Review

Cooler coalitions for a warmer planet: A review of political strategies for accelerating energy transitions

David J. Hess

Department of Sociology, Vanderbilt University, PMB 351811, Nashville, TN, 37235-1811, United States

A B S T R A C T

The lack of progress on greenhouse-gas reduction at the global level has drawn attention to the need to strengthen support for energy-transition policies. One crucial component of such support is a better under-standing of the political strategy of coalitions that support such policies. Based on a comprehensive review of research in the energy and social science field, this study covers three main units of political strategy: the targets of action (government, public opinion, and businesses), the repertoires of action (both institutional and extra institutional), and the agents of action (coalition building and composition). The review articulates political strategy as an area of theoretical and empirical research with results that are relevant for political actors. For example, coalition building includes policy sequencing, modifications to accommodate incumbents, goals that enroll low- and middle-income organizations, the recruitment of countervailing industrial power, and policy selection for conservatives. Future research topics are also identified.

1. Introduction

Opposition to energy policies that would reduce greenhouse-gas emissions comes from multiple sources, among them the fossil-fuel sector, consumers concerned with potential cost increases and disruptions, and governments wary of forfeiting revenue streams from fossil-fuel resources [1–3]. Although some countries, companies, and cities have adopted systematic energy-transition policies, at a global level the effects of the changes have not been enough to counterbalance the general trend toward level and, in some years, growing greenhouse-gas emissions [4]. To address the policy failure, there is a need for more research on the conditions that cause governments, the public, and other actors to increase their support for greenhouse-gas reductions and energy transitions, a topic that in turn is part of the broader study of the pace of industrial transitions [3,5,6]. One of the important conditions for gaining policy support for more effective energy-transition policies is having a broad coalition with a good political strategy. However, research to date on this topic is highly context specific, and there is a need for a broader review and synthesis.

Political strategy is specific to historical and cultural contexts, and all politics are local in some sense. However, this review assumes that it is possible to develop general knowledge and that the comparative analysis of political strategy can identify categories and processes that can in turn provide important insights into how to build more effective coalitions of energy-transition advocates. Thus, this study provides a

systematic analysis of research to date in the energy-related social and policy sciences on how political strategy can be configured to improve support for sustainable energy and energy reform policy.

2. Theoretical background

2.1. Definitions of strategy and political strategy

The term "strategy" appears in almost every social field: business strategy, research strategy, therapeutic strategy, child-rearing strategy, sports strategy, military strategy, and so on. Although the word is widely used, its meaning is somewhat elusive. The *Oxford English Dictionary* defines strategy as "a plan of action designed to achieve a long-term or overall aim" [7]. This definition views strategy as a plan based on a goal, but it is silent on other aspects of strategy, such as the means, the relationship between actors, and the social situation or context in which the action takes place. It also focuses strategy on the cognitive exercise of a plan without also recognizing the contingencies and chaos that can occur with attempts to implement it.

In the social science literature, the narrower concept of "political strategy" is sometimes discussed and defined, and three literatures are particularly relevant for the study of coalitions and strategies with re-spect to energy politics: social movement studies, business strategy studies, and policy studies. (For a summary, see Table 1). In the social movement studies literature, the editors of a volume on strategy and

Table 1
Dimensions of Political Strategy.

Author(s)	Target	Goal	Means	Agent	Context
Maney et al.	Not specified	Goals	Collective action	Not specified	Particular context
Meyer and Staggenborg	Not specified	Demands	Tactics	Not specified	Arenas
Jasper	Others	Do "what they want"	Not specified	Individuals and groups	Situation, unspecified
Mahon and McGowan	Government	Obtain an advantage of resources	Activities with use of power	Organizations	Situation of conflict
Elgin and Weible	Government	Influence policy process	Set of activities	Coalitions	Not specified
Weible and Heikkila	Government	Influence outputs or outcomes	Direct and indirect	Individuals	Not specified
Ostrom	Others	Affect behavior	Not specified	Individuals	Situation, relevant conditions
Compston	Other policy actors	Policy preferences	Not specified	Policy actors	Not specified

social movements defined strategy as "a plan of collective action intended to accomplish goals within a particular context" [147: xviii]. This definition is one of the few that clearly highlights context, and, like the dictionary definition, it conceptualizes strategy as a plan related to a goal. In the same volume, Meyer and Staggenborg [9: 6] defined strategy as "a series of decisions regarding demands, arenas, and tactics of collective action", an approach that again highlights context but more explicitly adds means defined as tactics. In another essay in the volume, Jasper [10: 24–25] defined "strategic action" as "a situation in which individuals and groups to try get others to do what they want them to—whether or not it is against the will of the other". Jasper's approach is broader than the focus on collective action in the other two definitions, and it highlights strategy as part of a social relationship. His definition and additional elaboration also connect the analysis of strategy with common understandings of power in the social sciences [11]. Whereas power is a capacity to affect other actors or a situation, strategy involves the attempt to utilize power effectively.

Another research field where there are discussions of political strategy is the management literature on corporate political activity [12–14]. Within this literature, political strategy is often mentioned but rarely defined. One clear definition is "activities taken by organizations to develop, acquire, and use power to obtain an advantage (a particular allocation of resources or no change in the allocation of resources) in a situation of conflict" [15: 29]. This definition includes the means (activities that involve the use of power), a goal (to obtain an advantage that involves the allocation of resources), an agent of action (organization), and a context or situation (one of conflict). It does not specify the target of action, but a government entity and its associated policy outputs or implementation is generally assumed as the target in this literature. Thus, this definition provides a relatively complete conceptualization of the elements of political strategy.

A third general literature that includes discussions of political strategy is the policy literature. Representing the influential advocacy coalition framework, which views policy outcomes as the result of the conflicts and negotiations of issue-related coalitions, Elgin and Weible [16: 118] defined strategies as "a set of activities that coalitions and their members engage in to influence the policy process". In a subsequent definition, Weible and Heikkela [17: 28] characterized "political strategies or tactics" to include "efforts by individuals to directly (e.g., lobbying, voting) or indirectly (e.g., narrative debates, forming coalitions, organizing protests) influence outputs and outcomes and how those efforts are conducted". These definitions depict the strategic goal as influence on the policy process or policy outcomes, with either individuals or coalitions as the agents, and the second definition also identifies means for the strategy. In a contribution to a volume on theories of the policy process, Ostrom [18: 23] adopted a broader definition that is closer to that of Jasper: "the regularized plans that individuals make within the structure of incentives produced by norms, incentives, and expectations of the likely behavior of others in a situation affected by relevant physical and material conditions". This definition includes the target (behavior of others) and agent (individuals), but it is vague on the goal of the strategy, and instead the

definition points to the sources of the generation of goals in a normative and cognitive structure of incentives. The definition has the advantage of bringing attention to the situation or context and of defining it as both social and material. In a discussion of policy networks and climate change, Compston [131: 730] defined political strategy for actors with policy preferences as "a plan of action designed to maximize their chance of realizing these preferences". This definition has a goal (preferences), but the target (government) and agent (policy actor) are implied, and the social context is not identified.

Bringing these definitions together, one can identify a set of underlying constituent units or elements of a definition of political strategy that appear in some definitions but are missing in others: goal, target, means, agent, and context. (See Table 1). The goal can be policy outcomes or broader changes in behavior, and likewise the target (the other actors in the relationship) can be conceptualized narrowly as a governmental unit or very broadly as "others." Characterizations of means or tactics vary, and the agents can include individuals or collective actors such as coalitions, organizations, or movements. Three of the definitions refer to the context as a "situation," a concept that could be characterized more formally by drawing on general social theories of social action or social fields [19–21].

Because the concept of strategy is associated with the idea of a plan or planning, the cognitive dimension of strategy deserves further commentary. Jasper [102: 4–5] noted that "strategic thinking is oriented toward the future" and that in discussions of military strategy, "Strategy was what was done in preparation, when the enemy was not present, in contrast to tactics, deployed once contact was made". Although one might think of strategy as planned, reasoned, and prior to the implementation of means, Jasper cautioned against developing highly formal analyses of strategy. For example, game theory with its assumptions of rational actors can provide insights into particular situations, but it does not cover the full range of cases. An alternative approach would define strategy to include both a planned dimension and allowance for a more improvised dimension that occurs when an agent encounters unpredicted events and may respond with emotion.

With this background in mind, it is possible to develop a more comprehensive definition that includes all five elements: political strategy is a plan of action by collective or individual agents that includes the means and tactics envisioned to reach a goal of political and/or societal change by targeting collective or individual actors in a specific historical and societal situation. The goal of a political strategy may range from a very broad, society-wide aspiration (e.g., greenhouse-gas reductions through government policy and private-sector and consumer action) to an industry-centered goal (e.g., a phase-out of fossil fuels in the electricity sector) to support for a specific governmental policies. The targets of the action may include governmental actors, but the political strategy may also be oriented toward nonstate actors such as citizens, businesses, and opposing coalitions. The definition includes the plan for the use of means and tactics, but it would recognize that the plan will change, especially when the responses of others are unanticipated. Likewise, the idea of an agent is understood broadly to include social movements and coalitions, and the social situation may

stretch over decades and have wide geographical scope.

It is also helpful to sharpen the understanding of political strategy by distinguishing it from policy strategy and implementation strategy. Policy strategy is understood here to be the specific set of policy instruments that could be used to implement a goal [22,23], and implementation strategy is the plan for carrying out a policy strategy. A political strategy may specify a mix of policy instruments, such as, "We need a revenue-neutral carbon tax, but not a cap-and-trade program with a green fund, to reach the goal of reducing greenhouse-gas emissions," and thus the two may be coterminous. However, a good political strategy may require leaving the discussion of policy instruments off-stage until political support has developed for the broader goal. For example, policy entrepreneurs have sometimes utilized the distinction between political and policy strategy implicitly when engaging in "constructive ambiguity" with respect to their goals [24]. Likewise, a policy strategy may exist without a political strategy for achieving support for it, and indeed there is a huge volume of research papers that have proposed fine solutions with no analysis of political feasibility and no political strategy for bringing the plans to fruition.

