DISSERTATION

MULTISCALAR POWER, CONFLICT AND PROCEDURAL JUSTICE IN REGULATING COLORADO'S UNCONVENTIONAL OIL AND GAS DEVELOPMENT

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ABSTRACT

MULTISCALAR POWER, CONFLICT AND PROCEDURAL JUSTICE IN REGULATING COLORADO'S UNCONVENTIONAL OIL AND GAS DEVELOPMENT

This three-article dissertation is focused on the study of power and procedural justice in processes for regulating unconventional oil and gas production along Colorado's Front Range. As the U.S. has experienced a boom in unconventional oil and gas production in the 21st century, production has increased, but so too, have conflicts over where and how that production happens. This has been particularly true in Colorado, where drilling is now occurring in more urbanized spaces. State preemption of local authority has exacerbated this conflict. Local governments and recently formed community organizations have been challenging the industry and state authority through a variety of regulatory and legal processes, but largely to no avail.

In this dissertation, I discuss how industry power and meta-power are exercised across multiple vertical and horizontal governance scale processes that aim to regulate unconventional oil and gas production. Using an intersectional lens, I suggest that this leads to multiscalar disempowerment that manifests differentially across and within non-industry actors interested in influencing regulatory policy. Through the use of a critical, multi-sited policy ethnography, I examine the degree to which these regulatory processes are procedurally just, looking specifically at the innerworkings of city councils, county commissions, the Colorado General Assembly, the Colorado Oil and Gas Conservation Commission, and the 2014 Colorado Oil and Gas Task Force. Further, I discuss the implications of procedural injustices in these contexts for the broader fields of energy and climate justice, arguing for a closer alignment of the two.

In the first article, I explore qualitative methodological tools rooted in intersectionality as a way to advance our capacity for exploring the differential relationships people have with energy development and climate change at multiple scales—one that explicitly accounts for contextual justice and power. In the second article, I examine issues of procedural justice and power across multiple city, county and state governance processes. I find that the oil and gas industry has developed significant power and influence across multiple governance scales, both historically and currently, allowing them to enact multiscalar meta-power across time, space and scale. Further, the industry's long-term economic power has allowed them to historically shape—and continue to shape—regulatory decision-making processes in a way that advantages the industry's influence while diminishing the influence of other stakeholders affected by drilling. Finally, in the third article, I moved beyond the breadth of accounting for multiple processes and scales for regulating UOG production in Colorado and focused on an in-depth examination of power and procedural justice in one of these processes—the 2014 Colorado Oil and Gas Task Force. Here, I find evidence that industry stakeholder's differential access to the Task Force's process and its members, coupled with the way the state chose to structure the rules for the process in such a way that they favored the industry, diminished opportunities for public participation for the very people most likely to be impacted by northern Colorado's UOG production and regulatory changes.

In interrogating power dynamics at multiple scales, I demonstrate how three structural aspects of multiscalar decision-making processes for regulating UOG production in Colorado enhanced inequity and diminished procedural injustice—empowering industry at the expense of impacted or potentially impacted Colorado residents. These structural aspects include: (1) existing policies and precedents that favor the oil and gas industry; (2) established rules that set

the conditions for how decision-making processes actually function; and (3) the composition of various governing bodies, which often favored industry perspectives. Together, these structures affect internal power imbalances among members *within* governing bodies I examine; power imbalances *across* these governing bodies; and power imbalances in the public's (in)abilities to access these governing spaces and institutions to influence policy and decision-making processes therein.

In the regulatory processes I examine, operations of power indicate that the state and the industry co-create and reproduce inequitable conditions for regulating UOG production. In turn, these dynamics help create and re-produce imbalanced power dynamics and procedural injustices across scales and governing bodies, wherein industry influence consistently outweighs that of other stakeholders, especially the public. As such, procedural justice issues manifested for Colorado residents and community organizations in similar ways across multiple governance scales and processes for establishing regulations for UOG production—with the affected public experiencing disengagement from lawmakers, disempowerment, and a lack of procedural justice as they lobbied for regulations across these multiscalar processes.

