosenthal *et al* 1998). Environmental groups

are also shown supporting livelihood transition into green jobs such as solar hot water heater manufacturing (Harrahill and Douglas 2019). However, in several other instances, environmental advocates are more aligned in support of livelihoods that will be impacted by ecosystem shifts or displacement, as in the example of opposition to dams or to wind turbines in Indian nature sanctuaries that would disrupt the subsistence and fishery livelihoods of nearby residents (e.g. Avila 2018, Aunphattanasilp 2019, Jayapalan and Ganesh 2019).

3.2.1.2. Associations across advocate types

We identified 491 unique instances of different advocates (not inclusive of the nonspecific actors such as ‘NGOs/civil society’) collaborating with each other to confront particular injustices (figure 4). The five most common collaborations were the following: (a) local/affected residents with environmental organizations (b) environmental organizations with unions/labor groups (c) local/affected residents with local governments (d) local/affected residents with unions/labor groups and (e) local/affected residents with environmental justice organizations (28, 18, 16, 16, and 13 instances, respectively). We differentiated environmental justice organizations from environmental organizations either because the authors of the reviewed literature made that differentiation or in terms of how the group’s primary motivation



was described by the author. Environmental justice organizations were those primarily motivated by the impacts of climate or environmental degradation on vulnerable or minority groups. For example, motivated by health and safety impacts rather than for the sake of environmental integrity itself.

Local/affected residents were most likely to collaborate with other advocates to address injustices associated with environmental degradation (39 instances of collaboration), most often with environmental organizations (eight instances of collaboration). Environmental organizations and union/labor groups were described as collaborating in just three instances on livelihood and economic change (Newell and Mulvaney 2013, Goodman 2016), twice in advocacy for green jobs and greenhouse gas emissions mitigation (Cohen-Rosenthal 1998, Harrahill and Douglas 2019), and once for an environmental degradation issue (Cohen-Rosenthal *et al* 1998).

3.2.1.3. Coalition building strategies

The literature also offered some reflections on strategies for successful coalition building. Several articles focused on the importance of identifying shared goals, common enemies, and the use of framing and political discourse to build coalitions.

Particularly, several articles emphasized framing strategies that could ‘...acknowledge and build upon the intersectionality between distinct justice campaigns...’ (Finley-Brook and Holloman 2016, p 14). The concept of energy democracy was highlighted as a frame that could bring together the diverse goals of actors and coalitions (Hess 2018a) and did appear to be used in the framing strategies of advocates in a number of cases in the US, South Africa, and Canada (e.g. Finley-Brook and Holloman 2016, Rätzl *et al* 2018, Allen *et al* 2019, Healy *et al* 2019, Hess 2019b, MacArthur *et al* 2020). Other articles documented framing strategies that connected health and environmental risk or framed fossil fuels as causing economic and/or social harm (Hess 2018a).

Some articles also discussed approaches to coalition building across scales. One perspective offered was the benefit of framing local resistant efforts and injustices in relation to national scale movements, such as climate change mitigation, to encourage the involvement of national scale actors and their resources (Sicotte and Joyce 2017). Other articles documented the inverse strategy: larger scale movements framing their issues in ways that are relevant to issues of local concern. For example, Pearse (2016) follows the Australia climate change movement in which

some campaigners have re-grounded their actions in local issues after limited success campaigning primarily on climate. Based on an anti-fracking campaign in Western North Carolina, Rice and Burke (2017) concludes that socio-environmental justice will not be achieved through cosmopolitical views and argues that advocates should rather honor local perspectives. Analyzing response to climate policy in Poland, Żuk and Szulecki (2020) concludes that such cosmopolitan views can be met with reactions of nativism and a rejection of justice claims as elitist and out of touch with local needs.

Collectively, the articles also highlight the importance of specific types of advocates for mobilizing justice goals in particular contexts. For example, the involvement of tribal communities brought increased attention to a case of wind energy opposition in Massachusetts while, in contrast, in another wind energy conflict in India, narratives of deforestation and biodiversity loss led by conservationist groups was more powerful in denouncing a wind energy project than the voices of those who were displaced (Avila 2018). Other articles highlighted local governments as powerful allies, particularly given their ability to supply resources to energy projects (Saintier 2017). Actors in a coalition that have experience, politicians that are interested in championing an issue, and faith groups in rural conservative areas were also all identified as important for successful advocacy in various contexts (e.g. Sovacool and Scarpaci 2016, Rice and Burke 2017, McCauley *et al* 2018). Last, several articles also argued that diversity in terms of advocates' geographic location is important. As the energy supply chain, itself, spans many political and jurisdictional boundaries, transboundary alliances are critical (Healy *et al* 2019).

3.2.2. Tactics

Of the 12 tactics represented in the sample, two were most common, appearing in nearly half of all documents: (a) EI tactics and (b) mobilizations to facilitate public participation (figure 2). EI tactics included protests, marches, and other public demonstrations. Mobilizations to facilitate public participation were actions such as supporting citizens in contacting representatives, signing petitions, speaking at meetings and hearings, providing comments in rule-making procedures, writing emails and making phone calls to decision-makers, and organizing educational and awareness-building initiatives. Other less frequent tactics included knowledge production for advocacy, litigation, lobbying, and innovation and enterprise development (figure 2). These tactics were common across both energy justice and just transition articles though EI tactics were more common in developing countries whereas mobilizations to facilitate public participation were more common in developed countries. Litigation was more common in energy justice

articles whereas leveraging the media was more common in just transition articles.

