

POWER, AGENCY, AND EQUITY IN DECARBONIZATION: A MULTI-SCALAR
ANALYSIS OF JUST TRANSITION POLITICS

A dissertation presented

By

Lauren Contorno

to

The Department of Sociology and Anthropology

In partial fulfillment of the requirements for the degree of
Doctor of Philosophy

In the field of

Sociology

Northeastern University
Boston, Massachusetts
August 2019

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ABSTRACT OF DISSERTATION

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ABSTRACT

This dissertation explores the political-economic, social, and cultural dynamics of coal plant closures and the emergent grassroots movement to facilitate a *just transition* for workers and communities who are disproportionately burdened by shifting energy economies. In the last few decades, the United States has seen a steady and significant decline in both coal production and consumption due to the decreasing cost of natural gas and increasingly stringent environmental regulations. Concurrently, national, state, and municipal governments are passing progressively ambitious climate policies and ramping up investment in renewables and energy efficiency. This historic transition's effects on labor markets, local economies, land-use patterns, and energy resource distribution raise important questions related to power, agency, and social equity.

Employing a multi-scalar approach, this project includes a comparative case study of two municipalities in Massachusetts that have recently experienced coal plant closures to investigate the *local* politics of decarbonization, as well an analysis of the *nationwide* movement for a just transition in the United States. My analysis: 1) identifies political-economic and sociocultural obstacles to just and equitable decarbonization processes/outcomes, 2) demonstrates the effect of local context upon community response to coal plant closures and redevelopment politics, and 3) illuminates the political strengths and tensions of the growing movement for a just transition. Theoretically, this project builds on the work of scholars in disciplines such as political science, geography, science and technology studies, and public policy by applying a critical, sociological lens to the energy transition. More specifically, I draw from and contribute to the subfields of political economy, environmental justice, culture, and social movements.

This dissertation is comprised of three empirical papers. The first paper is an in-depth case study of Somerset, Massachusetts—a small town that has experienced two coal plant closures within the past nine years. My analytic approach integrates literature on the political economy of energy transitions, as well as sociological literature on community identity and quiescence, as diagnostic theoretical tools to identify barriers to a just transition. I conducted in-depth interviews (n=26) with community members (activists and non-activists), regional environmental NGOs, local and state government officials, former plant workers, and an industry representative; attended town hall meetings and private meetings among activists as a participant observer; and analyzed the content of all publicly available redevelopment planning documents (reuse studies, health reports), local and regional news articles, and conversations on community social media platforms. Ultimately, I argue that while a lack of policy support, private property regimes, and economic dependency on private capital serve as significant obstacles to local control over redevelopment planning and workforce retraining in Somerset, a disempowered and depoliticized civic culture also inhibits the growth of grassroots political power in support of a just and sustainable transition.

The second paper examines the mediating influence of local history, culture, geography, and politics upon community response to coal plant closures through a comparative case study of Somerset and Holyoke, Massachusetts. My analysis decenters the internal dynamics of the grassroots movements in these communities, and instead focuses on contextual forces that impact the outcomes of contentious decarbonization politics. I conducted 41 in-depth interviews with community members (activists and non-activists), regional environmental NGOs, local and state government officials, former plant workers, and private industry representatives; attended town hall meetings and private meetings among activists as a participant observer; and analyzed

the content of all publicly available redevelopment planning documents (reuse studies, health reports), local and regional news articles, and conversations on community social media platforms. Ultimately, I argue that key differences in industrial history and community economic identity, local geography, and political and industrial opportunity structures played a formative role in shaping divergent transition trajectories in these two post-coal communities.

Finally, the third paper examines the emergent, nationwide movement for a just transition (JT). Through an analysis of 13 in-depth interviews with individuals in labor organizations, grassroots community/environmental justice organizations, environmental NGOs, and think tanks around the country, in addition to extensive content analysis of both primary and secondary textual and video sources, the paper: 1) clarifies the core claims and principles of the JT framework as presently articulated by activists and social movement organizations, 2) demonstrates how the framework has evolved and expanded through its adoption by multiple different social movements, 3) identifies inter-movement tensions, and 4) discusses JT organizing in relation to the existing literature on master frames, theories of justice, and social movement spillover or fusion.