By focusing the review on the problem of political strategy, the goal is to develop further the understanding of energy policy and politics in a way that can help to contribute to analysis of the broad global problem of lack of progress on developing and implementing adequate greenhouse-gas mitigation and energy-transition policies. Thus, the project has two goals: 1) identifying and characterizing an area of social science inquiry and theorization, and 2) identifying specific strategies that address the issue that energy-reform advocates want to know about (in other words, that address the problem of how to improve chances for success). The outcome of the review is not envisioned as a set of specific general rules that would apply in all circumstances, such as in a "how to" book of rules for advocates [25]. Rather, the outcome is a map of what is known about political strategy in the context of energy politics and how that knowledge can help to identify pathways to improving chances of gaining political support. This issue is particularly salient in countries where there is ongoing support for fossil-fuel development and even retrenchment of previous energy-transition policies, that is, in places where political conflict over fundamental goals remains highly contested.

2.2. The elements of political strategy

Drawing on the discussion in the previous section, which conceptualizes political strategy in terms of the five elements, this review will provide a systematic analysis of three of the five elements: targets, means, and agents. The goal of a political strategy is not included as separate section because the inclusion criteria for the review are defined by the political goal of supporting change that will strengthen or accelerate energy reforms that reduce greenhouse-gas emissions and associated environmental damage from energy systems. More specific formulations of the political goal vary substantially from one case to another, as is also the case for structuring conditions. Thus, it is arguably better to include these two elements where it is relevant to discuss how historically specific circumstances constrain and enable political strategy. Nevertheless, a few general comments about goal and context are in order.

The goal of a political strategy for energy reform can be analyzed into two main aspects: posture and scope. The posture is whether the goal is achieved by emphasizing the sunsetting of unsustainable technologies or the sunrising of alternative technologies. With respect to sunsetting, agents can support industrial policies that involve the destabilization of an existing sociotechnical regime, and agents can be part of broader industrial opposition movements such as the anti-coal and anti-fracking movements [26–28]. However, the posture can also be more positive and emphasize the institutionalization of renewable energy and energy efficiency [29]. The second characteristic of a goal with respect to sustainability is how much it is focused on

sociotechnical system change and how much it is extended to include societal change such as improvements in democratic decision-making, local ownership, and social equality [30,29]. This aspect of the goal will tend to change as the coalition develops and as compromises are made, and it will be discussed in the section on agents and coalitions.

Although the element of structuring conditions or context is not reviewed here as a separate category, one significant approach to the topic will be used here in some cases. The concept of "opportunity structure" is closely linked to political strategy because actors must adjust their strategy to their assessment of opportunities. The concept of political opportunity structure facilitates thinking about conditions as they apply to the political field at a specified spatial scale, and the sibling concept of the industry opportunity structure can be used for political strategies that have firms as the primary target [31–35]. For both types of opportunity structure, one can distinguish three main aspects: a more longstanding and durable aspect of the structure (e.g., the constitutional structure of the government or the type of industry and level of concentration of firms), a more mutable aspect that can respond to mobilization over a period of months or years (e.g., the configuration of parties in power or the configuration of dominant firms in an industry), and a much more ephemeral aspect that is potentially most responsive to political strategy in the short term (e.g., public opinion in the public sphere and consumer preferences in the relevant industries). The opportunity structure can also be characterized as relatively open or closed to the goals of the agents who are advocating a change. However, the opportunity structure is not an unmoved mover because the actions and strategies of actors both for and against a policy change also contribute to the opening or closing of an opportunity structure. Likewise, opportunities can change depending on the spatial scale at which action is targeted, and opening an opportunity at one level may affect opportunities at other levels [36]. When a relatively open opportunity structure is combined with available policy proposals and broad recognition that a problem needs to be addressed, a window of opportunity is created [37]. These windows often provide "branching points" where critical decisions can be made about future pathways [38]. In summary, the policy studies, political science, and political sociology literatures provide a clear way to think about the situational or contextual dimension of strategy. Where the concept of opportunity structure is relevant, it will be mentioned in the analysis that follows.

The first focus area for the review is the target of action. A target of action is a decision-making unit that the political strategy designates for change. In other words, it is the set or network of actors that some of the definitions above refer to broadly as "others." Most often the target is a government unit and a network of people and organizations that influence government decisions, but even here the strategy requires selecting what branches and levels of government may afford the best opportunities. Consistent with the social movement studies literature and in distinction from the policy studies literature, the review does not assume that the only relevant decision-making unit is a government unit. Industry targets can be part of a dual strategy that also includes a government target, or they can be chosen when government targets have proven resistant to change. Moreover, the target of a political strategy may also include the media and the struggle for favorable public opinion in the public sphere.

The second focus of the review is the means, repertoires, or tactics used to implement a strategy. In traditional policy studies, including corporate political action research, the means of a political strategy are generally assumed to be institutional. For example, the advocacy coalition framework recognizes the importance of variety of institutionalized means of action such as funding research, supporting political candidates, and launching media campaigns [39]. However, researchers in social movement studies have also recognized that in some cases unruly action such as street protest and civil disobedience can help challengers to gain new advantages [40,41]. Thus, this review does not assume that the means of a political strategy is limited to institutionalized channels, and it will include some discussion of

extrainstitutional action and the complex strategic problem involving the choice between or appropriate mix of institutional and extra-institutional action.

The third element of political strategy that is reviewed here systematically is the agent of action, that is, the originator of a political strategy. Agents may include individual government officials and nonstate actors, but the focus here is on how agency is constructed through the building of a coalition or network that often bridges the public, private, and third (civil society) sectors. This review will use the term "energy-transition coalition" (ETC) as shorthand for the agent of action linked to the goal of gaining support for energy-reform policies. However, ETCs are not the only coalitions of relevance. In the policy field of energy reform and decarbonization, industry organizations representing the fossil-fuel sector, utilities, and associated companies and labor unions often form opposing coalitions with some political leaders and with some civil society organizations. In this review, the opposing coalitions or networks will be described as "incumbent" coalitions, with the understanding that membership in these coalitions can change over time, that there may be more than one incumbent coalition, and that not all incumbent industrial organizations in the energy sector oppose energy-reform and decarbonization policies. Incumbents may also support the policies in general while forming blocks of opposition on more specific issues. But the main point is that agency is constituted relationally, that is, in a social field comprised of relations of co-operation and conflict with other actors.

In summary, this review draws on the definition of political strategy as discussed above, and it asks three main questions that represent the puzzles that ETCs in a specific context must solve when developing a political strategy, once they have identified a goal:

1 Who or what is the target of a political strategy?
2 What are the means or repertoires of action for carrying out the goals?
3 Who will be recruited into the transition coalition, and what adjustments will need to be made in the political strategy to accommodate the changing coalition and the responses of opposing coalition(s)?

3. Method

In contrast with a systematic review that provides a quantitative picture of a large dataset of publications, the method adopted here is that of a review essay, which organizes a relatively concentrated set of publications into a qualitative analysis of findings, gaps, and future possibilities. To date, the topic is often mentioned in passing, and there are relatively few sustained discussions of political strategy and coalitions [42–45,147]. Thus, a review essay can bring together into a general picture articles that focus on one dimension of political strategy or one or two tactics.

In order to ensure a broad approach to the topic, both intensive and extensive approaches were used to identify the most relevant articles. The intensive approach focused on journals selected to represent the transition studies field (*Environmental Innovation and Societal Transitions*), the energy policy studies and social science field (*Energy Policy*, *Energy Research and Social Science*), and interdisciplinary research on environmental politics and policy (*Environmental Politics*, *Policy Studies Journal*). To check on the centrality of these journals for the topic, multiple searches were conducted in large databases (Google Scholar and Scopus) using the combination of "political strategy/ies" and "energy policy" as the search terms. These searches confirmed that the journals were among the top ones for the number of articles that were characterized as relevant to the topic. After conducting focused searches in the five journals using the term "political strategy(ies)," which proved to be too narrow, a broader search was conducted for each journal using a combination of "strategy(ies)" and "coalition(s)" for the decade beginning in January 1, 2009, and ending on June 1,

2019. Although this approach produced many irrelevant articles, it cast a wide net of 912 candidate articles.

To complement the intensive focus on the five central journals, an extensive approach was used to identify other candidate articles that fell outside this set of core journals so that the search was not biased by the focus on the core journals. Searches were conducted in Scopus and Web of Science using combinations of "political strategy/ies," "energy," and "coalition/s," which identified 62 candidate articles with the potential for highest relevance. Two additional searches were conducted in Google Scholar, with a selection of the 30 articles ranked as most relevant from each search for a total of 60 articles. Together, the extensive searches in the three databases identified another 122 candidate articles. Additional targeted searches were also conducted for *Research Policy* and *Technological Forecasting and Social Change* to ensure better capture of the transition studies literature, but these searches turned up few articles with a discussion of political strategy. In addition, the reading process also involved examining bibliographies, and some additional candidate articles were identified with this approach.

The second stage of the review involved making a selection from the initial candidate list of 1034 articles and then analyzing the selected articles. The first step was to read an article's title, abstract, and highlights. If there was potential for the article to have a discussion of political strategy rather than other types of strategy (e.g., policy implementation strategies, business innovation strategies, a national energy strategy), then the full article was also searched using the terms strategy, strategies, coalition, and coalitions. The main inclusion criterion was the extent to which the article discussed political strategies of coalitions that support energy-transition policies. Exclusions were made for duplicates and for articles that focused on policy issues outside the energy field, on other types of strategies, and on frames and storylines without attention to strategy. Many articles mentioned political strategy only in passing, or they failed to discuss political strategy in the context of coalitions (such as a country's "national energy strategy"). Thus, after exclusions, the final data set was much smaller than the original set of potential articles (N = 117), and most of these articles are included in the review that follows. Although relevant articles appeared in a wide range of journals, the extensive method did not uncover any journal with a concentrated number of articles similar to that of the main five journals. (See Table 2). Journals not listed individually in the table were mostly on politics and policy.

The analysis involved coding the content of the sources into the three main categories derived from the definition of political strategy above and the three research questions. An iterative coding scheme, summarized in Table 2, was based on an inductive method of grouping subcategories of research within each of the three main categories of targets, means, and agents. This coding scheme then formed the basis of the internal organization of the three main sections of the review that follows. Nearly all articles included a governmental unit as a target; the table shows two main areas of research that emerged with respect government target selection. Although the articles frequently mentioned policy theories, the review does not focus on the theoretical frameworks of the articles. An introduction to the topic and review in the context of energy research is available elsewhere in this journal [46].

4. Results

4.1. Target of action

The term "target" refers to the group of actors or a decision-making unit that the agent is attempting to influence. In the policy studies field, the target is generally understood as a governmental unit or a policy network associated with the government, and it is often described as a venue. This understanding of the target also is the most common in the literature reviewed here, but the review also indicated that ETCs can target two other categories of actors, individual public opinion and

Table 2
Description of the Data Set.