Tactics varied according to the type of injustice being addressed. For example, EI tactics, litigation, and knowledge production were most frequently used to address issues of environmental degradation. Knowledge production was often also used in association with advocacy to address greenhouse gas emissions. Livelihood and economic change was also frequently addressed through EI tactics, reflective of both the livelihood impacts threatening indigenous people and union/labor groups. In contrast, energy ownership and control and other non-justice motivations for advocacy were more likely to be associated with innovation and entrepreneurship, rather than EI tactics.

Tactics also varied, to some extent, according to the type of advocate. Indigenous people used EI tactics approximately twice as often as any other tactic. Local/affected residents and environmental organizations used EI tactics with the same frequency as mobilizing and facilitating public participation. Two other tactics used most frequently by local/affected residents and environmental organizations were knowledge production for advocacy and litigation (e.g. Finley-Brook and Holloman 2016, Pesch *et al* 2017, Finley-Brook *et al* 2018, Sayan 2019). Innovation and enterprise developments were typically associated with renewable and locally controlled energy projects or energy efficiency initiatives and their developers, local governments, cooperatives, and groups of local residents. Though union/labor groups used EI tactics most frequently, lobbying and mobilizing public participation were also common and important tactics for this advocate type. Also in the case of union advocacy, Cohen-Rosenthal *et al* (1998) reports that US unions issued resolutions to set internal but public, outward-facing agendas in response to the Kyoto Protocol.

Local/affected residents, environmental organizations, environmental justice organizations, and researchers/academics all are reported as advocates that have mobilized and facilitated public participation as a means through which to address many different injustices. Actors mobilize to demand participatory opportunities and a voice and to take advantage of channels of participation that have been made available. At least 18 articles examined advocates' participation in formal, official participatory processes, such as speaking at public meetings or hearings or providing written public comments (e.g. Klain *et al* 2017, Phadke 2018, Marlin-Tackie *et al* 2020). However, many articles reported that these processes—across diverse geographic contexts—were inadequate and unsatisfactory. Forums such as these may be dominated by elite actors (MacArthur *et al* 2020), inaccessible to some citizens (Marlin-Tackie *et al* 2020) open for comment only after plans are already advanced and thus used as a mechanism to

legitimate rather than challenge decisions (Newell and Mulvaney 2013). Ultimately, opposition by community members expressed in public consultation forums may have no impact on decisions (Newell and Mulvaney 2013, Whitton *et al* 2017, Rice and Burke 2017, Bedi 2018, Krzysztofik *et al* 2020, MacArthur *et al* 2020), but they may initiate contestation to an energy project that continues through other means. Thus, it is not surprising that participation in such processes is only one of the strategies used by advocates.

3.2.3. Targets

Our analysis identified at least 24 specific targets of advocate action that fell predominantly into the following, broader categories: government actors, citizens/public opinion, international actors/bodies, utilities and industry and a few instances of actors targeting non-energy businesses, trade unions, and other protestors. The most common targets were government actors (figure 2). National governments were twice as likely to be targets of advocate actions compared to state or local governments. However, the government target or level of government that is targeted is often not specifically described. Utilities and industry were the second most common targets.

International actors/bodies as targets were those such as the Inter-American Court of Human Rights, the World Bank, National Governments in the United Nations, the European Union, and international climate negotiations. Articles, primarily just transition articles, highlighted trade unions targeting international climate deliberations as well as global alliances formed to encourage climate commitments from partners around the world such as the Powering Past Coal Alliance and the Lofoten declaration (Lenferna 2018, Zhao and Alexandroff 2019, Blondeel *et al* 2020). Two articles also examined the Yasuni ITT initiative, an initiative led by the Ecuadorian government, that sought funding from the international community to compensate them for not developing a major oil field as part of their contribution to climate change mitigation (Sovacool and Scarpaci 2016, Lenferna 2018). Advocates also targeted international actors when unrecognized by their own government. For example, indigenous communities in Columbia ask Sweden, Russia and Canadian entities to suspend hydropower projects (Martínez and Castillo 2016). The Kilwa community in Tanzania wrote a letter to the international community explaining that they did not seek to stop gas development, but that they wanted to be involved in the decision-making and to benefit from the project (Poncian and Jose 2019).

Some articles illustrated the strategic benefits of advocates targeting specific actors or combinations of actors. For example, a campaign to stop oil drilling in sub-Arctic Russia led by indigenous people and supported by environmental groups around the world found an opportunity to appeal to investors when

the company sought \$20 billion in public investment. The campaign was successful and, through pressure from investors, the company developed a local development plan that included robust benefit sharing (Tysiachniouk *et al* 2018). Actors involved with the divestment movement, a movement with many targets such as individuals, businesses, governments, etc, were also mentioned in at least six articles. The divestment movement appeals to such targets and aims to keep them from investing in fossil fuel projects and companies.