In the interest of making this research relevant to policy practitioners and activists, I conclude with a chapter that synthesizes common findings across the three empirical papers, highlighting key policy implications and lessons for activists within the context of the newly proposed Green New Deal.

ACKNOWLEDGEMENTS

The work that went into this dissertation was supported by my surrounding community of friends, colleagues, and family members. First, I want to thank the other members of my cohort: Sam Maron, Boris Templeton, Danielle Falzon, Alex Press, and Ben Levy. From day one of grad school, you have inspired me politically, professionally, and personally, and I am grateful for all of the encouragement you have provided me over the years. I am especially thankful for that road trip we took to New York in September 2014, during our first, hectic month of grad school, to participate in the People’s Climate March—an action that set the stage for the research I would be doing for the next five years. Thanks for convincing me to slack off on reading for a weekend and come along.

I also want to thank the members of my dissertation committee. My advisor and chair, Phil Brown, provided genuine encouragement, reassurance, and support for my work as I navigated the tumultuous waters of grad school; I have endless gratitude for his grounding mentorship. Sharon Harlan provided me keen insight into how to present my findings in a more concise and impactful way for readers, while Steve Vallas always had suggestions to sharpen and deepen my theoretical analysis. I am also thankful to have had Jennie Stephens from Northeastern’s School of Public Policy and Urban Affairs as my outside reader, and to have participated in her interdisciplinary Energy and Climate Policy research group over the past few years.

Being a part of the Social Science Environmental Health Research Institute (SSEHRI) was foundational to my intellectual and scholarly development. Thank you to all current and past members who have provided me feedback on papers, mentored me on research projects,

connected me with other scholars in my line of work, and shared academic life-hacks with me. I am and will continue to be inspired by all of the great work you are doing.

Thank you to my mom, dad, stepdad, sister, and brother who put up with me living far away from home and being in school for so long. I love you all. Also thank you to my wonderful roommates Olivia, Sam, and Matt, who became my family away from home while living in Boston. And to my GENU-UAW family of grad student organizers, who became my close friends (and proof-readers) as we worked to build our union for teaching and research assistants at Northeastern University. The fight is not over, but you will win!

Lastly, I want to especially extend my gratitude to all of the labor, environmental, and community activists I have come into contact with through this project and other related research endeavors over the past five years. The unwavering commitment you have to the organizing you do on the ground each day is both humbling and inspiring. Thank you for all of the important work you are doing, and for taking time out of your busy day to talk with me and inform this dissertation. It was a privilege hearing your stories, and a constant needed reminder that another world is possible. And to the people who do not identify as activists, but are living on the front lines of the energy transition and facing economic, social, and environmental precarity as a result—thank you for sharing your stories with me as well. This dissertation is dedicated to all of my interviewees.

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INTRODUCTION

In October 2018, the Intergovernmental Panel on Climate Change (IPCC) released a special report that alarmingly indicated we are nearing the end of a critical window of time to take action to prevent climate catastrophe. The panel of scientists concluded that in order to limit global warming to 1.5°C, anthropogenic CO₂ emissions would need to fall by 45 percent from 2010 levels by 2030 and reach net zero around 2050 (IPCC 2018). They noted that “Limiting warming to 1.5°C is possible within the laws of chemistry and physics, but doing so would require unprecedented changes,” and more specifically, “rapid and far-reaching transitions in land, energy, industry, buildings, transport, and cities.” The report further underscores the importance of equity and ethics considerations in decarbonization, and emphasizes that successful mitigation is not only dependent on enabling geophysical, environmental-ecological, economic, and technological conditions, but also sociocultural and institutional factors. Indeed, a 2015 report by Jacobson et al. that mapped the possibilities for achieving 100% renewable energy in the United States by 2050 concluded that “Based on the scientific results presented, current barriers to implementing the roadmaps are neither technical nor economic. *As such, they must be social and political*” (2115).