Journal Title	Number of Articles	Strategic Element	Coding Category	Number of Articles
Energy Policy	17	Target:	Government: Venue Choice	10
Energy Research & Social Science	16		Government: Scale Choice	27
Environmental Innovation & Societal Transitions	16		Public Opinion	6
Environmental Politics	30		Industry or firms	5
Policy Studies Journal	9	Means:	Elections, ballot measures	6
Other Journals:			Procedural change	5
Global Environ. Politics	3		Lobbying, meetings	14
Policy Sciences	2		Research, expertise	13
Research Policy	3		Innovation, enterprise	9
Remainder. 1 journal each	21		Litigation	8
			Media outreach	9
			Public participation (petitions, hearings, etc.)	18
			Extrainstitutional action	13
		Agents:	Recruiting State Actors	30
			Recruiting Civil Society Actors	20
Total	117		Recruiting Business Actors	39

firms, and this section will discuss all three types of targets. Even when focused exclusively on the government, agents tend to have multiple targets. They make selections based on a strategic assessment of the likelihood of gaining a successful outcome (the opportunity structure) and the effectiveness of the target in implementing an outcome.

A central finding in research on government targets is that they tend to shift over time. If an ETC finds that a government venue for decision-making is biased, then the coalition may abandon the venue as a target for action and shift to other venues, such as government elections [47]. Likewise, if an incumbent coalition finds that the challengers are more successful in one venue, it may shift to a more receptive governmental unit to attempt to block or modify the political goal. Thus, both incumbent and challenger coalitions can engage in "venue shopping," or the selection of targets that are perceived to present better political opportunities [48]. Because the more open or receptive venues will be different for incumbent and challenger coalitions, ETCs may be drawn into defending previous achievements in a venue that has more closed political opportunities for the ETC and conversely more open opportunities for opponents. For example, in California, when the community choice coalition gained victories in proposition campaigns and in the state legislature, the utilities worked on gaining favorable changes from the public utilities commission, which many regarded as a captured government agency [49].

Closely related to venue shopping is a strategic assessment of the appropriate scale or level of the target. In the case of coalition conflict over natural gas fracturing technologies in the U.S., the industry coalition sought to regulate the technology at the state government level, whereas the environmental coalition sought a wider definition that involved federal or interstate river basin regulation [50]. Especially in states with a previous history of support for fossil-fuel extraction, such as Texas, the state government can be very hospitable to fossil-fuel extraction. Thus, both coalitions were engaged in scalar venue shopping, and for the ETC shifting to a higher spatial scale appeared to afford greater opportunities. However, this is not always the case because industry can mobilize in a concentrated way at the national government level and support policies that involve preemption of the authority of state governments, just as they can focus on state governments to preempt local governments.

When the closing of opportunities at the national level occurs, subnational levels of state or city governments can still provide openings where sympathetic parties are still in power. For example, in Australia during the Liberal-National Howard coalition after 1996, the Labour Party still controlled the state governments and developed a "counter-hegemonic narrative" for climate-mitigation policy [51]. Likewise, in the U.K., the Scottish and Welsh governments adopted an anti-fracking position in contrast with the Westminster policy [52]. In

Texas, anti-fracking coalitions had success in some local governments even though they faced stiff opposition at the state government level [100,53]. Although mobilizations at a lower level of government can bridge political divisions based on local identities and perceived threats to a place, these mobilizations can also include opposition to renewable energy projects, such as in local NIMBY (not-in-my-backyard) opposition to wind farms [54–56]. In this situation, the scalar opportunity structure may again also be more open at higher levels of government. In summary, the assessment of scalar opportunities is highly context specific and can change during the course of an episode.

In addition to determining which level of spatial scale provides the greatest likelihood of opportunity at a particular time, ETCs may decide that a good strategy involves working at multiple scales simultaneously. Indeed, complex issues such as climate-change mitigation and adaptation are now recognized as problems of multilevel governance [57]. In an era of multilevel governance, ETCs tend to devote resources not only to multiple venues at a single scale but also to venues at multiple scales, such as both domestic and international pressure where the target is global energy agreements [58]. However, the number of possible venues is also limited by the ETC's resources.

A second type of target is public opinion. Because both firms and government officials monitor public opinion and take it into account when making decisions, strong public support or opposition can be a decisive factor [59]. To affect public opinion, ETCs must figure out how to frame their goals so that they are aligned with widely accepted values and beliefs. In other words, the framing of goals must be resonant with the discursive opportunity structure [60]. Where advocacy takes place in a polarized political environment, reframing with respect to non-environmental goals and values may be necessary [61,62]. Moreover, framing will change depending on the venue and scale of the target. For example, when local opposition campaigns shift scale to a national level and court public support outside a region, framing may also shift from issues such as local land use and quality of life to broader environmental concerns that are more attractive to national environmental organizations [47]. To communicate the framing to the public, engagement with the media is essential, and the tactics for gaining favorable media attention are discussed below as part of the repertoires of action.

The third type of target is direct influence on the business sector to shift to more sustainable energy practices. This topic appears in the energy-related environmental justice literature, where there are some studies of mobilizations that target firms in addition to governmental units (e.g., [59,63,64]). The topic also appears in the private governance literature on activism and corporate social responsibility reforms such as fossil-fuel divestment and greenhouse-gas emissions disclosure [65–68]. In the general literature on the direct targeting of firms for

change, researchers have developed some understanding of the characteristics of the industry opportunity structure that is more open to coalition activities. For example, firms tend to be more responsive if they are concerned with brand reputation, consumer acceptance, and improving their market position [34,35,69].

In summary, the literature to date tends to conceptualize the target of political strategy in terms of governmental units, and most of the discussion is about venue shopping and scale shifts. Although the policy studies literature recognizes that coalitions also attempt to influence public opinion in addition to governmental actors, the topic is not well developed to date in the energy policy and social science literature, and the connections between public and private advocacy are not yet well understood. The diversification of targets to include nonstate actors may become necessary where the political opportunities in the government are closed. However, coalitions may also pursue a multi-pronged strategy where the threat of regulation encourages private governance initiatives. Likewise, successful demonstration cases in private governance may lead to less polarized positions in public governance, where some incumbents see reputational and other benefits in adopting leadership positions.

4.2. The means of action

There is no standard term in the energy policy and politics literature for the means of action; frequently the term "strategy" is used, but the term is confusing here because strategy is being used as an overarching term. This section will use the terms "means" and "repertoires" interchangeably, and it also recognizes that the concept of means is sometimes discussed as tactics. The literature occasionally has discussions of means or tactics, but it inconsistent on how to classify them. Some researchers have drawn a distinction between inside and outside means, but the definitions are not consistent. For example, Weible and Heikkila [17] distinguish inside means as ones that directly influence government officials in comparison with indirect means such as litigation and protest. However, if the litigation and protest are directed at government officials, then they might be classified as "direct" as well. For Gen and Wright [45], inside means involve direct relationships with "policy champions," whereas outside means involve attempts to influence the media and public opinion. This distinction has the advantage of linking the means with the targets, and it provides an opening for more research on how means are linked to targets and goals. When this connection is made, the more salient distinction for ETCs is arguably between means that use institutionalized channels and those that involve extrainstitutional action such as protest [8]. This section will lead up to the choice between these two broad categories of means of action.

In the analysis of discussions of means in the literature, eight main groups of institutionalized means emerged: participation in elections and ballot initiatives, gaining procedural change, lobbying and educating the targets of action, generating research and providing expertise, supporting innovation and enterprise development, litigation, media outreach, and orchestrating and facilitating public participation. These categories correspond broadly with the few articles that provide lists of coalition tactics or means [17]. Although the discussion of means that follows will treat them as analytically distinct categories, in practice they are interconnected pieces of the broader strategy. Moreover, the selection of means involves communication among units of the coalition to ensure cohesion or at least to coordinate differentiation [70], and in some cases coordination may also involve the negotiation of institutional versus extrainstitutional tactics [8]. Each of the means of coalition action could be the subject of its own review across multiple disciplines; again, this section will focus on how the diverse means of action have been conceptualized to date in the literature on energy reform and coalitions.

In many ways the most important means is to help sympathetic political leaders gain access to office. For example, in Germany during the period when the Green Party was in a government coalition with the

Social Democratic Party (1998-2005), the coalition approved significant environmental reform legislation, but support was more tepid during periods when other parties controlled the government [71]. In general, conservative parties tend to be less supportive of sustainable energy reforms than the more progressive parties, but where the progressive-left parties have labor constituencies with substantial ties to the fossil-fuel sector, the pattern does not hold [71,72]. To ensure sympathetic party control of the government, ETCs sometimes invest resources in working on election campaigns. For example, in Finland, a coalition of civil society organizations, professors, and clean-energy companies attempted to influence the 2015 parliamentary elections by establishing a goal of 100% renewable energy by 2050 [73]. In the U.S., ETCs have also led campaigns in support of ballot proposition measures or citizen referenda that would provide support for renewable energy and energy efficiency or for the reduction of fossil-fuel use [74,75].

A second repertoire of action is to improve, modify, or reject procedures. For example, in the U.S., advocates of energy democracy in New York supported the governor's "Reforming the Energy Vision Program," which included various policy instruments designed to green the electricity sector. However their response to the program involved a call for procedural changes to strengthen opportunities for public participation [29]. In Australia, environmental organizations framed their campaigns against natural-gas fracturing technologies as the need for government to establish the "social license to operate" by addressing procedural inadequacies in the review and licensing process [76]. Coalitions can also determine that procedural change is inadequate if the promised public participation does not translate into policy action. For example, in a case of an opposition campaign involving Heathrow Airport, the coalition at first participated in a government hearing process, then determined that the procedure was illegitimate because of industry capture [47]. Procedural changes can also involve attempts to bring about fundamental institutional restructuring such as changes in the ownership and governance of energy services. Examples of this type of procedural change include the attempted remunicipalization of the electricity system in Berlin [77,78], the introduction of community choice programs in California [49], and other projects associated with the goal of energy democracy [79].

A third main area is lobbying and educating the target of action [80–83]. This topic is generally mentioned in passing, and there is little sustained discussion or analysis. An exception is Sühlsen and Hisschemöller [83], who ranked 21 types of lobbying action for effectiveness in the German energy industry. They found that regular and personal contact with politicians, knowledge development with correct information, and lobbying with an association were the three most highly effective types of lobbying. Effective lobbying requires extensive knowledge so that the ETCs can make compelling arguments before policymakers and industry and propose credible alternatives [84,85].