3.3. What makes advocacy for justice successful?

Success of any political advocacy is subjective, and would need to be understood within the context of specific advocates' goals. We relied on the articles' authors' description of advocates' goals and associated achievements in our coding. We thus did not independently assess whether or not such achievements would be considered just, equitable or fair by applying any external criteria. Nevertheless, some insights can be gleaned from the literature about the relationship of advocate's tactics and whether or not they achieved their objectives. Successful outcomes were associated with tactics involving knowledge dissemination on issues of injustice, environmental litigation of energy projects, as well as through non-institutionalized means such as protests, resulting in increased issue visibility and attraction of resources (David 2018, Rätzl *et al* 2018, Sayan 2019).

Collectively the sampled literature provided more insights about contextual factors such as socio-economic conditions, public opinion and the structure of a country's political system as influential in outcomes rather than particular advocate or coalition characteristics or strategies. For example, in advocacy against fossil fuels, it may be easier for advocates to find the leverage to shut down the industry if it is becoming economically less viable (Sicotte and Joyce 2017, Swennenhuis *et al* 2020). A distracted industry—such as one confronting energy crises, bankruptcy, or other litigation—may be unable to organize a broad campaign for their interests (Hess 2019b). In contrast, if actors are advocating for justice for fossil fuel workers and livelihoods, there may be less leverage for transition support if jobs are already, or have been, disappearing (Cohen-Rosenthal *et al* 1998). Local support also influenced the success of enterprise development. In a study of several community solar enterprises in the UK, Saintier (2017) found that strong local support from the beginning and projects that accounted for community interests were successful.

The institutional structures that determine how political and decision-making power is distributed were also important determinants for outcomes. In Norway, Inderberg *et al* (2020) found that the position of municipal officials on wind power licensing and permits was statistically significant in influencing

the project's approval. In the authoritarian contexts of Ethiopia and Russia, or where injustices and those affected are not recognized, Tysiachniouk *et al* (2018) and Schapper and Urban (2019) found that international norms and transnational alliances were important for stopping injustices caused by internationally financed energy projects. Last, the case of the coal transition in the Ruhr region of Germany is often highlighted as a model success story, but the context is very unique. The law of codetermination in Germany institutionalizes the right of workers to participate in the management of the companies they work for, ensuring that they have the power to influence how an industry manages transition and how that transition impacts its employees (Abraham 2017, Herberg *et al* 2020).

Several articles included multiple case studies or referenced multiple examples of advocacy in various contexts, but there were relatively few that conducted comparative analyses of advocacy efforts and even fewer with a focus on the factors that tied advocacy and outcomes together. Comparative cases are important for progressing the study of advocacy in order to isolate the effect of particular strategies and actors from broader contextual factors such as political, economic, and institutional variation that influence outcomes.

The literature sampled not only provided insights into factors supporting successful advocacy, but also the implications of such advocacy on energy transitions. Verdeil *et al* (2015) and Andreas *et al* (2018) examined cases in Bulgaria and Egypt that demonstrated that failure to ensure that a new source of energy is accessible and affordable can lead to backlash. Pearse (2016) and Hess (2019b) found that in energy transition policy conflicts in Australia and California, energy policy that did not have the support of organized labor was unlikely to pass. Last, many of the articles we reviewed, including those in Thailand (Aunphattanasilp 2019), Greece (Avila 2018), Albania (Avila 2018), the Philippines (Delina 2020), Massachusetts (Klain *et al* 2017), suggested that energy projects that are perceived by local communities as providing insufficient local benefits may be opposed and subsequently stalled.

4. Discussion

Among sustainability and socio-technical transition scholars, there is broad agreement that novel governance arrangements, and sustainability transitions broadly, are triggered from both top-down and bottom-up drivers of change (Smith *et al* 2005, Geels 2014). As top-down decisions are made to transition society towards a more sustainable future, actors who are affected by the change or dissatisfied with decision-makers' progress to move away from the status quo, may organize from the bottom-up to resist and oppose the decisions they perceive as

unjust (Seyfang and Haxeltine 2012, Akizu *et al* 2018, Temper *et al* 2020). Grassroots and civil-society advocates for social and environmental change also organize to mobilize support for policy change at higher levels of organization to create or leverage windows of opportunity (Healy and Barry 2017, Hess 2018b, MacArthur *et al* 2020). Rather than finding a 'mute' energy justice movement, as described by Jenkins *et al* (2016), our review found that scholarship is capturing diverse dimensions of an active and vocal advocacy. As concluded in Fuller and McCauley (2016), within the literature were diverse advocates with varied demands. Many issues that motivate advocates' participation in shaping the energy transition are locally defined by individuals' direct experience related to energy extraction, generation, or consumption or energy and occur in relation to both fossil fuel and renewable energies.