Beyond being a simple process of technological innovation and substitution, the transition to renewable energy is a complex sociotechnical phenomenon shaped by political-economic factors, and it entails profound social and cultural impacts. As a result, energy scholars conceptualize the transition from fossil fuels to renewable energy as a “sociotechnical transition” (Geels 2004, 2010; Smith and Stirling 2010). Depending upon how decarbonization and the subsequent implementation of renewable technology is handled, there could be profoundly different impacts for labor markets, local and national economies, land-use patterns, and resource

distribution. One of the biggest issues of uncertainty and political controversy with this historic transition is the anticipated negative economic impacts for regions long dominated by fossil fuel economies, and the displacement of workers in the building and energy trades. There are also sociopolitical debates over how new energy technologies should be implemented and managed so as to meet social needs without reproducing the environmental and economic inequalities intrinsic to the incumbent fossil fuel regime. All of these issues raise questions related to power, agency, and equity—concepts that are foundational to sociological inquiry. However, sociological analyses of the renewable energy transition, and social science analyses more broadly, are notably scant in the existing academic literature (Geels 2004; Sovacool 2014a; Sovacool 2014b).

The Social Science of Energy Transitions—A Place for Sociology

In a recent review of three leading journals in energy studies, Sovacool (2014b, 5) found that “only 19.6 percent of authors reported training in any social science discipline, and less than 0.3 percent of authors reported disciplinary affiliations in areas such as history, psychology, anthropology, and communication studies. Only 12.6 percent of articles utilized qualitative methods and less than 5 percent of citations were to social science and humanities journals,” leading him to conclude that social science theories and concepts remain “underutilized, and perhaps underappreciated” in energy studies research. This has led esteemed scholars in the field to advocate for more qualitative research approaches and interdisciplinary collaborations, as well as incorporation of sociological theories and perspectives (Geels 2004; Sovacool 2014b; STRN 2017).

Environmental sociologists have long been at the forefront of analyzing the bidirectional relationship between social structures and ecological sustainability. However, while there are

exceptions, most of the American sociological work on climate change has focused on studying the social *causes* of climate change. For instance, at the macro level, theories of political economy have helped elucidate how capitalist arrangements of economic production have driven the ecological crisis (Schnaiberg and Gould 2000; Foster, Clark, and York 2011; O'Connor 1998). At the individual, scholars have studied people's beliefs/attitudes/emotions around climate change and how this is influenced by larger sociopolitical factors (Dietz, Dan, and Shwom 2007; McCright et al. 2016; Norgaard 2011). However, there is a relative paucity of research and theorizing on *reform* theories for climate change mitigation and adaptation, including energy transitions (Buttel 2003; Dunlap and Brulle 2015; Lidskog et al. 2015; White et al. 2015). A search for articles on "energy" in top journals of the field such as the American Journal of Sociology, American Sociological Review, Organization & Environment, Environmental Sociology, and Social Problems renders few results. Rosa, Machlis, and Keating (1988, 149) note that while energy is a critical social variable that was recognized at the birth of the discipline by scholars like Max Weber and Herbert Spencer, it has only "sporadically been of interest to sociologists." In their historical review of the literature through the late 1980s, they observed that most sociological research on this issue could be grouped into four categories: energetic theories of society, macrosociology of energy, microsociology of energy, and energy policy and other special topics.

These categories generally still hold true today, with most sociological research on energy revolving around the political economy of carbon emissions (Fitzgerald, Jorgenson, and Clark 2015; Jorgensen 2006; Jorgensen and Clark 2012; Lutzenhiser and Hackett 1993), energy consumption and energy insecurity (Byrd and Matthewman 2014; Hall 2013; Hernández 2013; Shove and Ward 2002), the social impacts of energy-related disasters (Dyer, Gill, and Picou

1992; Farrell 2014; Freudenburg and Gramling 2011; Gavenus, Tobin-Gurley, and Peek 2013; Mayer, Running, and Bergstrand 2015), and community opposition to extractive energy projects (Bell 2016; Dokshin 2016; McCormick 2006; Vasi et al. 2015; Widener 2011). The last two categories are perhaps the areas where the greatest growth in critical sociological research has occurred, especially with the rise of the environmental and climate justice movements. Nonetheless, contestations surrounding energy have received far less attention in the environmental justice literature as compared to issues like toxic waste, transportation, or water (Hernández 2015; Hess and Ribiero 2016).