Taken together, these articles advance our understanding of how power operates across space, time, scale, and process in the context of regulating UOG production. Each article illuminates how historical policies and decisions, shaped by industry influence, continue to shape the current rules of the policy game. While these processes may seem innocuous, they have great influence over the differential power held by various contemporary stakeholders hoping to shape regulatory processes and determine regulatory outcomes for UOG production near their homes and communities. Essentially, overall findings suggest that the industry wields enormous power to structure and create the conditions of UOG production—that is, meta-power—particularly

when compared to the influence of members of the public. Furthermore, the exercise of industry meta-power differentially disempowers non-industry stakeholders such as government actors, environmental non-profits, local community organizations, and organizationally unaffiliated residents. Thus, both intersectionality and meta-power are important approaches for understanding how power operates to create procedural injustices for non-industry stakeholders in the context of multiscalar regulatory processes for regulating UOG production.

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In addition to mentorship, the support of fellow graduate students, friends, and family was imperative in my ability to succeed in this endeavor. I am thankful that my parents, Jeff and Judy Ryder, instilled the value of hard work and dedication in me from a young age, and that they pushed me to take my education seriously. I am thankful for the sacrifices they made to enable me to get where I am today. I appreciate the many different ways they, as well as my brother Tommy Ryder have supported me over the last six years. I also value the support of my extended family, particularly the advice and support from my aunt, Susan Ryder. Without them, this would not have been possible. I also want to thank two of my closest friends and graduate student colleagues, Dr. Karie Boone and Dr. Jennifer Tobin. The experience of graduate school can be difficult to explain, but having individuals that understand and work to encourage and support your progress (and who will also remind you when it's time to take a break and have fun) is invaluable. While too many to list, I want to extend a special thank you to so many of my other supportive friends, including Nicki Alves, Corey Bricks, Kylie Holub, Erica LaFehr, Jillian Lore, Jerry Lorenson, Shawna Killen, Katie Kormanik, Kim Saunders and my entire Colorado 'family,' who have provided an abundance of unconditional love and support over the last six years.

Finally, I want to acknowledge the struggles of all marginalized and multiply marginalized people—particularly when it comes to issues of environmental, energy, and climate justice. It is imperative that we continue to draw attention to issues of injustice and inequality and that our efforts in addressing climate change and energy transitions account for equity and

justice, creating an even playing field and a future where everyone has access to opportunities through which they can thrive.

DEDICATION

During the course of the PhD program, I lost two influential people in my life. My grandmother, Edna Maude Myers, and one of my many wonderful mentors and colleagues, Peter Mandell Hall. Though they lived very different lives, the two have shaped my life opportunities, my worldview, and my ability to succeed, both within the PhD program and beyond. My grandmother, Edna, never completed a high school education but supported me in every educational endeavor I embarked on. My friend, colleague, and mentor Peter was an incredible thinker and an important ally—pushing me to excel in academia and to pursue other meaningful work in my community. Outside of their passings occurring within the same year, the memories of their role in my life are wrapped up in another commonality—the fellowship of sharing meals together. My senior year of high school, I would leave school to go to my grandmother's house where she would have lunch prepared for us. While I struggle to remember the specifics of the meals or the conversations, what I do remember is that we both found this time together to be some of the most meaningful moments we shared. During my time in graduate school, Peter and I would find every excuse we could to incorporate brunch plans into our working meetings. Our shared love for travel, photography, politics, food, wine, music, social justice and sociology meant that we could ramble on for hours and it would seem like barely a minute had passed. In writing this dissertation, the influence of their lives on my own trajectory and approach to research and the social world are ever-present. In dedicating this work to them, I reflect on how its contents might spark a conversation over one more shared meal.