Procedural and recognition injustices featured prominently in the articles we reviewed, reflecting perhaps both new opportunities for engagement in energy as well as the organizational culture of incumbent actors. The international dialogue accompanying the goal of decarbonization includes goals of increased equity, further opening up the opportunity for advocates to leverage a technological shift to promote a more equitable distribution of the benefits and burdens of energy production. Nevertheless, the procedural boundaries of incumbent institutions have been defined such that energy decision processes tend to be primarily concerned with issues of technical feasibility, reliability and, to some extent, environmental impact rather than the diverse concerns or preferences of non-technical residents (Weinberg 1997, Aitken *et al* 2008).

Procedural injustices were described as the absence of participatory process but also as decision-making processes characterized by governmental and industry bias, lack of transparency, and an inability to affect decisions even when advocates mobilized community participation in public meetings, hearings, and comment periods. The articles we reviewed described many cases of energy decision-making processes that shut out affected communities and stakeholders or of participatory processes that participants, or advocates, interpreted as unsatisfactory when their grievances were not recognized (e.g. Kotikalapudi 2016, Forman 2017, Whitton *et al* 2017, Aunphattanasilp 2019).

Many articles offered conclusions emphasizing the importance of participatory process and transparency, especially to promote community acceptance of energy infrastructure (McCauley *et al* 2016, Klain *et al* 2017, Kluskens *et al* 2019, MacArthur *et al* 2020), however participatory processes do not guarantee such acceptance (Devine-Wright 2011, Bidwell 2016). Procedural justice is not achieved through an invitation to a participatory process, but requires that within such processes all participants are granted

equal status and that decision-makers and decision-making forums are accountable to the concerns and rights of participants (Fraser 2005, Sovacool *et al* 2017). Several articles in our sample found advocates dissatisfied and discouraged by public comment opportunities. Research shows that these opportunities may be biased towards scientific and technical comments. Baka *et al* (2019) examined a public comment period in the US concerning regulations for hydraulic fracturing and found that comments directly relevant to a proposed rule change and that draw upon government-sponsored research and existing laws are the most influential. Bias in what is recognized as valid input and whose voices and opinions matter exemplifies and further contributes to issues of recognition injustice. As argued by Aitken *et al* (2008), in public inquiries, pre-existing policies that have defined the permitting requirements for energy projects are 'untouchable' and define what is acceptable whereas the local perceptions of acceptability are deemed subjective and insignificant. In addition, some research even shows that participation in such formal processes decreases advocates' chance for success. In an examination of campaigns against energy projects in Canada, Gobby *et al* (2021) found that cases where communities were involved in formal consultation processes were actually less successful in achieving desired outcomes compared to other forms of resistance.

As formal, participatory processes are often absent, inaccessible, or leave community concerns unrecognized, other strategies are required. Our results suggest that advocates may turn to EI tactics or seek coalition partners that have the expertise required to participate or sufficient power such that they cannot simply be bypassed by decision-makers. Given the prominence of local, affected residents and indigenous people as advocates in the reviewed literature, it is not surprising that issues of recognition and procedural justice were prominent nor that EI tactics were the most common means of action for these actors. As described above, the concerns of community members may not be recognized as legitimate in relation to a permitting process, and indigenous communities have been misrecognized and their right to self-determination has been violated for centuries. EI tactics of resistance can bring visibility to an issue and serve as modes through which to attract the attention of decision-makers, potential allies that have access to more resources and established relationships with decision-makers, the media, and even researchers (Konkes 2018). The frequency of these tactics observed in our sample may be driven by the fact that those kinds of events do increase the visibility of an issue not just for policy makers, but also to researchers. Nevertheless, such tactics are costly for advocates (Eakin *et al* 2020); even if the literature demonstrates a selection bias towards such tactics,

the injustices demonstrated are likely profound for advocates.

Rather than, or in addition to, EI tactics, advocates may also seek coalition partners that have the resources to both access and influence formal channels of participation and decision-makers. The second most common advocacy group, and the most common coalition partners with local/affected residents were environmental organizations. Large scale environmental organizations have become equipped to participate in policy processes with their abilities to mobilize resources, gain access to information, create ties with other groups, and control the framing of an issue (Mitchell *et al* 1991, Weinberg 1997, Schlosberg and Collins 2014a, Gobby *et al* 2021). They employ lobbyists, lawyers, scientists and organizers in order to deploy a multitude of tactics to educate the public, enact policy reform, organize EI actions, and develop scientific determinations about the impact of technologies on the environment and human health (Mitchell *et al* 1991). In addition, assessments of environmental impact are typically required for formal decision-making arenas. In our review, environmental degradation was also a very prominent issue that motivated advocacy, especially from local, affected residents and environmental organizations. Although local residents may have broader goals than preventing environmental degradation, it may be strategic to frame objections to a project in this way. Such framing may help build alliances with environmental organizations and to increase the legitimacy of what may otherwise be deemed as subjective objections to a project (Aitken *et al* 2008, Brown and Spiegel 2019, Temper *et al* 2020).