Social Movements and Energy Justice

This dissertation shifts away from the traditional sociological foci of diagnosing the structural determinants of energy-related environmental inequalities and studying political opposition to fossil fuel use. Instead, I sought to develop theoretically-informed insights concerning the politics of decarbonization and renewable energy deployment and its associated social movements for justice and equity. Because technical opportunities simultaneously represent sociotechnical controversies (Mitchell 2009), there are always various forms of social governance that can materialize in correspondence with new technologies. As Miller, Iles, and Jones (2013, 139) argue:

...neither fuels nor their associated technologies of extraction, generation, and use determine the social and economic forms that energy systems take over time...Thus, the key choices involved in energy transitions are not so much between different fuels but between different forms of social, economic, and political arrangements built in combination with new energy technologies.

Clean energy does not necessarily constitute *just* energy. This has been exemplified by recent escalating land grabs over lithium deposits in Bolivia for the production of EV car

batteries (Hindery 2013), the private appropriation of indigenous lands for large-scale wind energy projects in central America (Avila-Calero 2017; Finley-Brook and Thomas 2011), and the dismissive institutional response to community environmental health concerns over commercial scale wind projects in the U.S. (Ottinger 2013). How we choose to build infrastructure and implement renewable technologies—from natural resource extraction, generation, to disposal—will shape our political-economic institutions, our labor market and working conditions, and well as health outcomes (Miller et al. 2013). In this sense, energy systems are sometimes conceptualized as a sociopolitical tool (Sovacool et al. 2016). The recognition of this critical political juncture precipitated by the climate crisis and the rapid push toward renewables has given rise new concepts like *just transition*, *energy justice*, and *energy democracy*, and has mobilized labor, environmental, and community activists at the local, national, and international levels (Burke and Stephens 2017; Healy and Barry 2017; Healy et al. 2019; McCauley and Heffron 2018).

Research Questions and Overview of Empirical Papers

This dissertation begins to fill the sociological gap in the energy transitions literature by exploring the local politics of coal plant closures in the U.S. context, and the movement to facilitate a *just transition* for impacted workers and communities. The underlying principle of the concept *just transition* is equity; it refers to a range of social interventions needed to provide economic and social support to communities and workers who are disproportionately burdened by decarbonization and shifting energy economies. It also emphasizes democratic and inclusive decision-making processes, and the necessity of building a renewable energy economy that does not reproduce the social, economic, and racial inequalities associated with the incumbent fossil

fuel regime. The two components of my fieldwork and data collection included qualitative, in-depth case studies of two municipalities in Massachusetts that have recently experienced coal plant closures and are exploring redevelopment pathways toward renewable energy production, as well as a field analysis (Brown et al. 2010) of the emergent, nationwide movement for a just transition in the United States. My initial guiding research questions were:

- 1) What are the political-economic and sociocultural barriers to implementing a just transition for workers and communities that are burdened by coal plant closures?
- 2) How does community economic identity and local politics influence grassroots community mobilization and local government response to coal plant closures?
- 3) How is the term *just transition* conceptualized and pursued politically across different labor, environmental, and other social movement organizations (SMOs) across the United States?

This dissertation is comprised of three separate but interrelated papers. Paper 1 is an in-depth case study of Somerset, Massachusetts— a small town of 18,000 that has experienced two coal plant closures within the past nine years and is facing a highly contested and uncertain economic future. This paper addresses both my first and second research questions. I conducted in-depth interviews (n=26) with community members, environmental activists, local government officials, dislocated plant workers, and industry representatives, as well as participant observation at public planning meetings and content analysis of online public forums and documents, to investigate the local politics of decarbonization and identify the barriers to a just transition for Somerset workers and residents.