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INTRODUCTION

In the Western U.S., the old saying often goes: "Whiskey is for drinking, water is for fighting." What, then, is oil for? In the last decade, unconventional oil and gas (UOG) production has changed the world's energy landscapes. In some places, disputes over UOG production—which refers to gas and crude oil trapped in shale, rock, or coal seams and irretrievable by conventional drilling methods—have been as prolific as fossil fuel use itself. While UOG production is not limited to only one unconventional technique for extracting oil and gas, public discourse has often centered itself around the technique of hydraulic fracturing, or 'fracking.'[1] The increase in U.S. UOG production has led to public concern over potential health, community and environmental risks (i.e. see Adgate 2014; Finkel 2015; Ladd 2018; McKenzie et al. 2014), regulatory conflicts between state and municipal governments (Brasier et al. 2011; Cotton 2017; Gullion 2015; Kroepsch 2018; Ryder 2017a; Malin et al. 2017; Shaffer et al. 2016; Zilliox and Smith 2016; Zilliox and Smith 2017), and frustration with the influence of the oil and gas industry over policymaking (Malin et al. 2018). This is particularly true in states like Colorado, where lands that were once rural are increasingly being urbanized and where state preemption has allowed drilling to occur in close proximity to housing developments and sometimes other high occupancy buildings like schools (Malin et al. 2018; Ryder and Hall 2017; Toan 2015). Yet, the issue is relevant beyond just Colorado. Goho (2012) highlights UOG production's encroachment on U.S. lands with no history of energy development, while Fry and Braanstrom (2017) demonstrate the need for developing policies that address UOG production in urban spaces in the Dallas-Fort Worth metropolis.

[1] Hydraulic fracturing is an extraction technique that involves forcing large volumes of water (mixed with sand and chemicals) into a well in order to fracture shale rock and release natural gas or crude oil.

Concerns related to the socio-environmental and public health outcomes of UOG production have centered on air pollution, exposure, and greenhouse gas footprints (see Adgate et al. 2014; Howarth et al. 2011), water quality (Entrekin et al. 2011), water quantity and management (Boone et al. 2018; Fry et al. 2012; Gregory et al. 2011), toxic exposure and health outcomes (McKenzie et al. 2012; McKenzie et al. 2014; McKenzie 2017), collective trauma (Perry 2012), quality of life and community impacts (Jacquet 2014; Malin et al. 2018; Weber et al. 2014) and issues of environmental justice (EJ) and lack of community power (Clough 2018; Clough and Bell 2016; Finley-Brook et al. 2018; Malin 2014; Malin et al. 2019; Mayer 2016; Mayer et al. 2018; Meng 2018).

Amidst diminished federal regulation after the Energy Policy Act of 2005 (Malin et al. 2017), increased UOG production led to attempts to develop policies for regulating the practice at both the state and local level. A plethora of research on regulatory policies for UOG production has since developed, exploring federal, state, and local-level policy approaches (Apple 2014; Clarke 2012; Davis 2012; Davis 2014; Davis 2016; Davis 2017; Enockson 2014; Freilich and Popowitz 2012; Minor 2014; Negro 2012) and the conflicts between local and state governing entities over state preemption (Davis 2014; Enockson 2014; Freilich and Popowitz 2012; Kitze 2013; Kostandini and Centner 2016; Negro 2012; Toan 2015). Yet, most literature remains focused on policy *outcomes* as opposed to the policy *processes* for regulating UOG production (exceptions include Denning et al. 2018; Fry and Braanstrom 2017; Minor 2014; Ritchie 2014; Ryder 2017a; Shaffer et al. 2016; Zilliox and Smith 2016; Zilliox and Smith 2017). While a handful of these studies examine issues of power (Apple 2014; Cook 2015a; Cook 2015b; Kroepsch 2018; Ryder 2017a) and power and justice (Malin et al. 2019), none examine issues of both power and justice within the process of developing multiscalar regulations for

UOG production. More research is needed to understand the opportunities and barriers for members of the public to meaningfully participate in regulatory processes for UOG production, what EJ scholars refer to as procedural justice (see Malin et al. 2018; Schlosberg 2007; Lake 1996). Further, researchers have yet to investigate relationships between climate justice goals of reducing fossil fuel emissions and the growing evidence of substantial methane pollution associated with UOG production (Tollefson 2012, 2013). The literature would benefit from situating these regulatory processes for UOG production in the broader context of energy, environmental, and climate justice.