By framing their motivations in the language of justice or local human impacts, environmental groups also benefit from partnerships with affected residents that are participating in local resistance. Given the contemporary political nature of environmental and climate agendas, reframing advocacy and demands in terms of non-environmental benefits is often strategic (Hess 2018a, 2019b). Climate advocates in the US seek to mobilize non-environmental constituencies and build support for climate policy by including social and economic investments and reforms (Bergquist *et al* 2020). Supporting local issues is also one way that national environmental organizations can expand their membership base. In the US, membership tends to be higher in counties with higher income and education levels and in the late 1990s several national organizations had especially low membership numbers in states with fossil fuel economies (Wikle 1998). Broadening support for policy issues into new local constituencies provides access to new senators and representatives for national organizations at the federal level (Hess 2019a). Further research is necessary to determine to

what extent environmental organizations are advocating for social and economic reform for its own merits or simply because it provides the political power necessary to pass energy transition policy.

Though there are opportunities for coalition building between advocates that can mutually benefit from complementary capacities and resources, coordination among particular stakeholder groups may be more fraught. Climate or environmental groups may see the local impacts focus of environmental justice groups as potentially divisive of a larger, united movement whereas environmental justice organizations are often concerned that climate policy solutions will be formulated without a local perspective and, among other issues, will increase the cost of energy (Schlosberg and Collins 2014a, Finley-Brook and Holloman 2016). Though the notion of 'just transition' may unite the interests of labor and environmental groups in some contexts or as a broad goal, operationalizing a policy solution may be more difficult in practice. After hard months of negotiating and reaching an agreement on a plan to phase out coal in Germany, environmental advocates who were a part of the negotiating team, the German Coal Commission, published an open letter criticizing the plan and the lack of steps taken towards its implementation (Herberg *et al* 2020). In the US, though many organizations and policy makers employ the rhetoric of and have introduced legislation for a just transition, the United Mine Workers have maintained resistance to coal transition initiatives. They have repeatedly and publicly diminished the notion of 'just transition' because they have yet to see any policy measure that actually lives up to their ideals (UMWA 2021).

The reviewed articles also illustrate how conflict in energy transitions results because the transition is providing novel opportunities for governance. Renewable energy sources offer a new opportunity to contest the legitimacy of existing models of energy ownership, development and control. The fact that wind and solar resources are not minerals that can be owned and that renewable energy technology requires less capital to capture and convert natural resources to energy, enables energy systems to be small, decentralized, and locally owned. The shift from capital-intensive, centralized systems to such an alternative opens the door for residents and local governments to become more engaged as advocates and partners with other local actors to develop, own and control energy producing technology and derive even greater community and household benefit. Cases in the literature reveal that utility-scale renewable energy developments can result in the same issues of procedural and recognition injustices and resulting opposition to such infrastructure. However, other cases illustrate that advocates are seeking greater energy sovereignty through models of energy ownership made possible by widely available technology that permits energy generation at a smaller scale.

Though the literature we reviewed does capture many issues that motivate advocates, there are certainly issues that have not yet been studied extensively and published in peer-reviewed journals. For example, though the reviewed literature described advocates acting to prevent damage from proposed infrastructure or sites of extraction, or seeking to close down operating infrastructures that are producing environmental harms there is, at best, a weak focus on the advocacy required to acquire funding for and/or enforce remediation and repurposing of sites of energy extraction and generation. In other words, advocacy is most often examined as contributing to ending or changing the way energy is produced, where it is sited, or as it relates to transitioning workers, but there is less focus on restoring and transitioning places and whole economies. This may be indicative of an investigative bias in the energy justice and just transition literature that has yet to give attention to advocacy focused on long-term environmental remediation and economic recovery efforts. These kinds of longer-term campaigns may also be less visible to the public and to researchers, particularly until they achieve a certain level of success. However, such campaigns do exist. For example, advocates in US coal mining communities seek to remediate environmental harms, such as abandoned and unclaimed mine lands, that threaten public health and undermine future economic and community development (RECLAIM).

In a review of energy transition coalitions and political strategy, Hess (2019a) concluded that to deepen our understanding of the politics of energy transition contexts, scholars should seek to understand how advocates and coalitions adjust tactics, strategies, and partnerships as contexts shift. It is clear that there is a growing body of literature responding to Hess (2019a) call. The literature reviewed illustrates that academics identified diverse actors involved in energy transitions with complex and nuanced motivation, and tactics and political strategies spanning a spectrum from EI to institutionalized means. Nevertheless, much of this empirical work still fails to disaggregate the diversity of actors, relying on terms such as 'civil society' and 'movements' to describe what is likely to be a far more disparate and contested arena of political action. Greater effort to identify the motivations, tactics and goals of distinct advocates, and how and when they collaborate, could substantially advance understanding of the politics of justice in energy transitions and the potential for specific policy initiatives to succeed. These motivations and articulations of justice in political rhetoric should be examined both according to their political salience and situated within an understanding of philosophically informed frameworks of justice.

There is also a need to understand what makes justice advocacy effective as, collectively, the body of

literature we reviewed has focused less on the role of advocacy, and more on the contextual and structural factors that influence outcomes. We need a refined understanding of how strategic decisions are made by advocates and how tactics work together and add up for success within clearly defined political and socio-institutional contexts. Concerted attention to how and why advocate strategy and demands shift would provide insight into the means through which advocates ultimately shape outcomes. In addition to a more disaggregated, advocate-centered approach to analysis, comparative case studies of advocacy within diverse settings would potentially enable scholars to associate strategies with justice outcomes.