The fourth strategy is to develop expertise and research to respond to critics about factual claims, to support the claim of feasibility for proposed policy goals, and to make more convincing arguments when the reform coalitions are lobbying policymakers. Expertise and research can help to document a problem that needs to be solved, thus opening up the problem stream, and research can contribute to defining a range of plausible policy solutions. Multiple types of expertise may also be important. For example, when coalitions are engaged in contested government review processes, both scientific and legal expertise may be needed [76]. Incumbents can also mobilize their own experts, and when incumbent expertise is marshalled, then expertise itself tends to become politicized [86]. However, governments can also use both industry and environmental experts to depoliticize an issue and to provide legitimacy for choosing a middle ground [53]. Expertise does not always help an ETC; new research can also divide a coalition by driving a wedge between partners based on differing core values that become salient in the light of new research [87].

Expertise is closely related to the fifth repertoire of action: innovation and enterprise development. Expertise can be used to develop

demonstration projects that can be used to educate the targets about the feasibility of implementation programs and to work out challenges that could occur with implementation [88]. In these projects, expertise is not only technical but also organizational, such as the knowledge needed to develop cooperatives successfully [89]. Demonstration projects can also involve the creation of business and nonprofit enterprises that often introduce and improve new technologies and practices. Although this strategy can include attempts to gain financial and other support from the government, it can also rely on nongovernmental sources of support such as donor organizations and entrepreneurial revenue streams. Frequently, community-based energy projects require the design of community-oriented sociotechnical systems that may require sustainability goals to be closely connected with economic development and social equity goals, as occurs in grassroots innovation projects [90].

The strategy of grassroots innovation and enterprise development tends to suffer from underfunding and long-term financial viability [91], but locally oriented projects of technology development can also grow into broad-based "technology- and product-oriented" movements that adopt political strategies aimed at gaining government support for new technologies and industries [92]. Social enterprises can also pursue a disengagement strategy with respect to government support [14]. For example, in less developed countries where there are limited government resources, it may be easier to pursue enterprise development by avoiding entanglement with government.

The sixth main strategy is litigation against government agencies or corporations [93,94,63,75]. Coalitions tend to avoid this method for several reasons: there may be possibilities for negotiation and effectiveness through other channels, there is fear of becoming tied in up counter-litigation and strategic lawsuits against public participation (SLAPPS), and the repertoire is expensive and time-consuming [94]. There is little research that evaluates the efficacy of litigation for energy-related coalitions. One exception is research by Kemberling and Roberts [63], who suggested that public interest litigation, which targets the government, may be more effective than personal injury litigation, which targets industry. Research from the law-and-society field indicates that even when a civil lawsuit is not successful in court, it may have benefits for the ETC through the discovery process [95]. The discovery process can bring media attention to the problem, and it can also provide the basis for subsequent criminal prosecution.

The seventh means of action is the use of media campaigns. ETCs generally lack the resources of incumbent coalitions, which can hire expensive public relations firms to affect and monitor media coverage, but other tactics can compensate for the lack of resources [80]. Although there is a general assumption that media communication involves simplification, Merry [96] found that the complexity or simplicity of media communication messages by environmental groups varied across the type of media. She also found that messages vary by the level of interest of the audience, and to accommodate different levels of interest and ability, advocates create multiple versions of messages, and they use links to more complicated versions of the same message. Moreover, where the target involves changing the opinions of elites, ETCs need to rely more on expertise and may find that online communication is effective [97].

In addition to the degree of complexity of the message and its relationship to the target, another challenge for media outreach involves maintaining media interest in the coalition's message. In an analysis of how to maintain media attention to climate change, Pralle [98] suggested regular reporting of research, opinion polls, and personal experiences; emphasizing solutions and the moral imperative of the problem; and taking advantage of focusing events. ETCs can gain media attention not only by reporting and magnifying existing events but also by creating news, such as by issuing press releases, mobilizing the public to turn out to stakeholder consultations and hearings, and holding publicized events with well-known speakers. Protest events can bring media attention, and when they involve government suppression

of nonviolent action, they can influence public opinion by generating backfire, that is, outrage among the public [99].

The final institutionalized repertoire of action is to mobilize public participation to gain the attention of government, industry, or media targets. This repertoire is generally mentioned in passing in the literature. Public participation includes 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 posting comments on media sites and in social media [1,73,75,78,100]. There is some evidence that a high volume of public participation via petitions and comments at hearings can sway decision-makers, especially when the public opinion is not divided [59]. By having repeated waves of a similar form of public participation, such as a multiple petitions, coalitions can also show growing support [101]. Thus, both volume and rate of change matter when developing mobilized public support.

Extrainstitutional repertoires such as protest, civil disobedience, or boycotts can pose a dilemma for an ETC [102]. A radical flank may engage in protest activity that generates public awareness and can open negotiating opportunities for a moderate wing of the coalition. However, donor organizations tend to avoid grassroots organizing and focus donations instead on organizations that emphasize political negotiation and compromise [103]. Because some environmental organizations have undergone professionalization with a corresponding focus on institutional strategies, they may be especially hesitant to utilize extrainstitutional repertoires of action because it could discredit their efforts through institutionalized channels, and it could affect relations with donors [104]. Moreover, opponents can point to the protest activity and the more radical goals that often accompany it as grounds for discrediting the goals of moderates who pursue institutionalized channels.

One situation or context where extrainstitutional tactics tend to appear more frequently with respect to energy politics is at the local level in opposition to energy-development and infrastructure projects such as pipelines, refineries, mining and extraction, nuclear reactors, hydroelectric facilities, and wind farms. Protest and civil disobedience can also appear in cases where coalitions have first attempted institutionalized repertoires without success [47,93]. Extrainstitutional repertoires of action are central in the social movement studies literature, but they were less salient in this data set, which focused more on coalitions engaged in policy reform. However, the data set did include some energy justice mobilizations, and those studies indicated that protest could be a successful part of an overall strategy that included institutional tactics as well (e.g., [63,105,64]). Although extrainstitutional action is more closely associated with an oppositional posture with respect to the goal, it can appear in support of goals that emphasize the development of sustainable alternatives. For example, some cases of mobilizations used extrainstitutional action to maintain continued government support for electricity net-metering policies or to support sustainable transportation policies via organized events such as bike trains [1,106].

Attempts to assess the relative effectiveness of institutional and extrainstitutional repertoires face methodological challenges. Because extrainstitutional strategies may emerge after institutional strategies have failed, there may be a statistical association of extrainstitutional strategies with a failed outcome. Hence, researchers need to be cognizant of the sequencing of the means of action and the problem of endogeneity when attempting to draw causal inferences. Moreover, in the twenty-first century, the heightening of security amid growing concerns with terrorism, coupled with a general turn toward illiberal democracies and authoritarian states, has to some degree closed opportunities for extrainstitutional strategies. Thus, in some countries there has been a change in the state's willingness to recognize extrainstitutional repertoires of action as legitimate. These changes involve linkages between protest activity and procedural justice reforms [93].

With a wide range of institutional and extrainstitutional repertoires of action available, how does a coalition go about selecting the

combination of repertoires that will be most likely to achieve a successful outcome? The systematic comparison of repertoires of action with outcomes is still in its infancy. To gain support and attention from policymakers and industrial incumbents, it is often important for the coalition to demonstrate a high level of public support, and multiple repertoires of action may be needed: direct contact with decision-makers, written complaints, letters or emails, petition signatures, turnout at hearings, or attendance at rallies and protests [59]. Litigation is not always successful, but comparative analysis indicates that it has been important in some cases especially when integrated into a broader set of repertoires [64]. Although the effectiveness of different modes of action is highly context specific, the few comparative studies that have approached the topic to date indicate that there is great potential for insight from systematic comparison.

4.3. The agents of action

The third dimension of political strategy considered here involves building and expanding the ETC coalition. The organizational composition of ETCs varies from case to case, and the main driver may be government actors, civil society organizations, businesses, or a combination. The core constituents of an ETC are often left or green political parties, environmentalists, and renewable energy and other cleantech industrial organizations [29,73,107–109]. This section will consider strategies that attempt to strengthen and expand a coalition by recruiting government actors, civil society, and businesses.

Where the target is a government unit such as a legislature, the political strategy may require making compromises or exchanges with actors outside the core group of supportive elective officials such as members of a progressive, left, or green party. This is not always an easy task because mainstream conservative parties can waiver in their support for energy-transition policies [71,110,111]. Moreover, the rise of right-wing populism and associated political parties in Europe, North America, South America, and other world regions has increased political polarization over energy policy and established divisions within conservative politics over energy policy [72]. Nevertheless, there are opportunities to gain support from some conservatives for some types of energy-transition policy, provided that it is consistent with conservative values. Examples of potentially effective policy goals include emphasizing the rights of property owners to have rooftop solar, ensuring that new forms of energy do not generate undue cost burdens, developing energy-efficiency standards for government buildings that reduce government spending, supporting programs that reduce bureaucratic restrictions on solar adoption, and developing policy instruments that link business support to energy transitions [61].

In addition to reaching across the aisle, the recruitment of government allies also involves reaching across different branches and scales of government. For ETCs with a local orientation such as energy justice campaigns, gaining the support of local and regional government leaders is generally recognized as one of the crucial conditions for achieving a successful outcome [59,64,93,105,112–114]. Likewise, local sustainability initiatives can benefit from resources and other support from national government actors [82]. Conversely, campaigns at a higher level of geographical scale can benefit from mobilization at the grassroots that can generate constituent pressure on government representatives.

Coalitions can also expand by recruiting from more diverse civil society organizations than those with a purely environmental or sustainability mission. Reframing renewable energy development to align with economic development and job creation goals can be an effective way of broadening support from a wide range of actors [108]. However, the fossil-fuel sector also uses economic development and job creation goals to gain support, and hence the same framing can divide communities and make it difficult to build support [115–117]. The civil society membership of a coalition can be broadened when the scope of goals is expanded from sustainability to include justice, human rights,

energy democracy, and social equity. These goals can encourage support from low-income and consumer groups, but support can also sour if the economic costs of the proposed change are perceived to be high [118]. Moreover, community groups have also mobilized to block renewable-energy projects for other reasons, including nuisance and noise [54]. Connecting locally oriented projects with local control, ownership benefits, and legitimate decision-making procedures can help to overcome opposition [30,55].