In the U.S., oil and gas policy is developed primarily by the states. In states governed by home rule municipality like Colorado, the law grants cities and counties the right to self-govern,[2] muddying the waters of state preemption over local land use codes in UOG production. As UOG production has moved into more urban, peri-urban, and densely populated areas along the Colorado Front Range, conflicts have erupted. Moratoria and bans on drilling were passed by local policymakers or brought to local policymakers as citizen-initiated ballots for residents' consideration. In two cities where these moratoria passed, Fort Collins and Longmont, the Colorado Oil and Gas Association (COGA, the state's largest oil and gas lobby) filed lawsuits against the cities (Malin et al. 2018). In 2016, the Colorado Supreme Court ruled in favor of state preemption in both cases, causing outrage among concerned citizens.

To try to address these conflicts, in 2014 then-Colorado Governor John Hickenlooper put together an oil and gas task force—comprised of industry representatives, environmentalists, and a limited number of selected Colorado residents. The 2014 Colorado Oil and Gas Task Force (Task Force) eventually approved nine recommendations for regulating UOG production, but

[2] As an example, several cities in the state of Colorado have chosen not to allow the sale of marijuana within their city limits, despite the legality of marijuana sales statewide.

critics suggest the organization of the Task Force favored the oil and gas industry and allowed operators and firms to avoid any new regulations that would have had a meaningful impact on how the practice occurs (see Malin et al. 2018).

Colorado residents have also expressed concern about their lack of representation in government processes for regulating UOG production and a distrust in the state body responsible for regulating the industry, the Colorado Oil and Gas Conservation Commission (COGCC) (see Opsal and Shelley 2014; Malin et al. 2019). The COGCC is one of the regulatory bodies that has come under fire for the degree to which residents are limited in their ability to participate. The same issue has developed in industry-initiated meetings. Recently, the operator Crestone held a meeting that was billed as 'public' but residents of the area without an invitation were turned away. Not only did invitations not reach everyone potentially impacted by the Longmont proposal, the state legislators for the district (who have proposed legislation to more rigorously regulate drilling) were even initially turned away at the door (Personal comm.). These examples suggest there are potential issues related to procedural justice and equity in current UOG production decision-making processes.

To address the issue of procedural justice and build on existing literature on UOG production, I use meta-power and intersectionality to explore differential barriers and opportunities for various stakeholders to authentically participate in and influence the regulatory process for UOG production. Intersectionality—originated in Black Feminism and critical legal studies and coined by Crenshaw (1991)—holds that people are oppressed by interlocking systems of power. The differential manifestations and experiences of these overlapping oppressive systems are rooted in our identities, i.e., race, gender, class, and/or nationality (Collins 1993; Crenshaw 1991; May 2015). If we do not account for these systems of power

relationally, we omit people's complex, multiplicative experiences of oppression and thus cannot adequately address and redress those who have been subordinated (Crenshaw 1991; May 2015). Intersectional approaches frame power as relational and rooted in historic contexts. In thinking about relational, historic power relations in the context of oil and gas development, industry actors have historically been privileged in these processes while non-industry actors retain differential levels of reduced power and barriers to challenging oil and gas development. This includes but is not restricted to oppression and discrimination rooted in identity, such as class, and also involves an actors' relative political standing prior to attempting to infiltrate spaces of decision-making.

While intersectionality has grown beyond a particular discipline or topical area (see Cho et al. 2013), its utility for analyzing power has yet to be used widely in studies of the environment (for exceptions see Krauss 1993; Di Chiro 2006; Kaijser and Kronsell 2014; Oloffson et al. 2016; Ryder 2017b; and Sze 2006). Here, I define power as the possession of, access to, and deployment of mechanisms to influence energy decision-making processes, and highlight how these mechanisms operate through processes spanning space and time and can manifest via meta-power. (see Ryder 2017a). My research questions are: What opportunities do members of the public have for inclusive and meaningful participation in multiscalar conflicts, particularly decision-making processes for UOG production in Colorado? Across organizations and scales, what power imbalances and barriers to participation exist and why? To answer these questions, I conducted a critical policy ethnography, investigating the differential opportunities that actors and organizations have to participate in and have influence over regulatory decisions for UOG production at local and state governance levels in Colorado. I engaged in participant observation; semi-structured interviews with residents, activists, and local and state policymakers

in Colorado; and critical document analyses of policies/regulations, legal documents, and meeting notes from local and state legislative meetings. Using these approaches, I aimed to uncover opportunities for enhancing and enriching the space available for meaningful, democratic participation and for more equitable distribution of decision-making power within regulatory policy processes for UOG production.