Our analysis also indicates a need for better understanding of the less visible aspects of advocacy and for investigating contexts in which advocacy, or particular types of advocates, are absent. This review has helped summarize a growing body of literature that documents the many injustices that occur at sites of extraction, transport, and generation for both fossil fuels and renewable energies and that occur in transition from reliance on one fuel to another. Scholars can thus approach the study of such contexts with an awareness that even where there are not yet mobilizations or visible resistance, there may be harm and actors that are affected by, coping with, and/or investigating options to address such harms. In cases with less opposition, we might hypothesize that the institutions in place for governing the transition are just, or that those affected lack access to the decision-making arena, lack the resources to participate, or have concerns that are not recognized as legitimate by those in power. Which of these hypotheses is supported in specific contexts would provide important insights into the ultimate sustainability of energy transition processes and the institutional contexts that support just transitions. This awareness should advance the study of justice advocacy and our understanding of how such advocacy, or lack thereof, shapes energy transitions and equity outcomes.

5. Conclusion

The last decades of empirical work on conflict and advocacy in energy transitions highlight the diverse

actors involved and the continued salience of distinct issues that motivate advocacy related to the desire to create more just energy futures. The literature illustrates that the shift towards renewables globally is revealing new landscapes of burdens and benefits, while also underscoring legacies of misrecognition and historical injustices in resource access and livelihood opportunity. The literature also reveals that it is not only energy sources and impacts that are changing, but also the opportunities for energy governance and control. If public environmental and social objectives of energy transitions are to be achieved, it will be important to continue research on who is participating in justice advocacy, what motivates them, how their interests may or may not be aligned with other advocates, and the channels of political influence that are available to them. Scholars have also shown that advocates can progress energy transition and equity goals or stall energy transitions if equity is not addressed.

Achieving more equitable energy institutions and governance requires the de-technification and repoliticization of energy decision-making and of the energy system. Energy governance should be designed to recognize unexpected, unaddressed burdens brought forward by those affected and to create spaces for participation that reveal issues of (in)justice rather than evade them. Scholars of energy transitions can play key roles in improving energy governance through close attention to the politics of the processes involved, the disparate roles and alliances formed by instrumental actors, the primary motivations and beliefs of the advocates involved, and the tactics and actions that ultimately aid or hinder sustainable outcomes.

Data availability statement

The data that support the findings of this study are available upon reasonable request from the authors.

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Appendix

Coding categories and definitions for motivations for advocacy.

Parent code	Child code	Child definition, literature justification for including category	Grandchild code	Clarifications on grandchild codes
Issues that motivate advocacy	Environmental degradation	Environmental contamination related to energy extraction, processing, transport, combustion, and disposal not related to greenhouse gas emissions. The origins of energy justice literature are closely associated with the environmental justice literature which is rooted in communities fighting against the disproportionate impact of environmental hazards (i.e. McCauley <i>et al</i> 2013, Healy <i>et al</i> 2019). Health or safety concerns related to energy production or extraction. Origins of the just transition concept were associated with worker and community health and environmental justice, which informed energy justice literature, also historically focused on issues of community health (i.e. Newell and Mulvaney 2013, McCauley <i>et al</i> 2013).	Soil degradation	—
			Noise pollution	—
			Threat to biodiversity/wildlife	—
			Environmental harm, generic	—
			Water quality/quantity	—
			Air quality	—
			Habitat destruction/land degradation	—
			Pollution, nonspecific	Primarily aesthetic disruption
			Landscape disruption	—
			Cold homes	—
			No electrified medical centers	—
			Increased crime rates	—
			Premature death	—
			Earthquakes	—
Threaten 'wellbeing'	—			
Unsafe/safer, generic	—			
Danger of radioactive waste	—			
Blasting/explosives	—			
Respiratory problems	—			
Health impacts, generic	—			