Paper 2 is a comparative case study of Somerset and Holyoke, Massachusetts and addresses my second research question. Like Somerset, Holyoke also dealt with a blow to their

local economy when their coal plant closed in 2014. However, unlike in Somerset, grassroots activists and local government officials successfully advocated for a transition to a solar farm, making it the first case of clean energy installation on the same site as a decommissioned coal plant in the United States. My analysis examines the mediating influence of local history, culture, geography, and politics upon community response to coal plant closures and redevelopment trajectories. It is based on 41 total interviews between the two municipalities with community members (activists and non-activists), regional environmental NGOs, local and state government officials, former plant workers, and private industry representatives. I also attended town hall meetings and private meetings among activists as a participant observer, and analyzed the content of all publicly available redevelopment planning documents (reuse studies, health reports), local and regional news articles, and conversations on community social media platforms.

Paper 3 addresses my third research question by zooming out from the local level to examine the emergent, nationwide movement for a just transition. My analysis summarizes the historical genesis, evolution, and diffusion of the just transition framework among social movement organizations and institutions of civil society, as well as discusses both the strengths and inter-movement tensions that have developed as a result of this concept's widespread adoption. It is based on 13 in-depth interviews with individuals in labor organizations, grassroots community/environmental justice organizations, environmental NGOs, and think tanks around the country, in addition to extensive content analysis of both primary and secondary textual and video sources.

In my conclusion chapter, I synthesize the findings of the three empirical papers to discuss the policy implications of my research within the context of the newly proposed Green New Deal resolution in addition to offering insight and points of reflection for activists.

Research Context and Political Saliency

The unique political and geographical context of New England make Massachusetts a critically important case for sociological analysis of the renewable energy transition. Enactment of progressive environmental policies at the state level have made the transition away from coal especially aggressive in New England, with coal consumption falling 30% from 2016-2017—the sharpest decline of any region in the U.S (US Energy Information Administration 2017). There is also a significant push for harnessing the potential of offshore wind in the region, as evidenced by a 2016 Massachusetts law that requires its three electrical distribution companies—Eversource, National Grid, and Unitil—to purchase 1,600 MW of offshore wind power through long-term contracts within the next decade. While environmentally commendable, the relative rapidity at which this transition is happening begs investigation into whether there has been adequate attention to issues of justice and equity in the wake of the socioeconomic disruption that coal plant closures create for communities. While each of the 50 states have a unique regulatory and policy context, with even further political differentiation at the community level, my case studies of Somerset and Holyoke offer early lessons on policy shortfalls that are leaving affected workers and communities behind, most of which is generalizable beyond Massachusetts to the broader U.S. as the rollout of coal continues to spread.

At the federal level, Representative Alexandria Ocasio-Cortez and Senator Edward Markey’s recent legislative resolution for a Green New Deal propelled the term *just transition*

into national media discourse, raising people's attention to potential solutions for rapidly decarbonizing the economy while addressing other pressing issues such as rising economic inequality, racial injustice, and our inadequate healthcare system. The Green New Deal is not a new idea, but it has recently gained significant traction after the Sunrise Movement, a youth-led climate justice organization, staged a sit-in at Speaker Nancy Pelosi's office in November 2018 to demand swift and substantial legislative action to address the climate crisis. In this unique political moment, it is more important than ever to amplify the visibility of just transition activism and the struggles of workers and communities on the ground. Moreover, a historicized and pluralistic understanding of how social movements have been using this term is critical in order for policymakers to fully comprehend the meaning of the just transition framework and its necessary component parts. My third paper provides just that.

Researcher Positionality

My interest in exploring the contentious politics of coal plant closures and the movement for a just transition began during my first year of graduate school after participating in the 2014 People's Climate March in New York City. After the march, I interviewed labor activists who were in attendance to learn more about climate politics within the labor movement and labor-environment ("blue-green") coalition building. Through this project, it became clear to me that while there are many unions who take proactive stances on issues of climate change and environmental justice, there is an undeniable rift within the labor movement around the issue of decarbonization. Great tension exists between unions whose members' livelihoods are directly threatened by the decline of fossil fuels (e.g. building trades, manufacturing, mining), and those unions with memberships that will not see job losses. Transcending this tension is directly dependent upon activists' ability to build power and win political support for just transition

policies—hence my focus for this dissertation. My connection to the labor movement and interest in studying the intersection of labor and environmental politics was further deepened when I became an organizer for GENU-UAW, a union for teaching and research assistants at Northeastern University.