Of course, issues of procedural justice in UOG production in Colorado do not exist in isolation. They are directly related to broader structural realities of the energy landscape, such as federal energy policies, global energy markets, and the unequal impacts of climate change. As such, this dissertation also focuses on further identifying and evaluating how multiscalar investigations help inform more holistic understandings of issues of power and justice in energy and climate contexts (see Di Chiro 2011). With this in mind, the broader purpose of this dissertation is threefold and includes: (1) Investigating power and procedural justice at multiscalar levels of the regulatory processes for UOG production; (2) Interrogating how multiscalar energy policy decisions—and who gets a seat at the table in making them—have implications for climate justice in the context of UOG production and regulation; and (3) Demonstrating how intersectionality as a theoretical frame and methodological tool, coupled with meta-power, can be used to enhance multiscalar analyses of power in energy and climate justice research. I focus on these larger themes primarily in my first article and return to them in the conclusion.

Tracing Justice in Environmental, Energy and Climate Studies

This dissertation primarily focuses on understanding power and procedural justice within the policymaking process of regulating UOG production. Studies on both energy development and climate change have led to growing bodies of literature on both energy justice and climate justice, respectively. Yet, these literatures have developed separately and at times speak past one

another, despite being logically linked within broader conceptualizations of EJ and intrinsically connected, as every energy decision has implications for climate change. Here, I will review key considerations from the EJ and climate literatures that are most relevant for studying procedural justice in the context of UOG production and for bridging these literatures.

Environmental Justice (EJ) Origins & Expansions

Although environmental inequalities were prominent throughout history (Taylor 1997; Taylor 1998; Taylor 2014), a formal movement against environmental racism and for EJ emerged in America only in the 1970s and early 1980s. Chavis (1983) defined environmental racism as racial discrimination in environmental policies which included "the deliberate targeting of communities of color for toxic waste facilities, the official sanctioning of the life-threatening presence of poisons and pollutants in our communities, and the history of excluding people of color from leadership of the ecology movements" (Bullard 2000:3). As a social movement, EJ origins are widely attributed to the 1982 protest challenging the state of North Carolina's plans to dump approximately 120 million pounds of contaminated soil in Warren County, the county with the highest population of African Americans in the state (Mohai et al. 2009). EJ as an area of academic research and as a theoretical framework co-developed with this movement, as work conducted by Bullard (1983, 1990), the United Church of Christ (1987), and the U.S. General Accounting Office (1983) identified how Black Americans were disproportionately impacted by hazardous waste sites (Mohai et al. 2009).

Bullard (1996:493) defines EJ as the notion that "all people and communities are entitled to equal protection of environmental and public health laws and regulations." Generally, early EJ foundations focus on "the equitable distribution of environmental benefits, risks, and hazards across society" (Ryder 2017b:85, see also Bullard 1994; Lake 1996; Schlosberg 2004), or

distributive justice. The field highlighted patterns of unequal distribution of environmental harms and risks based on class and race, or distributive (in)justice (Schlosberg 2013). The 1991 National People of Color Environmental Leadership Summit also played a crucial role in early development of the concept, wherein summit participants drafted 17 guiding principles of EJ that have shaped the concept to this day, and which also called attention to intersecting oppressions that contributed to environmental injustice globally.

Substantive and Theoretical Expansions of EJ

Substantively, the range of topics studied under the umbrella of EJ have moved beyond toxic waste siting to explore issues such as pollution, pesticides, disasters, e-waste, the built environment, climate change, energy development, and others (see Walker 2012; Ryder 2017b; Schlosberg 2013). One crucial contribution of EJ research is its increasingly pluralistic approach to justice, the most prominent conceptualizations consisting of: (1) distribution, (2) recognition (Schlosberg 2007; Schlosberg 2013), (3) participation or procedural (Lake 1996; Schlosberg 2007), (4) restorative (McCauley and Heffron 2018), and (5) capabilities (Schlosberg 2007; 2012; 2013) (reviewed in more detail below). This is important because while distributional inequality matters, it is difficult to imagine an equitable outcome when the process for achieving that outcome involves a misrecognition or the absence of marginalized groups that are frequently impacted by distributional inequities in the environment. These expansions of conceptualizing justice beyond a traditional liberalist approach are also important for understanding EJ issues across multiple scales, as it shifts the way we think about justice from the individual to more collective conceptualizations of justice, inclusive of communities and attuned to multiscalar and global impacts (Schlosberg 2013).