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Parent code	Child code	Child definition, literature justification for including category	Grandchild code	Clarifications on grandchild codes
	Energy poverty/fairness in pricing	Some of the first uses of the energy justice term in the academic literature described energy issues related to access and affordability (i.e. Guruswamy 2010, Goldthau and Sovacool 2012, Hall <i>et al</i> 2013).	Affordability Energy poverty, generic Power cuts Renewables increase rates Cost is utility responsibility Energy access/electrification Energy (in)efficiency	Primarily consumer affordability, but some examples of country-level arguments of affordable vs unaffordable energy investments. — Power shutoff/cut/outage, discrete events Advocates argue that renewable energy increases cost and is thus unjust for consumers. — — Argument that a system is either inefficient or advocates supporting energy efficiency efforts.
	Livelihood/economic change or disruption	Origins of just transition concept were from within the labor movement and one of the dominant definitions in use today in international policy circles and among international trade unions is related to decent work for those whose jobs are affected by decarbonizing the economy (i.e. Cohen-Rosenthal 1998, UNEP report 2008, Newell and Mulvaney 2013, Miller <i>et al</i> 2013).	Ecosystem shifts cause livelihood loss. Displacement connected to lost livelihoods. Affected workers and job loss Livelihood disruption, generic Standard of living inadequate Poor working conditions Damage to community infrastructure Municipal ownership Ownership/control change, generic Household level ownership Community-level ownership models Energy cooperatives Inadequate compensation/benefits	For example, mostly people who live off the land or other natural resources that will be disrupted by energy system. Cases in which individuals are not only displaced, but that displacement also disrupts their livelihoods. Energy workers impacted by job loss in energy transition. — — — For example, infrastructure dependent on revenues from fossil fuel production. Fighting for the preservation of a municipal level energy provider. Want to go from centralized to more decentralized energy production, general calls for energy democracy, access to the grid. Initiatives and advocates that support household level energy ownership, i.e. rooftop solar. Advocating for community choice aggregation or multi-household ownership models. Fighting for or aiming to develop energy cooperatives. Compensation was or is expected to be inadequate and thus there is a demand for retribution or opposition to project, efforts to make local communities benefit from local energy production or extraction.
	Energy ownership/control	Central to the prosumer concept—people being both producers and consumers of their own energy—in the energy transition literature and often associated with the concept of energy democracy (Szulecki 2018). Though not explicitly discussed or prominent in some of the more highly cited frameworks on energy justice, it can easily be understood as part of the approach to ensuring that the benefits of energy production are equitably distributed.		

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Parent code	Child code	Child definition, literature justification for including category	Grandchild code	Clarifications on grandchild codes
	Displacement	Issues of forcible relocation and displacement for new energy infrastructure are described (i.e. Sovacool and Dworkin 2015).	Displacement, generic Displaced from indigenous/ethnic territories	— —
	Procedural injustices	The categories identified here are aligned with the description of procedural injustices provided in Jenkins <i>et al</i> 2016 that says that stakeholders should be engaged equitably, local knowledge should be mobilized, there should be impartial and full information disclosure from government and industry, and improved institutional representation. Issues related to procedural justice such as transparency, due process, good governance, opportunity to participate in decision making, etc are explicitly highlighted in both the triumvirate approach to energy justice (Jenkins <i>et al</i> 2016) as well as within Sovacool and Dworkin's (2015) analytical energy justice framework.	Equal opportunity employment Other procedural injustices Government nontransparent Lax enforcement/regulation Government bias towards industry Lack of consumer information Government corruption Lack of opportunity for participation Biased/inadequate research Industry is nontransparent	Advocating for more diversified workplaces, particularly in energy sector Lack of representation (i.e. based on gender/race/ethnicity) in institutions involved in Decision-making; failure to incorporate local knowledge into decision-making process; structure of process undermines particular stakeholders; process is impartial. Advocates angered by lack of government transparency. Government enforcement of regulations or assessment processes is weak. Advocates feel that government is biased towards industry rather than representing public interest. Consumers are uninformed about energy system. — Advocates fighting for an ability to participate in a decision-making process or taking action because they find that they have been excluded from decision-making; no consultation. — —

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Parent code	Child code	Child definition, literature justification for including category	Grandchild code	Clarifications on grandchild codes
	Recognition injustices	The categories identified here are aligned with the description of recognition injustices provided in Jenkins <i>et al</i> 2016. 'There are three main categories of misrecognition—cultural domination (dismiss cultural arguments, unquantifiable values), non-recognition (failure to recognize needs particular to certain groups or marginalized individuals), and disrespect (i.e. delegitimizing expressed concerns about a project)'	Transportation choice	Control over mode of transportation, specifically those that do not use fossil fuels.
			Consumer choice	Consumers should be able to choose what kind of energy they purchase and energy system they support.
			Coercive and/or violent displacement	—
			Community lacks formal rights to property	—
			Unwanted industry access to private property	i.e. landowners that fight eminent domain
			Threat to culture/way of life	—
			Tangible impacts to cultural site	—
			Lack of recognition	Other issues with recognition including unequal recognition due to class/race/gender/ethnicity; delegitimization of expressed concerns; unequal political rights.
			Reconciliation process	—
			Human rights abuses and racism	—
			Violence	—
			Gender (in)equality	—
			Solar on schools	—
			Future sustainability	—
			'Green jobs'	Advocates make argument for policy or solution based on provision of green jobs.
			Renewables seen as just alternative	Alternative to fossil fuel development

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Parent code	Child code	Child definition, literature justification for including category	Grandchild code	Clarifications on grandchild codes
	Opposition to proximate energy infrastructure or extraction	This code was used to identify cases of advocacy in which actors seemed to be primarily motivated by the specific impacts that adjacent infrastructure or extraction would have on them and their community, without indication that they are wholly against a particular type of energy production system if it were to be placed elsewhere. These are the cases where actors are reacting in opposition to the siting of energy infrastructure. (i.e. Jenkins <i>et al</i> 2016). Also, these segments do not describe the particular reasons for opposition. It may describe an advocate as anti-fracking but not why they are against it.	CO ₂ storage Fracking Oil Solar on schools Hydro Geothermal Coal power plant/mines Located on indigenous/ethnic territory Wind power Gas/LNG Fossil fuel infrastructure, general Opposition to nuclear	— — — — — — — — — — —
	Greenhouse gas emissions	Advocates motivated by reducing GHG emissions. Conceptual articles discussing the concept of energy justice and just transition also often associate them with issues of climate justice (i.e. Newell and Mulvaney 2013, Heffron and McCauley 2018, McCauley and Heffron 2018).	Emissions, climate change, general Climate vulnerability Gas leaks Coal emissions Climate responsibility	— — — — —

Coding categories, types of advocates.