With respect to business partners, one strategy is to strengthen the position of existing partners. A policy sequencing strategy, which orders policy goals strategically, may focus first on gaining relatively non-controversial support such as business development for the renewable energy and cleantech industries [119,120]. Over a period of several years to decades, ETC coalitions can be strengthened as core business partners become more engaged politically, more established economically, and more able to articulate themselves through trade associations [107]. As renewable-energy and energy-efficiency companies have grown in size and global reach, they have also been able to mount successful advocacy campaigns, such as for off-shore wind in the U.K. [121]. Having these industries in a more successful economic position may be helpful prior to engaging in policies that involve sunsetting or destabilizing some industries. Although policy sequencing can help to strengthen existing business partners, it can also be used against the development of green or cleantech industries. Governments that are less friendly to environmental and sustainable energy policy can also strategically reduce support to renewable-energy and related industries in order to avoid strengthening the constituency [122].

ETCs may also find important allies outside the traditional environmental and renewable-energy business partners [123–125]. Broad business coalitions can play an important role in providing support for stable energy-transition policies, and they may even be the main agents of some ETCs (e.g., [58,126]). For ETCs based in civil society organizations, policy strategies that involve a wide range of industries beyond the renewable-energy and energy-efficiency industries can strengthen credibility and improve resources. For example, the support from the heating and air conditioning industries and from businesses wanting government assistance for energy improvements helped to achieve credibility for legislative passage of energy-efficiency laws in the U.S., even in conservative states [127]. The importance of actors from the financial sector as potential countervailing industrial power is underscored in research on the political economy and energy policy. Because of the dominance of financial capital over the global economy, governments will tend to prefer environmental solutions that benefit the financial sector [128]. Third-party ownership for distributed solar photovoltaics and smart-grid technologies are examples of policy instruments that enroll the financial and technology sectors, and in turn donors from these industries have supported energy-reform policies [74,1]. From this perspective, differences between similar policies such as a carbon tax or cap-and-trade may have important political valences. Although cap-and-trade may have various disadvantages such as economic inefficiency due to transaction costs, it may help to enroll the financial sector and in turn to provide a counterweight to the fossil-fuel sector.

Recruitment of business partners can in some circumstances also include industrial incumbents. They are not a monolithic group, and it may be possible to gain support from some firms for the broad political goal or from a wide range of firms on a narrow range of policy instruments. There can also be significant internal differences regarding goals among members of the same coalition, even when they agree to a broad political strategy. As powerful incumbents such as the utilities assess changes in public opinion and public policy, they may come to redefine their goals toward greater acceptance of 100% renewable energy and of distributed renewable energy [129]. As policies and corporate strategies change, opportunities can open for partnerships, such as between utilities and environmental groups for wind-energy development [84].

Thus, the relationship between the transition coalition and the incumbent coalition can be relatively fluid and open to negotiation and trading of concessions [130,131]. Conducting effective negotiations involves paying attention to which aspects of the policy mix and goals need to be maintained as the core and which ones can be compromised [44,132]. To mitigate opposition from industry incumbents, there are sometimes opportunities to redesign policy instruments in ways that improve the conditions for renewable-energy and energy-efficiency growth while also addressing incumbents' concerns. This is a good example of how policy strategy and political strategy become interconnected. For example, in the electricity industry, utilities often view decentralized energy generation, such as distributed renewable energy, as having disruptive potential, but they are more open to centralized forms of renewable energy [1,133,134]. Likewise, attention to types of energy preferred by both government and industry, such as the preference for solar and energy efficiency over wind energy in Japan, may help to open windows of opportunity [135].

However, concessions to the opposing coalition may also cause the loss of the support of some of the original members of the coalition. For example, trading away distributed, local ownership of renewable energy may involve loss of support from significant units of the ETC. Thus, negotiation with incumbents involves a delicate balancing act between the incumbents and the ETC partners [136].

In summary, the political strategy of assembling an effective coalition of support involves thinking about how to recruit new coalition partners such as firms that might provide countervailing industrial power, incumbents who might soften opposition in exchange for concessions, and low-income constituencies that can provide political and voter weight. Overcoming opposition requires a perspective that attends to the political valences of technological design choices, such as the effects of centralized and decentralized renewable energy design on coalition composition. Strategic analysis of policy proposals, technology design, and coalition politics also requires a careful balancing act between maintaining support from existing coalition partners and reducing opposition. Doing so also requires thinking about when to shift from a broad goal with a vaguely articulated policy strategy to negotiation over specified policy instruments.

4.4. Discussion

The review of the literature of political strategy for gaining support for energy transitions suggests that it is possible to develop general knowledge that could be of value to ETCs as they formulate a broad political strategy. The results, which are summarized in Table 3, provide a set of decision rubrics that ETCs could use to inform their strategic planning.

The results presented in Table 3 indicate some of the possibilities of guidance that might emerge for ETCs from a research field on political strategy. However, there are several limitations of this review and of the current state of the literature, and these limitations point to areas for future research. This study conceptualized the elements of political strategy as independent units, but as mentioned above, it would also be good to explore how they interact. For ETCs, it is necessary to think about political strategy as more than a checklist and instead as an integrated plan, and it would be good to have research that explores the process of adjusting tactics and coalition composition in the wake of the contingency of events. It would also be good to have the study of targets expanded to include more systematic research on public opinion and businesses as targets and on how repertoires or means of action are matched to target types. Another interactive dimension is how changes in the coalition structure affect goals, targets, and means. For example, if an ETC recruits social justice and community groups into the coalition, then procedural and distributive justice goals will likely become more salient because the goal of an energy transition is likely to become more closely linked to the goals of those groups. Conversely, if some firms in the incumbent industry or from a countervailing industry end

up breaking off from the opposing coalition and supporting some or all of the goals of the ETC, the expansion of support for the ETC coalition may lead to a decision to favor institutionalized means of action over extra-institutional means. However, if the opposing coalition exerts strong control over the government and closes down opportunities for negotiation within the policy process, then extrainstitutional means of action may become more attractive.

A second limitation of this study is that the exploration of the strategy-structure connection was limited. The review of definitions of political strategy included a contextual or structural factor as an important element of a comprehensive definition of a strategy, and the concept of opportunity structure was used as a way to bring in a structural perspective at several points in the review. However, even where leaders of coalitions develop thoughtful strategies and are cognizant of opportunity structures, those structures can remain quite closed to strategy and action. General social theory has long drawn attention to the deep connections between the structure of the modern economy and its effects on both environmental degradation and the political will to mitigate it (e.g., [137]). Likewise, some of the recent work in energy-transition studies has developed political economy perspectives that can explain the lack of open political opportunities with reference to powerful constituencies that oppose energy transitions [138,128]. One example of dividends from this perspective that appeared in the literature was the enrollment of countervailing power of the finance and technology industries for economic and political support against resistance from the fossil-fuel sector, but more work could be done on how to integrate political economy with the analysis of political strategy [74].

A third limitation and opportunity for future research is that the focus of this review has been on what could be called a first-order political strategy, that is, a strategy that is focused on gaining support for a political goal. After a political goal is reached, a second-order political strategy emerges: making sure that the implementation of the policy is conducted in a way to maintain political support, that is, to enroll new allies or at least not to lose supporters. This second-order problem of political strategy emerges in the analysis of experimentation, policy learning, public participation, and governance in literatures on program implementation and transition management (e.g., [139,140]). The political strategy aspect of this problem requires ensuring that the policy program becomes politically entrenched [141]. In other words, advocates of ongoing energy policy reform must maintain support in the long term for the approved policy instruments and prevent roll-back attempts from being successful. Entrenchment strategies can be important especially where there is ongoing opposition from industrial incumbents or where there are new opportunities for fossil-fuel development, such as the discovery of off-shore natural gas in Israel [142]. The failure to build and maintain continued support for energy-transition policies can lead to their collapse when circumstances change. Thus, political strategy is an ongoing necessity and not just a precursor to implementation.

5. Conclusion

Increasingly, researchers who study the politics of support for more sustainable energy systems have drawn attention to the need to bring about more rapid or accelerated transitions [143,144,3]. As researchers have turned to the problem of why energy-transition policies have failed or moved at a slow pace at a global level and in many areas of the world, the problem of the politics of transitions and resistance from both political and industrial incumbents has become more salient [145,146]. Because many countries have substantial endowments of fossil-fuel resources and strong constituencies of both labor and capital in support of continued use of fossil fuels, the problem of accelerating transitions can involve substantial political conflict, and researchers have drawn attention to the important role that coalitions can play in gaining political support for energy reforms [3,74,107,120]. To the

Table 3
Decision and Political Strategy.

Dimension of Political Strategy	Examples of Strategic Decisions
Targets of Action: Thinking Beyond the State	1. Rather than assuming that focusing all efforts on a single target is the best strategy, ETCs should consider selecting multiple targets to the extent that their resources allow diversification. Doing so requires assessing opportunities involving scale and sector (e.g., government or corporations) and opportunities within a sector. 2. ETCs must constantly reevaluate targets and be prepared to shift as windows of opportunity open and close. 3. Targets may also shift defensively in response to those selected by opponents, whose may force engagement in venues with relatively low opportunities.
Means of Action: Selecting Tactics	1. Because having a sympathetic political party or coalition in control of the government is important, ETCs may need to prioritize an electoral approach. 2. Engaging with procedural issues in governance can also help to improve the legitimacy of the ETC position and its bargaining power. 3. ETCs must also evaluate institutional means (lobbying, petitions, and litigation) and subtypes of each, with a full exploration of the range of possible means. 4. Cultivation of expertise, research, demonstration projects, and scalable enterprises can be important for maintaining credibility and newsworthiness. 5. ETCS need to evaluate extrainstitutional means and appropriateness for the target and goal, and to coordinate the selection of means among the different members of the ETC.
Agents of Action: Building Coalitions	1. A policy sequencing strategy can help to build up the businesses and constituents who support energy-transition policies. 2. ETCs should also evaluate the potential to reach beyond traditional coalition partners of environmentalists, clean-tech and clean energy businesses, and progressive political leaders to include social justice groups and community organizations. 3. For strategies oriented toward local political change (such as an environmental justice conflict or a community energy initiative), including local government officials in the coalition is frequently central to a successful outcome. 4. Firms in related industries such as finance can bring important countervailing power for an ETC when it is opposed by powerful industry incumbents. 5. ETCs should monitor opposing coalitions for internal divisions and signs of flexibility, and ETCs may need to consider negotiations of policy instruments if there are signs of willingness to negotiate. 6. However, the negotiations with opponents require attention to the possible loss of support from members of ETC, especially from its flanks.

extent that conflicts of coalitions are a salient aspect of the politics of energy transitions in a country or subnational unit, then the issue of political strategy as identified here becomes a more pressing topic of research.