Expanding EJ Concerns to Issues of Climate Justice

Like EJ, climate justice evolved both as a social movement (Bond 2011; Chatterton et al. 2013) and an area of research (Caney 2014; Hayward 2007). Established in 1989, the Climate Action Network (CAN) became the first social movement focused on limiting human-induced climate change. Bond (2011) points to several movement developments across the 1990s that formulated the climate justice movement, from the anti-racist environmentalism to Accion Ecologic and the Jubilee movement. In the 2000s, global justice movements brought further attention to issues of climate justice. For instance, in 2002 the Environmental Justice Principles established at the 1991 People of Color Environmental Justice Leadership Summit were used as a blueprint by a collective of justice movement organizations at the International Climate Justice Network to develop the Bali Principles of Climate Justice for the 2002 Earth Summit. Just one year later, the U.S. Congressional Black Caucus developed a report that outlined their EJ concerns in relation to climate change. The report focused on critical problems such as heat and health, but it also advocated for preventative measures that promoted retrofitting and more sustainable practices to reduce carbon emissions (Schlosberg 2013). This literature drew on EJ but focused primarily on distributive equity and rights-based approaches to justice (Schlosberg 2013).

As climate justice became of interest to researchers, it was initially framed overwhelmingly as an issue of global inequity. Discussions of climate justice took up a primarily distributional focus, centering around ecologically unequal exchange, ecological debt, and the burden of responsibility for contributing to and combatting climate change (see Agarwal and Nurain 1991; Caney 2006; Caney 2014; Hayward 2007; Jamieson 2001; Shue 1993; Singer 2004; Roberts and Parks 2007). Caney (2014:125-126) for example, overviews how climate

justice has been presented as an issue of burden-sharing and suggests three ways to think about the distribution of climate change burdens: "the principle that those who have caused the problem should bear the burden; the principle that those who have the ability to pay should bear the burden; and the principle that those who have benefited from the activities that cause climate change should bear the burden." He suggests, however, that instead of focusing on burdens we should adapt a 'harms-avoidance justice' approach to climate change, wherein people engage in actions needed to avert a climate crisis and acknowledge that this includes necessary sacrifices.

Climate justice takes root in early concerns of the EJ movement, where environmental inequity issues began to become increasingly tied to the current and looming threats of climate change. Parallel concerns across EJ and climate justice include a lack of recognition "of communities of color, of indigenous communities, of the link between environmental conditions and everyday life for many" (Schlosberg 2013:47). An important advancement in both EJ and climate justice literatures relevant for this dissertation is that they have started to acknowledge the importance of multiscalar considerations into their analyses (see Carmin and Agyeman 2011; Givens and Jorgenson 2011; Jorgenson and Givens 2014; Pellow 2007; Stevis and Felli 2016). Still, there remains a need to further develop and incorporate scale into justice research (Pellow 2016; Schlosberg 2013), as "few studies attempt to grasp how EJ struggles function at multiple scales, from the cellular and bodily level to the global level and back" (Pellow 2016:4, see also Herod 2011; Sze 2016).

Climate justice has also grown to encapsulate other justice concerns in many of the same substantive areas as EJ, including intergenerational justice, reproductive justice, and environmental injustices as a branch of state-sanctioned violence (see Bond 2012; Ducre 2018; Pellow 2016; Schlosberg 2013). Further, it has expanded the application of EJ to encompass

global issues and develop even more pluralized conceptions of justice within environmental and climate contexts, sparking debates about the utilization of energy rights and emissions rights frameworks (see Hawyard 2007). Given the relationship between fossil fuel production and climate change, it is essential that issues of justice related to oil and gas development be simultaneously framed as issues of energy justice and climate justice.

