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Distributed resources and distributed governance: Stakeholder participation in demand side management governance

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ABSTRACT

The electric sector has undergone a remarkable transition over the past several decades, witnessing dramatic changes in the range of technologies used to provide power to consumers, the diversity of actors that have a stake in the sector, and the regulatory institutions that structure governance. In this paper, we argue that the centralized, formal, quasi-judicial regulatory approach traditionally used to regulate utilities among U.S. states is ill-suited to manage the emergent transition toward increased use of distributed resources such as demand-side management. Indeed, as the use of distributed resources has grown, states have begun to develop formal and informal ways to meaningfully engage market participants and other stakeholders in regulatory decision making. We call this trend “distributed governance,” embodying the idea that the new paradigm for electricity regulation is no longer centralized, but rather is distributed among state, market, and civic participants. In this paper, we examine distributed governance within the context of U.S. states’ demand-side management policies and programs. Using regulatory documents from Public Utility Commissions across the U.S., interviews with electric sector stakeholders in two states, and literature from public policy and management scholars, we develop propositions about distributed governance for distributed resources in the electric sector.

1. Introduction

The electric sector has undergone a remarkable transition over the past several decades, witnessing dramatic changes in the range of technologies used to provide power to consumers, the diversity of actors that have a stake in the sector, and the regulatory institutions that structure governance. The approaches to governance traditionally used in the electric sector – that is, centralized, formal, quasi-judicial approaches to decision-making – are being supplemented or replaced by a range of informal, participatory, and collaborative approaches that give stakeholders a greater role in governance. This trend is most noticeable in the context of demand-side management (DSM), here defined to include a wide range of programs that allow customers to reduce or shift their electricity consumption [1]. We examine this trend toward participatory governance of DSM, asking how and why stakeholder involvement in DSM governance is on the rise, and developing theoretical propositions about how the design of stakeholder governance processes might be structured to improve their effectiveness.

DSM first emerged as a response to soaring costs during the energy crisis of the 1970s, and encompasses programs that help customers manage their energy use, such as appliance rebates, energy-efficient

lighting programs, as well as programs that reward customers for shifting their load during times of peak energy use [1]. These energy savings in turn allow utilities to avoid or delay the need to invest in new supply-side resources. Historically, utilities have often used their considerable political clout to resist or contest DSM policies [28]. DSM reduces electricity sales, which can pose a challenge to utilities’ financial dominance in the sector, particularly if regulators do not adjust rates to account for DSM savings. DSM also gives regulators greater authority over utilities’ activities, which can pose a challenge to utilities’ political dominance in the sector [28]. In the 1980s, environmental advocates started to become active in legislative and regulatory DSM proceedings, pressing policy makers to require greater use of DSM programs and taking an active role in monitoring utilities’ DSM performance [2,3].

Starting in the late 1990s, DSM governance began to change. In New England and California, utilities and DSM advocates began to engage in collaborative policy making to develop approaches to DSM that would be mutually beneficial for utilities and other stakeholders in the sector [28]. While collaborative DSM governance is not universal, over half of U.S. states have created energy efficiency collaboratives that play some role in DSM regulation [4]. These collaboratives vary in terms of their

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basic structure and function. Some are permanent, for example, while others are temporary; and their roles can range from advisory to regulatory [4]. Often, these collaboratives co-exist with ad-hoc opportunities for stakeholders to engage in regulatory decision making. It is not uncommon, for example, for regulators to convene temporary workgroups of experts to deliberate over new and emerging challenges in the sector, including new challenges that have emerged as states pursue ever-larger DSM savings goals.

We call this shift toward greater stakeholder inclusivity “distributed governance,” embodying the idea that the emerging paradigm for electricity regulation is shared among state, market, and civic participants, particularly in the context of DSM. As the use of DSM has grown, electricity consumers have become active in managing their demand, and consumer and environmental advocates have become active in monitoring the environmental impacts of the sector. In the process, stakeholders have also become more active in electric sector decision making, both individually and as part of formal and informal collaboratives, workgroups, and other governance arrangements. To date, however, there have been few studies that systematically examine how such arrangements are structured, how inputs from diverse stakeholders are solicited and used in decision making, how these governance arrangements shape regulatory outputs and social outcomes, or whether collaborative approaches are likely to be successful at overcoming utilities’ traditional reluctance to embrace DSM programs.