There are two main challenges that research on political strategy faces in this context. First, the importance of coalition politics and political conflict with respect to support for sustainable-energy policies varies both within and between countries. Where fossil-fuel constituencies are weaker and where there are substantial countervailing industries such as clean-tech (e.g., in some North American states and provinces and in some European countries), one tends to find more political consensus in support of energy-transition policies. Political conflicts are not absent, but there is less need to mobilize constituencies to enact or defend energy-reform policies. In countries, subnational states, or cities where such support is already in place, then attention may be more productively focused on other types of strategy, such as for the governance of transitions, for managing the decline of an industry, or for experimentation and learning in implementation projects. Thus, a research program that focuses on political strategies to gain support for energy-transition policies may have less importance in some contexts or situations.

However, in many parts of the world, subnational and national governments have ample fossil-fuel resource endowments and relatively strong political constituencies that support their continued use. Moreover, in low-income countries the primary problem is developing adequate and affordable energy resources to meet high growth and to address electrification needs. These circumstances—higher endowments of fossil-fuel resources, greater concern with affordability, and higher energy growth—contribute to the likelihood that support for sustainable energy transitions will be more contested. In some countries, the additional factor of right-wing populist politics that have become associated with anti-environmental positions can heighten the contested nature of attempts to enact and implement energy-transition policies. In these circumstances, research programs on transition management, governance, and implementation are likely to be of less relevance. They provide great recipes for meals, but such recipes are not helpful if the problem is finding a can opener or affording a can of food. Thus, one of the deeper challenges that the topic of political strategy

raises is that its geographically variable salience points to how the global aspirations of a social science of sustainable energy transitions is faced with highly diverse cultural and historical situations that may require different types of research programs.

One way to begin to bridge these gaps is to examine the interaction of political strategy, which may be of greater interest to the students of laggard areas of the world, and policy and implementation strategy, which may be greater interest in research on leading areas. Part of a political strategy involves negotiation, and negotiation can involve more detailed assessment of the different policy instruments and policy mixes that might be employed to achieve the broad political goal of a more rapid energy transition. Thus, to the extent that the political strategy involves negotiation and the willingness to make exchanges and compromises over policy instruments with opponents, then the different categories of strategy need to be considered from an integrated perspective. Likewise, an implementation strategy involves more than technical competence and good organization; there is an ongoing dimension of maintaining political support for the programs and policies.

A second main challenge for research on political strategy is that it can become caught between the needs of the ETCs and the needs of researchers. This is a general dilemma for academic research that claims to have policy relevance because the reward system tends to favor researchers who contribute studies that are deemed theoretically interesting. Consequently, a conflict can emerge between selecting research problems that provide symbolic capital in a research community and those that are relevant for advocates and activists. In a study of political strategy for social movements, Jasper noted this problem as follows: "Over the years many protestors have asked me what they might read to help them make better decisions. I had nothing to suggest, beyond Saul Alinsky" [25,102: xii]. He also admitted that his own thoughtful and innovative tracking of dilemmas was "not the how-to book that those activists sought, but rather a sociology of strategy" [102: xiii]. Like the first gap, this one is also not easy to bridge, but establishing research on political strategy as an area of systematic inquiry could provide the beginnings of a bridge.

To this point, the goal of this review was to articulate aspects of a research program on political strategy, with the hope that it could

satisfy the potential for "dual use" research, that is, research that generates results that could translate into helpful advice for ETCs and that can also generate adequate attention and status in the research field. For example, one area of research that could survive a dual use test is the analysis of which institutional and extrainstitutional means of action will work best under which circumstances. Although this review essay has identified some research on the comparative effectiveness of different tactics, the systematic and comparative analysis of the effects of different repertoires of action related to energy politics and policy remains relatively undeveloped even in the broader social movements and environmental justice literatures [59,63,64]. Future research would require assessing not only which repertoires of action are more effective in large-scale data sets but also detailed case studies that show what kinds of situations make it more or less likely for a particular repertoire of action to succeed or fail.

In summary, this review has provided a way of conceptualizing political strategy that distinguishes it from a policy strategy or implementation strategy, that provides a general scheme for understanding the elements of political strategy, and that connects the elements of strategy to a wide range of empirical research projects. It has identified some limitations both of the review and the current state of the literature, and it has identified some more fundamental challenges and opportunities that come with developing the problem of political strategy into a research program. Much research is still undone, but getting some of the research done could have significant implications for researchers, advocates, and policymakers who wish to contribute to building support for energy transitions and to protecting existing energy reforms from retrenchment.

Acknowledgements

References

[1] D. Hess, The politics of niche-regime conflicts: distributed solar energy in the United States, Environ. Innov. Soc. Trans. 19 (2016) 42–50.
[2] A. McCright, S. Marquart-Pyatt, R. Shwom, S. Brechin, S. Allen, Ideology, capitalism, and climate: explaining public views about climate change in the United States, Energy Res. Soc. Sci. 21 (2016) 180–189.
[3] C. Roberts, F. Geels, M. Lockwood, P. Newell, H. Schmitz, B. Turnheim, A. Jordan, The politics of accelerating low-carbon transitions: towards a new research agenda, Energy Res. Soc. Sci. 44 (2018) 304–311.
[4] R. Jackson, C. Le Quéré, R. Andrew, J. Canadell, J. Korsbakken, Z. Liu, G. Peters, B. Zheng, Global energy growth is outpacing decarbonization, Environ. Res. Lett. 13 (2018) 12041.
[5] B. Sovacool, How long will it take? Conceptualizing the temporal dynamics of energy transitions, Energy Res. Soc. Sci. 13 (2016) 202–215.
[6] B. Sovacool, F. Geels, Further reflections on the temporality of energy transitions: a response to critics, Energy Res. Soc. Sci. 22 (2016) 232–237.
[7] A. Stevenson, Oxford Dictionary of English, Oxford, U.K. Oxford University Press, Oxford, UK, 2010.
[8] A. Aunio, Mobilizing the general gap: transnational coalitions and insider/outsider strategy in the Climate Action Network, in: G. Maney, R. Kutz-Flamenbaum, De Rohlinger, J. Goodwin (Eds.), Strategies for Social Change, University of Minnesota Press, Minneapolis, US, 2012, pp. 93–119.
[9] D. Meyer, S. Staggenborg, Thinking about strategy, in: G. Maney, R. Kutz-Flamenbaum, Rohlinger De, J. Goodwin (Eds.), Strategies for Social Change, University of Minnesota Press, Minneapolis, US, 2012, pp. 3–22.
[10] J. Jasper, Choice points, emotional batteries, and other ways to find strategic agency at the microlevel, in: G. Maney, R. Kutz-Flamenbaum, Rohlinger De, J. Goodwin (Eds.), Strategies for Social Change, University of Minnesota Press, Minneapolis, US, 2012, pp. 23–42.
[11] S. Lukes, Power: A Radical View, Macmillan International Higher Education, New York, 2004.
[12] K. Getz, Public affairs and political strategy: theoretical foundations, J. Publ. Aff. 1 (2002) 305–329.
[13] A. Hillman, A. Keim, D. Schuler, Corporate political activity: a review and research agenda, J. Manage. 30 (6) (2004) 837–857.
[14] V. Plutshack, S. Sengupta, A. Sahay, J. Viñuales, New and renewable energy social enterprises accessing government support: findings from India, Energy Policy 132 (2019) 367–378.
[15] J. Mahon, R. McGowan, Industry as a Player in the Political and Social Arena: Defining the Competitive Environment, Santa Barbara, California, Greenwood Publishing Group, Santa Barbara, US, 1996.
[16] D. Elgin, C. Weible, A stakeholder analysis of Colorado climate and energy issues using policy analytical capacity and the advocacy coalition framework, Rev. Policy Res. 30 (1) (2013) 114–133.
[17] C. Weible, T. Heikkila, Policy conflict framework, Policy Sci. 50 (1) (2017) 23–40.
[18] E. Ostrom, Institutional rational choice: an assessment of the institutional analysis and development framework, in: P. Sabatier (Ed.), Theories of the Policy Process, Westview Press, Boulder, US, 2007, pp. 21–64 Boulder, Colorado.
[19] T. Parsons, The Structure of Social Action vol. I, Free Press, New York, 1968 Marshall, Pareto, Durkheim.
[20] P. Bourdieu, L. Wacquant, An Invitation to Reflexive Sociology, University of Chicago Press, Chicago, 1992.
[21] N. Fligstein, D. McAdam, A Theory of Fields, Oxford University Press, New York, 2012.
[22] K. Reichardt, K. Rogge, How the policy mix impacts innovation: findings from company case studies on offshore wind in Germany, Environ. Innov. Soc. Trans. 18 (2016) 62–81.
[23] K. Rogge, K. Reichardt, Policy mixes for sustainability transitions: an extended concept and framework for analysis, Res. Policy 45 (8) (2016) 1620–1635.
[24] M. Jegen, F. Mérand, Constructive ambiguity: comparing the EU's energy and defence policies, West Eur. Polit. 37 (1) (2014) 182–203.
[25] S. Alinsky, Rules for Radicals, Random House, New York, 1971.
[26] G. Kungl, F. Geels, Sequence and alignment of external pressures in industry destabilisation: understanding the downfall of incumbent utilities in the German energy transition (1998–2015), Environ. Innov. Soc. Trans. 26 (2018) 78–100.
[27] H. Normann, Conditions for the deliberate destabilisation of established industries: lessons from US tobacco control policy and the closure of Dutch coal mines, Environ. Innov. Soc. Transit. (2019) in press.
[28] B. Turnheim, F. Geels, Regime destabilisation as the flipside of energy transitions: lessons from the history of the British coal industry (1913–1997), Energy Policy 50 (2012) 35–49.
[29] D. Hess, Energy democracy and social movements: a multi-coalition perspective on the politics of sustainability transitions, Energy Res. Soc. Sci. 40 (2018) 177–189.
[30] M. Burke, J. Stephens, Political power and renewable energy futures: a critical review, Energy Res. Soc. Sci. 35 (2018) 78–93.
[31] H. Kitschelt, Political opportunity structures and political protest: anti-nuclear protest in four democracies, Br. J. Polit. Sci. 16 (1986) 57–85.
[32] H. Kriesi, Political context and opportunity, in: D. Snow, S. Soule, H. Kriesi (Eds.), The Blackwell Companion to Social Movements, Wiley-Blackwell, Oxford, 2004, pp. 67–90.
[33] D. Meyer, D. Minkoff, Conceptualizing political opportunities, Soc. Forces 82 (4) (2004) 1457–1492.
[34] R. Schurman, Fighting Franken foods: industry opportunity structures and the efficacy of the anti-biotech movement in Europe, Soc. Forces 51 (2) (2004) 243–268.
[35] S. Soule, Targeting organizations: contentious and private politics, Res. Sociol. Organ. 34 (2012) 261–285.
[36] M. Boström, L. Rabe, R. Rodela, Environmental non-governmental organizations and transnational collaboration: the Baltic Sea and Adriatic-Ionian Sea regions, Environ. Polit. 24 (5) (2015) 762–787.
[37] J. Kingdon, How do issues get on public policy agendas? in: W. Wilson (Ed.), Sociology and the public agenda, Sage, Newbury Park, CA, 1993, pp. 40–50.
[38] D. Rosenbloom, B. Haley, J. Meadowcroft, Critical choices and the politics of decarbonization pathways: exploring branching points surrounding low-carbon transitions in Canadian electricity systems, Energy Res. Soc. Sci. 37 (2018) 22–36.
[39] P. Sabatier, C. Weible, The advocacy coalition framework: innovations and clarifications, in: P. Sabatier (Ed.), Theories of the Policy Process, Westview Press, Boulder, US, 2007, pp. 189–220.
[40] W. Gamson, The Strategy of Social Protest, Dorsey Press, Homewood, Illinois, US, 1975.
[41] D. McAdam, S. Tarrow, C. Tilly, Dynamics of contention, Soc. Mov. Stud. 2 (1) (2003) 99–102.
[42] S. Anderson, R. DeLeo, K. Taylor, Policy entrepreneurs, legislators, and agenda setting: information and influence, Policy Stud. J. (2019) in press.
[43] H. Compston, Introduction: political strategies for climate policy, Environ. Polit. 18 (5) (2009) 659–669.
[44] N. Frisch Aviram, N. Cohen, I. Beeri, Wind (ow) of change: a systematic review of policy entrepreneurship characteristics and strategies, Policy Stud. J. (2019) in press.
[45] S. Gen, A. Wright, Strategies of policy advocacy organizations and their theoretical affinities: evidence from Q-methodology, Policy Stud. J. 46 (2) (2018) 298–326.
[46] T. Hoppe, F. Coenen, M. van den Berg, Illustrating the use of concepts from the discipline of policy studies in energy research: an explorative literature review, Energy Res. Soc. Sci. 21 (2016) 12–32.
[47] E. Nulman, Dynamic interactions in contentious episodes: social movements, industry, and political parties in the contention over Heathrow's third runway, Environ. Polit. 24 (5) (2015) 742–761.
[48] A. Ley, E. Weber, The adaptive venue shopping framework: how emergent groups choose environmental policymaking venues, Environ. Polit. 24 (5) (2015) 703–722.
[49] D. Hess, Coalitions, framing, and the politics of energy transitions: local democracy and community choice in California, Energy Res. Soc. Sci. 50 (2019) 38–50.
[50] C. Davis, K. Hoffer, Federalizing energy? Agenda change and the politics of fracking, Policy Sci. 45 (3) (2012) 221–241.
[51] B. Warren, P. Christoff, D. Green, Australia's sustainable energy transition: the disjointed politics of decarbonisation, Environ. Innov. Soc. Trans. 21 (2016) 1–12.
[52] H. Stephan, The discursive politics of unconventional gas in Scotland: drifting