A Capabilities Approach for EJ and Climate Justice

Another critical development regarding notions of justice in the EJ and climate justice literature is Schlosberg's incorporation of the capabilities approach to justice (2007; 2012). It is also arguably one of the clearest articulations of the interconnectedness of EJ and climate justice literature. A capabilities approach conceptualizes justice as the degree to which people are able to transform goods or commodities in such a way that they may lead a fully functioning life (Schlosberg 2012; see also Nussbaum 2000; Sen 1999). Urging the climate justice literature to grow beyond distributional disagreements in ways the EJ movement has, Schlosberg notes that a capabilities approach can incorporate concerns of procedural justice (wherein, for example, a community re-designs its own energy system through democratic participation) and justice as recognition (which can extend beyond humans to animals and ecosystems). To date, there have been few endeavors which study procedural climate justice and the degree to which procedurally just decision-making processes could alter responses to and mitigation efforts for climate change.

Schlosberg advocates for a capabilities approach as it allows for justice literatures to: (1) better explore the differential needs that, if met, enable individuals and communities to fully function and (2) expand our conceptualizations of justice as recognition to non-human entities like animals and natural systems (Schlosberg 2012). This requires a broader systems approach that fundamentally shifts our focus on the impacts of climate change from concern with

consequences for humans to a more holistic approach that examines the impacts of climate change on the earth's ecosystems, which humans exist as a part of and not separate from (Schlosberg 2012). As Schlosberg (2012:177-178) notes:

> When we interrupt, corrupt, or defile the potential functioning of ecological support systems, we do an injustice not only to human beings, but also to all of those non-humans that depend on the integrity of the system for their own functioning. It is the disruption and increasing vulnerability of the integrity of ecosystems that is at the heart of the injustice of climate change for example, both in terms of its impact on vulnerable human communities and non-human nature. The treatment – or abuse – of human and non-human individuals and systems is based on the same loss of the ability to function.

One of the challenges Schlosberg (2012) puts forth for climate justice researchers moving forward, then, becomes—how do we restore systemic ecological functions and integrity for people and the planet, given the damages caused by anthropogenic carbon emissions? In this dissertation, I argue that we must take an emancipatory approach to transforming the current economic and governance structures that have reproduced unequal power relations in the U.S., which favor fossil fuel industries and reinforce their polluting practices as a necessary component of maintaining and advancing quality of life. To do so requires closer attention to the linkages between powerful industry actors and EJ and climate justice issues. As Schlosberg (2013:47) notes in the context of Hurricane Katrina:

> Before Katrina, the corridor between New Orleans and Baton Rouge – dubbed 'Cancer Alley' – was a major focus of environmental justice discourse. Oil refineries, chemical plants, vinyl manufacturing, and more were all linked to the disadvantage of poor and minority communities; again, environmental injustice was about social injustice being manifest in a host of environmental risks and bads. But after the storm, that approach was supplemented. It was not just that the hurricane exposed, once again, the dire state of social injustice – though it did that. The storm brought attention to the link between the vulnerability of the community and, to put it directly, the state of nature. Environmental justice advocates began to question a very different impact of the refining of oil they had been protesting for its impact on the human community; that impact was now also changing and undermining the climate system, which was then coming back to harm the community in another way.

By highlighting who constitutes the powerful and privileged actors of the industry, economy, and the state in these energy and climate decision-making processes, intersectional analyses can enhance the efforts that environmental and climate justice movements and literatures are making to connect these linkages and challenge 'business as usual' practices in oil and gas development.

Toward an Intersectional EJ

Despite continual advancements in EJ and climate justice, research gaps remain. Climate justice issues are multiscalar in nature but are infrequently analyzed as such; and climate (in)justice results from a lack of equity and balances of power in climate and energy decision-making processes—making procedural climate justice an important area of research that has yet to be fully developed. ***I propose that we think about multiscalar energy decision-making processes as constituting an important aspect of procedural climate justice, bringing energy justice literatures in better alignment with EJ and climate justice research.*** In addition, while literatures on EJ, energy justice, and climate justice have focused on environmental inequities, they have primarily developed outside of an explicit application of a theoretical framework for evaluating power and processes of power (exceptions include critical approaches such as Faber 2008; Whyte 2017a; Whyte 2017b). As such, this is an important aspect of justice research that must also be more fully developed.