Parent code	Advocates, child codes	Advocates, grandchild codes	Clarifications on grandchild codes
Type of advocate	Energy efficiency councils/groups	—	—
	Researchers/academics	—	—
	Businesses/utilities	Certifying firm	—
		Banks	—
		Energy efficiency	Company that weatherizes or improves efficiency of buildings/homes.
		Tourism	—
		Manufacturing	—
		Businesses, nonspecific	—
		Renewable industry	Manufacturers of renewable energy infrastructure, not producers of energy.
		Energy extraction companies	—
		Electric utility	—
		Other energy providers	Nonprofit or other
		Cooperatives	—
		Municipal electricity provider	—
		Human rights groups	—
		Media	—
		Human health/safety advocates	—
		Faith groups	—
		Indigenous groups/networks	—
		Local/impacted residents	Local chapter of regional or national organizations Local organized group of citizens Not a chapter of national or international group, but an organized local entity that responds to multiple challenges, not just a part of a single movement. Mostly organizing to achieve/seek/gain something, not to oppose something. Local residents organize for particular movement, to oppose particular event.
	Neighborhood group/association	—	
	Citizens of a town	—	
	Intentional community	—	
	Impacted residents/citizens	—	

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Parent code	Advocates, child codes	Advocates, grandchild codes	Clarifications on grandchild codes
	Environmental justice organizations	—	—
	Environmental/green groups	—	—
	Consumer advocates	—	—
	Union/labor groups	—	—
	Elected officials/governments	National/federal officials	—
		State officials	—
		Regional/county officials	—
		City or town officials	—
		Government orgs, nonspecific	—
		Elected officials outside of affected territory	—
		Activists, broadly	—
	Nonspecific advocates	NGOs/civil society, broadly	—
		Movement/campaign	—
		Coalition/alliance	—
		Citizens, broadly	—
		Writers/artists	—
		Political groups/parties	—
		Students	—
		The UN	—
		Political candidates	—
		Philanthropic organizations	—
		Hispanic organizations	—
		Progressive organizations	—
		Development organizations	—
		Celebrities	—
		Lawyers	—

Coding categories, targets of advocate actions.

Parent code	Targets, child codes	Targets, grandchild codes	Clarifications, grandchild
Targets of advocate actions	Other protesters	—	—
	Trade unions	—	—
	International community	The EU	—
		The OECD	—
		Inter-American Court of Human Rights	—
		Unspecified	—
		World Bank	—
		National Governments in the UN	—
		Grid companies and operators	Companies that build/maintain/own grid infrastructure.
		Cooperative	—
		Renewable energy company	Solar, wind, hydro
		Energy investors	—
		Power plant owners	—
		Corporation, unspecified	—
		Natural gas company	—
		Public utilities	—
		Energy extraction companies	—
	Multinational energy company	—	
	—	—	
	—	—	
	National/federal	—	
	State	—	
	Regional/county	—	
	City or town	—	
	Appeal to officials outside one's own jurisdiction	—	
	Nonspecific	—	

Coding categories, types of tactics.

Parent code	Tactics, child codes	Child definition	Tactics, grandchild
Types of tactics	Extra-institutional (EI)	Acts such as protest or other public demonstrations.	—
	Litigation	—	—
	Mobilize and facilitate public participation	—	Educational/awareness initiatives Comment at public hearings/meetings Written public comment submissions to rulemaking and other comment processes. Petitions
	Media	Public relations, media, and messaging campaigns.	Open letter Public speaking/public statements
	Knowledge production for advocacy	Generating research and providing expertise to be able to respond to and provide factual claims.	—
	Innovation and enterprise development	i.e. Pilot projects, proof of concept, development of energy production and other enterprises to address issues, technology development projects.	—
	Lobbying and educating targets	—	—
	Targeting procedural change	Improve, modify, or reject procedures, attempt to bring about institutional restructuring.	Enforcement assistance/strengthening
	Elections and ballot initiatives	—	—
	Coalition building	—	Electoral strategy Ballot measures Moratoriums/bans Coalition building Internal/member organizing Form/join international alliance
	Resolutions	Signed resolutions to show governmental or organizational support to an issue.	—

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Parent code	Tactics, child codes	Child definition	Tactics, grandchild
Others		—	Refuse to sell land Eco-labeling initiatives Permit denial Create legal documents Violence Company returns rights Community outreach/services Provide or withdraw lending/financing Invoking rights under an agreement Maintain status quo Pay to keep fossil fuels in the ground Show of 'concern' Inclusive workforce training Political champions introduce legislation Divestment

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