towards precaution? Energy Res. Soc. Sci. 23 (2017) 159–168.

[53] M. Fry, C. Brannstrom, T. Murphy, How Dallas became frack free: hydrocarbon governance under neoliberalism, Environ. Plann. A 47 (12) (2015) 2591–2608.

[54] D. Bell, T. Gray, C. Haggett, J. Swaffield, Re-visiting the social gap: public opinions and relations of power in local politics of wind energy, Environ. Polit. 22 (1) (2013) 115–135.

[55] F. Goedkoop, P. Devine-Wright, Partnership or placation? The role of trust and justice in the shared ownership of renewable energy projects, Energy Res. Soc. Sci. 17 (2016) 135–146.

[56] N. Hall, P. Ashworth, P. Devine-Wright, Societal acceptance of wind farms: analysis of four common themes across Australian case studies, Energy Policy 58 (2013) 200–208.

[57] H. Bulkeley, M. Betsill, Rethinking sustainable cities: multilevel governance and the 'urban' politics of climate change, Environ. Polit. 14 (1) (2005) 42–63.

[58] C. Downie, Transnational actors in environmental politics: strategies and influence in long negotiations, Environ. Polit. 23 (3) (2014) 376–394.

[59] M. Ogilvie, C. Rootes, The impact of local campaigns against wind energy developments, Environ. Polit. 24 (6) (2015) 874–893.

[60] H. McCammon, Discursive opportunity structure, in: D. Snow, D. della Porta, B. Klandermans, D. McAdam (Eds.), The Wiley-Blackwell Encyclopedia of Social and Political Movements, Wiley-Blackwell, Malden, US, 2013, pp. 1–3.

[61] D. Hess, Q. Mai, K. Brown, Red states, green laws: ideology and renewable energy legislation in the United States, Energy Res. Soc. Sci. 11 (2016) 19–28.

[62] L. Stokes, C. Warshaw, Renewable energy policy design and framing influence public support in the United States, Nat. Energy 2 (8) (2017) 17107.

[63] M. Kemberling, J. Roberts, When time is on their side: determinants of outcomes in new siting and existing contamination cases in Louisiana, Environ. Polit. 18 (6) (2009) 851–868.

[64] D. Hess, L. Satcher, Conditions for successful environmental justice mobilizations: an analysis of 50 cases, Environ. Polit. (2019) 1–22.

[65] J. Ayling, N. Gunningham, Non-state governance and climate policy: the fossil fuel divestment movement, Clim. Policy 17 (2) (2017) 131–149.

[66] N. Healy, J. Barry, Politicizing energy justice and energy system transitions: fossil fuel divestment and a 'just transition', Energy Policy 108 (2017) 451–459.

[67] M. MacLeod, J. Park, Financial activism and global climate change: the rise of investor-driven governance networks, Glob. Environ. Polit. 11 (2) (2011) 54–74.

[68] E. Reid, M. Toffel, Responding to public and private politics: corporate disclosure of climate change strategies, Strateg. Manage. J. 30 (11) (2009) 1157–1178.

[69] B. King, A political mediation model of corporate response to social movement activism, Adm. Sci. Q. 53 (2008) 395–421.

[70] J. Hadden, The relational sources of advocacy strategies: comparative evidence from the European and US climate change sectors, Policy Stud. J. 46 (2) (2018) 248–268.

[71] V. Lauber, S. Jacobsson, The politics and economics of constructing, contesting and restricting socio-political space for renewables–The German Renewable Energy Act, Environ. Innov. Soc. Trans. 18 (2016) 147–163.

[72] D. Hess, M. Renner, Conservative political parties and energy transitions in Europe: opposition to climate mitigation policies, Renew. Sustain. Energy Rev. 104 (2019) 419–428.

[73] T. Haukkala, A struggle for change—the formation of a green-transition advocacy coalition in Finland, Environ. Innov. Soc. Trans. 27 (2018) 146–156.

[74] D. Hess, Sustainability transitions: a political coalition perspective, Res. Policy 43 (2) (2014) 278–283.

[75] S. Ryder, Unconventional regulation for unconventional energy in Northern Colorado? Municipalities as strategic actors and innovators in the United States, Energy Res. Soc. Sci. 26 (2017) 23–33.

[76] H. Murphy-Gregory, Governance via persuasion: environmental NGOs and the social licence to operate, Environ. Polit. 27 (2) (2018) 320–340.

[77] J. Angel, Towards an energy politics in-against-and-beyond the state: Berlin's struggle for energy democracy, Antipode 49 (3) (2017) 557–576.

[78] T. Blanchet, Struggle over energy transition in Berlin: how do grassroots initiatives affect local energy policy-making? Energy Policy 78 (2015) 246–254.

[79] M. Burke, J. Stephens, Energy democracy: goals and policy instruments for sociotechnical transitions, Energy Res. Soc. Sci. 33 (2017) 35–48.

[80] M. Brisbois, Powershifts: a framework for assessing the growing impact of decentralized ownership of energy transitions on political decision-making, Energy Res. Soc. Sci. 50 (2019) 151–161.

[81] N. Carter, M. Childs, Friends of the earth as a policy entrepreneur: 'The Big Ask' campaign for a UK Climate Change Act, Environ. Polit. 27 (6) (2018) 994–1013.

[82] R. Raven, F. Kern, B. Verhees, A. Smith, Niche construction and empowerment through socio-political work: a meta-analysis of six low-carbon technology cases, Environ. Innov. Soc. Trans. 18 (2016) 164–180.

[83] K. Sühlsen, M. Hisschemöller, Lobbying the 'Energiewende': assessing the effectiveness of strategies to promote the renewable energy business in Germany, Energy Policy 69 (2014) 316–325.

[84] C. Doblinger, B. Soppe, Change-actors in the US electric energy system: the role of environmental groups in utility adoption and diffusion of wind power, Energy Policy 61 (2013) 274–284.

[85] S. Jolly, P. Spodniak, R. Raven, Institutional entrepreneurship in transforming energy systems towards sustainability: wind energy in Finland and India, Energy Res. Soc. Sci. 17 (2016) 102–118.

[86] L. Pellizzoni, The politics of facts: local environmental conflicts and expertise, Environ. Polit. 20 (6) (2011) 765–785.

[87] K. Rietig, The links among contested knowledge, beliefs, and learning in European climate governance: from consensus to conflict in reforming biofuels policy, Policy Stud. J. 46 (1) (2018) 137–159.

[88] P. Harborne, C. Hendry, Pathways to commercial wind power in the US, Europe and Japan: the role of demonstration projects and field trials in the innovation process, Energy Policy 37 (9) (2009) 3580–3595.

[89] T. Bauwens, B. Gotchev, L. Holstenkamp, What drives the development of community energy in Europe? The case of wind power cooperatives, Energy Res. Soc. Sci. 13 (2016) 136–147.

[90] G. Seyfang, A. Smith, Grassroots innovations for sustainable development: towards a new research and policy agenda, Environ. Polit. 16 (4) (2007) 584–603.