Scholars in this journal and elsewhere have argued that greater use of social science theories are needed to help analysts, academics, and practitioners better understand and manage the changes underway in the electric sector [5,6,25,26]. In this paper, we draw on literature from public management and collaborative governance to understand how stakeholders are currently involved in DSM regulation. We document trends in distributed governance through: 1) an analysis of Public Utility Commission (PUC) decisions in DSM proceedings from all 50 states between 2000 and 2016, and 2) in-depth interviews with regulators, utilities, and other stakeholders in two states, Connecticut and Maryland, conducted during June 2016. We synthesize across existing literature and our own empirical observations to develop propositions about why and when such engagement may benefit electric sector governance and how policy makers and public managers can structure stakeholder engagement to better manage emerging and ongoing challenges in the transition to a cleaner, more distributed electric sector.

2. Scholarly perspectives on horizontal governance relationships

In an effort to understand whether, why, and how diverse stakeholders are involved in electric sector governance, we begin with a review of scholars’ theoretical ideas about the possible advantages (and disadvantages) of non-hierarchical approaches to governance; that is, we seek to understand why states might adopt *horizontal* approaches for the governance of distributed resources. The literature identifies three main rationales for stakeholder engagement: to improve public managers’ access to resources, including information; to develop novel solutions to emerging problems; and to improve democratic accountability. The literature also identifies drawbacks and limitations to horizontal governance arrangements, reviewed below.

2.1. Access to information

A growing number of scholars and practitioners have recognized that some public policy problems cannot be effectively addressed by single agencies acting alone, suggesting the need for a network of organizations engaged in the problem [7]. This may be particularly true for so-called “wicked problems,” defined by their complexity, technological uncertainty, and the presence of multiple affected parties with alternative and divergent preferred solutions. In such cases, policy makers likely need resources – including information – from a range of

affected parties if effective solutions are to be identified and implemented [8,9]. While networks may form for multiple purposes [29], a common goal in the networks that form around the use of DSM is to increase PUCs’ capacity to make informed decisions. PUCs often rely on network participants to provide them with information that they could not readily obtain on their own, such as expert analysis based on other states’ experiences, utilities’ detailed programmatic knowledge, or information about public opinion on matters related to DSM [3]. While stakeholder inputs can be valuable resources, however, stakeholder engagement takes time, and can present decision makers with operational challenges in determining how to solicit and make use of information [10].

2.2. Enhanced problem solving

Collaborative governance – itself a form of network governance – is increasingly common in environmental conservation, and is based on the theory that regular, repeated interactions allow participants to build trust, engage in deliberation, and develop novel solutions to emerging problems [11,12]. The idea of problem-solving through deliberation is particularly appealing in instances where some sort of behavior change is required on the part of key actor(s), but those actors have divergent ideas or positions that prevent them from agreeing upon a single course of action. In such instances, collaborative governance may allow actors to identify areas over time in which their interests are aligned, or to develop mutually satisfactory solutions. Some scholars have identified advanced, multimodal forms of collaborative governance as an emerging paradigm to identify solutions for problems that cannot be easily resolved through more traditional command-and-control approaches [13].

In the electric sector, as DSM has become more prevalent, a number of challenges have emerged. These include the technical challenges of creating and implementing effective DSM programs, as well as the analytical challenge of verifying the savings that have occurred as a result. There are also substantial political economy challenges with DSM. The literature has fully documented the “utility disincentive” problem: since utilities traditionally earn revenues through selling kWhs to consumers, DSM programs that reduce kWh sales also erode utility revenues [1]. A suite of ratemaking practices can be used to reduce utility disincentives by decoupling utility earnings from kWh sales and by creating performance incentives tied to utility DSM savings [14]. However, such ratemaking practices raise new political economy challenges, as regulators must determine how to distribute costs and benefits of DSM between ratepayers and utilities. Relatedly, regulators must determine how to allocate DSM budgets across groups of ratepayers, such as residential, commercial, and industrial customers. Increased use of DSM thus presents challenges that affect multiple stakeholders with divergent interests. Within this context, collaborative governance may be an attractive solution, as it offers potential for participants to develop mutually beneficial solutions [11]. Outcomes of the collaborative process itself play an important role in collaborative governance; as participants build trust and relationships over time, the collaboration can address larger problems [12].

Despite the potential for collaboration to solve problems, the literature also recognizes contexts when collaborative and inclusive policy making is unlikely to work well. Emerson et al. [11] identify principled engagement, shared motivation, and capacity for joint action as key drivers of success in collaborative governance regimes. In contexts where parties have opposing interests or are unwilling to work together, collaborative and inclusive approaches may be inappropriate or counterproductive. In the electric sector, this may occur where utilities are reluctant or outright resistant to investing in DSM. Particularly in states where policies are not in place to encourage utility investment in DSM, collaborative approaches may not be able to overcome divergent interests among stakeholders.

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