As a scholar-activist who is engaged in both environmental and labor struggles in the Boston area, my research and analysis is predicated upon the assumption that there is a both a political and moral imperative to facilitate a rapid transition away from fossil fuels while simultaneously dismantling the social, racial, and economic inequities that exist in the incumbent energy regime. Consistent with the ideals of the broader movement, I believe a just and equitable transition to a renewable energy system requires critical political-economic analysis of transition dynamics, an ideological commitment to democratic and inclusive models of decision-making and ownership of energy infrastructures (procedural justice), social supports for those who have been disproportionately disempowered and harmed by the fossil fuel regime (restorative justice), and equitable and affordable access to clean energy resources (distributive justice). This political orientation informs my interpretation of the data I collected. My status as a white woman who grew up in an upper-middle class family in a non-fossil fuel-dependent community also distances me from the coal communities that I studied.

Being reflexive of this positionality throughout my analysis, and especially in my discussion of ideology and community immobilization (Paper 1), I present my informants' thoughts and understandings of their situation honestly and in their own words, followed by my critique of how these subjectivities may serve as barriers to progressive social change and a sociological analysis of the sociopolitical conditions that produce these subjectivities. Though some individuals' ideological orientations may have differed from my own, I fully empathize

with the precarity and uncertainty felt in decarbonizing communities and understand and validate the multiple personal and political responses this may provoke. I also recognize that I am *not* working as an activist on the ground specifically on the issue of just transition. Therefore, there are limitations to my insight and critiques of current organizing and movement dynamics. However, my discussion of movement obstacles and tensions is thoughtfully grounded in my in-depth interviews with activists who are engaged in this work on a daily basis.

Intellectual Merit and Broader Impacts

This dissertation's central contributions to the academic literature are threefold, constituting substantive, methodological, and theoretical interventions. Substantively, it is unique in exploring the emergent movement for a just transition, and it is one of the first local-level case studies of the energy transition in the U.S. context. To my knowledge, it is the first *comparative* case study of coal plant closures that specifically examines barriers to a just transition and the contentious politics of redevelopment. Methodologically, my use of qualitative social science research methods adds depth and nuance to the field of energy studies, which is dominated by techno-scientific and managerial analyses of transition processes. My multi-scalar approach that examines just transition politics at the municipal level, but also at the level of the national movement, provides insight on how local/community context matters while highlighting shared obstacles that activists and advocates face around the country. Lastly, due to the limited existing *sociological* literature on decarbonization, this dissertation creatively synthesizes the work of scholars in disciplines such as political science, critical geography, science and technology studies, and public policy to frame and contextualize my analysis; but ultimately, my interpretation and theoretical discussion of the data is through a sociological lens, grounded in

the subfields of political economy, environmental justice, culture, and social movements. As a result, the empirical results and theoretical implications of this work have interdisciplinary relevance for scholars across the disciplines of sociology, political science, critical geography, labor studies, public policy, and more.

My research questions were intentionally chosen to fall within the realm of “public sociology” (Burawoy 2004), so as to produce work that enriches public debate and discussion outside of academia. Given the urgency of rapid decarbonization, this research is necessary for grappling with essential questions of economic and social justice that will become increasingly salient as the renewable energy transition unfolds, and for identifying the sociopolitical constraints that are impeding a truly *just* transition. As Heffron and McCauley (2017, 661) note:

...scholars need to ensure that the energy justice concept has internal aims within academia (constant normative and evidence-based evolution of the concept) and external aims beyond academia, i.e. where decision-making and policy formulation in the energy sector is made with energy justice ‘thinking.’

With that in mind, the discussion sections of my three empirical papers, as well as the concluding chapter of this dissertation, present actionable policy suggestions in the realm of green job creation and assistance to dislocated workers and fossil fuel communities, as well as insight for just transition activists seeking to bolster the political efficacy of their organizing. In the interest of making this research accessible and relevant to NGOs, activists, and policymakers working on energy issues, I intend to publish research summaries, policy briefs, journalistic articles, and/or blog posts from this dissertation for dissemination to those individuals whom I interviewed and beyond.

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