[91] Y. Rydin, C. Turcu, Revisiting urban energy initiatives in the UK: declining local capacity in a shifting policy context, Energy Policy 129 (2019) 653–660.

[92] D. Toke, Ecological modernisation, social movements and renewable energy, Environ. Polit. 20 (1) (2011) 60–77.

[93] M. Finley-Brook, T. Williams, J. Caron-Sheppard, M. Jaromin, Critical energy justice in US natural gas infrastructuring, Energy Res. Soc. Sci. 41 (2018) 176–190.

[94] M. Goodman, J. Connelly, The public interest environmental law group: from USA to Europe, Environ. Polit. 27 (2018) 1014–1032.

[95] M. McCann, W. Haltom, S. Fisher, Criminalizing big tobacco: legal mobilization and the politics of responsibility for health risks in the United States, Law Soc. Inq. 38 (2) (2013) 288–321.

[96] M. Merry, Environmental groups' communication strategies in multiple media, Environ. Polit. 21 (1) (2012) 49–69.

[97] L. Hestres, Climate change advocacy online: theories of change, target audiences, and online strategy, Environ. Polit. 24 (2) (2015) 193–211.

[98] S. Pralle, Venue shopping, political strategy, and policy change: the internationalization of Canadian forest advocacy, J. Publ. Policy 23 (3) (2003) 233–260.

[99] B. Martin, Justice Ignited: The Dynamics of Backfire, Rowman and Littlefield, Lanham, US, 2007.

[100] J. Auyero, H. Maricarmen Hernandez, M. Stitt, Grassroots activism in the belly of the beast: a relational account of the campaign against urban fracking in Texas, Soc. Probl. 66 (1) (2017) 28–50.

[101] K. Neville, J. Weinthal, Scaling up site disputes: strategies to redefine 'local' in the fight against fracking, Environ. Polit. 25 (4) (2016) 569–592.

[102] J. Jasper, Getting Your Way: Strategic Dilemmas in the Real World, University of Chicago Press, Chicago, 2006.

[103] M. Nisbet, Strategic philanthropy in the post-cap-and-trade years: reviewing US climate and energy foundation funding, Wiley Interdiscip. Rev.: Clim. Change 9 (4) (2018) e524.

[104] N. Berny, C. Rootes, Environmental NGOs at a crossroads? Environ. Polit. 27 (6) (2018) 947–972.

[105] D. McAdam, H. Boudet, Putting Social Movements in Their Place: Explaining Opposition to Energy Projects in the United States, 2000–2005, Cambridge University Press, Cambridge, UK, 2012.

[106] J. Barnes, R. Durrant, F. Kern, G. MacKerron, The institutionalisation of sustainable practices in cities: how sustainability initiatives shape local selection environments, Environ. Innov. Soc. Trans. 29 (2018) 68–80.

[107] J. Markard, M. Suter, K. Ingold, Socio-technical transitions and policy change: advocacy coalitions in Swiss energy policy, Environ. Innov. Soc. Trans. 18 (2016) 215–237.

[108] A. Madariaga, M. Allain, Contingent coalitions in environmental policymaking: how civil society organizations influenced the Chilean renewable energy boom, Policy Stud. J. (2019) in press.

[109] I. Ydersbond, Multilevel 'venue shopping': the case of EU's Renewables Directive, Interest Groups Advoc. 3 (1) (2014) 30–58.

[110] N. Carter, B. Clements, From "greenest government ever" to "get rid of the all the green crap": David Cameron, the conservatives, and the environment, Br. Polit. 10 (2) (2015) 204–225.

[111] N. Young, A. Coutinho, Government, anti-reflexivity, and the construction of public ignorance about climate change: Australia and Canada compared, Glob. Environ. Polit. 13 (2) (2013) 89–108.

[112] D. McCauley, Wasting energy? Campaigns against waste-to-energy sites in France, Environ. Polit. 18 (6) (2009) 917–938.

[113] C. Rootes, From local conflict to national issue: when and how environmental campaigns succeed in transcending the local, Environ. Polit. 22 (1) (2013) 95–114.

[114] H. Schaffer Boudet, From NIMBY to NIABY: regional mobilization against liquefied natural gas in the United States, Environ. Polit. 20 (6) (2011) 786–806.

[115] S. Bell, Fighting King Coal: The Challenges to Micromobilization in Central Appalachia, MIT Press, Cambridge, US, 2016.

[116] N. Kalaf-Hughes, A. Kear, Framed for compromise? The role of bill framing in state legislative behavior on natural gas policy, Policy Stud. J. 46 (3) (2018) 598–628.

[117] S. Mailin, The Price of Nuclear Power: Uranium Communities and Environmental Justice, Rutgers University Press, New Brunswick, US, 2015.

[118] P. Späth, H. Rohracher, Conflicting strategies towards sustainable heating at an urban junction of heat infrastructure and building standards, Energy Policy 78 (2015) 273–280.

[119] C. Downie, Business actors, political resistance, and strategies for policymakers, Energy Policy 108 (2017) 583–592.

[120] J. Meckling, N. Kelsey, E. Biber, J. Zysman, Winning coalitions for climate policy, Science 349 (6253) (2015) 1170–1171.

[121] F. Kern, A. Smith, C. Shaw, R. Raven, B. Verhees, From laggard to leader: explaining offshore wind developments in the UK, Energy Policy 69 (2014) 635–646.

[122] M. Aklin, J. Urpelainen, Political competition, path dependence, and the strategy of sustainable energy transitions, Am. J. Polit. Sci. 57 (3) (2013) 643–658.

[123] J. Allan, J. Hadden, Exploring the framing power of NGOs in global climate politics, Environ. Polit. 26 (4) (2017) 600–620.

[124] M. Kuchler, The human rights turn: ENGOs' changing tactics in the quest for a

more transparent, participatory and accountable CDM, Environ. Polit. 26 (4) (2017) 648–668.

[125] D. Rosenbloom, J. Meadowcroft, The journey towards decarbonization: exploring socio-technical transitions in the electricity sector in the province of Ontario (1885–2013) and potential low-carbon pathways, Energy Policy 65 (2014) 670–679.

[126] J. Meckling, The globalization of carbon trading: transnational business coalitions in climate politics, Glob. Environ. Polit. 11 (2) (2011) 26–50.

[127] K. Brown, D. Hess, Pathways to policy: partisanship and bipartisanship in renewable energy legislation, Environ. Polit. 25 (6) (2016) 971–990.

[128] P. Johnstone, P. Newell, Sustainability transitions and the state, Environ. Innov. Soc. Trans. 27 (2018) 72–82.

[129] H. Normann, The role of politics in sustainable transitions: the rise and decline of offshore wind in Norway, Environ. Innov. Soc. Trans. 15 (2015) 180–193.

[130] I. Bailey, I. MacGill, R. Passey, H. Compston, The fall (and rise) of carbon pricing in Australia: a political strategy analysis of the carbon pollution reduction scheme, Environ. Polit. 21 (5) (2012) 691–711.

[131] H. Compston, Networks, resources, political strategy and climate policy, Environ. Polit. 18 (5) (2009) 727–746.

[132] K. Rogge, J. Schleich, Do policy mix characteristics matter for low-carbon innovation? A survey-based exploration of renewable power generation technologies in Germany, Res. Policy 47 (9) (2018) 1639–1654.

[133] M. Lindberg, J. Markard, D. Andersen, Policies, actors and sustainability transition pathways: a study of the EU's energy policy mix, Res. Policy (2019) in press.

[134] J. Monstadt, A. Wolff, Energy transition or incremental change? Green policy agendas and the adaptability of the urban energy regime in Los Angeles, Energy Policy 78 (2015) 213–224.

[135] E. Moe, Vested interests, energy efficiency and renewables in Japan, Energy Policy 40 (2012) 260–273.

[136] G. Bullock, A. Theodoridis, Addressing concerns about climate policies: the possibilities and perils of responsive accommodation, Environ. Polit. 26 (6) (2017) 1079–1106.

[137] K. Gould, D. Pellow, A. Schnaiberg, Treadmill of Production: Injustice and Unsustainability in the Global Economy, Routledge, New York, 2015.

[138] T. Haas, Comparing energy transitions in Germany and Spain using a political economy perspective, Environ. Innov. Soc. Trans. 31 (2018) 200–210.

[139] F. Ehnert, F. Kern, S. Borgström, L. Gorissen, S. Maschmeyer, M. Egermann, Urban sustainability transitions in a context of multi-level governance: a comparison of four European states, Environ. Innov. Soc. Trans. 26 (2018) 101–116.

[140] F. Sengers, F. Berkhout, A. Wieczorek, R. Raven, Experimenting in the city: unpacking notions of experimentation for sustainability, in: J. Evans, A. Karvonen, R. Raven (Eds.), The Experimental City, Routledge, Abingdon, UK, 2016, pp. 15–31.

[141] D. Rosenbloom, J. Meadowcroft, B. Cashore, Stability and climate policy? Harnessing insights on path dependence, policy feedback, and transition pathways, Energy Res. Soc. Sci. 50 (2019) 168–178.

[142] L. Michaels, A. Tal, Convergence and conflict with the 'national interest': why Israel abandoned its climate policy, Energy Policy 87 (2015) 480–485.

[143] J. Markard, F. Geels, R. Raven, Accelerating transitions: widening our perspective, Paper Presented at the International Sustainability Transitions Conference (2019).

[144] C. Roberts, F. Geels, Conditions for politically accelerated transitions: historical institutionalism, the multi-level perspective, and two historical case studies in transport and agriculture, Technol. Forecast. Soc. 19 (2018) 221–240.

[145] J. Meadowcroft, Engaging with the politics of sustainability transitions, Environ. Innov. Soc. Trans. 1 (1) (2011) 70–75.

[146] B. Turnheim, B. Sovacool, Critically reviewing failure in socio-technical transitions: sources, patterns, and dispositions, Paper Presented at the International Sustainability Transitions Conference (2019).

[147] G. Maney, K. Andrews, R. Kutz-Flamenbaum, D. Rohlinger, J. Goodwin, Introduction, in: G. Maney, R. Kutz-Flamenbaum, De Rohlinger, J. Goodwin (Eds.), Strategies for Social Change, University of Minnesota Press, Minneapolis, US, 2012pp. xi-xxxviii.

David J. Hess is the James Thornton Fant Chair in Sustainability Studies and Professor of Sociology at Vanderbilt University, where he is also the Associate Director of the Vanderbilt Institute for Energy and Environment and the Director of the Program in Environmental and Sustainability Studies (www.davidjhess.net).