Intersectionality: Background & Overview

Intersectionality is a term coined by legal scholar and Black feminist theorist Kimberlé Crenshaw (1989, 1991). The concept highlights the complexities that surround intersecting identity-based oppression, initially with a focus on gender, race, class, native language, and legal status. Specifically, Crenshaw (1991) demonstrates how Black women face both sexist and racist oppression in a social system dominated by white men. Crenshaw and other Black feminist

scholars have continued to utilize intersectionality to demonstrate the extent to which Black women's interests are marginalized differentially than the interests of Black men and White women (see Crenshaw 1991; Collins 1993; Collins 2002; Collins and Bilge 2016; May 2015; Nash 2011).

Yet, as Ducre (2018) observes, intersectional thought predates the work of Crenshaw and can be traced through earlier Black feminist thought, from Sojourner Truth's 'Ain't I a Woman' address before the 1851 Women's Convention in Ohio (Brah and Phoenix 2004) to Beal's (1970) conceptualization of double jeopardy, and King's "multiple jeopardy, multiple consciousness" (1988)" (Ducre 2018). This history also includes the 1977 Combahee River Collective's statement which, as Ducre (2018) demonstrates, stand in opposition to all forms of oppression—including sexuality, gender identity, class, disability, and age oppression. Scholars have also identified traces of intersectional thought emergent in earlier sociological texts. Collins (1986), for example, draws on the work of Simmel, while Clark et al. (2018) extend Du Bois' work on race, class, nation, and gender to understand intersectional environmental injustices during the Peruvian Guano trade of the 1800s.

From an intersectional perspective, acknowledging interlocking structures of oppression renders analyses focused on a single-category axis insufficient for understanding power, inequality, and the way that people who are oppressed by these interlocking structures are multiply burdened. As such, the experiences of those who are oppressed via multiple aspects of their identities end up remaining absent from discourse, theory, and study (Collins 1993; Crenshaw 1991; May 2015). Given how oppressive structures interlock, it is not accurate to describe their impact simply as a sum of these structures (Crenshaw 1991). Furthermore, if intersectionality is not taken into consideration, the way in which oppression and subordination

operate can never be fully understood (Crenshaw 1991). This is true for Black women in America, whose identities subject them to racism and sexism, both of which they experience differently from their Black male and White female peers, respectively. This theory is also more broadly applicable as racism and sexism are not the only oppressive systems which perpetuate identity-based discrimination. It includes oppression based on ethnicity, socio-economic status, age, nationality, disability, geographic location, legal status, and other aspects of collective identity. This is noted in initial writings on intersectionality, where Crenshaw (1991) discusses "the added burden for women in U.S. domestic violence shelters that do not speak English, or have not obtained legal citizenship, or both" (Ryder 2017:85). Furthermore, while the approach tends to focus on systems that perpetuate oppression, marginalization, and discrimination in the context of identity, scholars have argued that the theoretically focus is more on the interconnectedness of different systems of power and domination, and the relational aspect of power, privilege, and marginalization that subsequently develop—not on the aspect of identity per se.

Intersectionality is "a form of resistant knowledge developed to unsettle conventional mindsets, challenge oppressive power, think through the full architecture of structural inequalities and asymmetrical life opportunities, and seek a more just world" (May 2015:xi). That is, it serves to challenge dominance and champion social justice perspectives. May (2015) suggests that to be successful in this endeavor, it is necessary to form a "politics of coalition," where solidarity can work to contest dominant logics embedded in systems of domination. Furthermore, intersectionality illuminates the way that seemingly unrelated systems of domination are connected through shared logic patterns (May 2015).

Over the last three decades, the concept of intersectionality has become refined, developed, and as Cho et al. (2013) put it, "well-traveled." As it has expanded, scholars have critically examined the theory, questioning the notion of the mutually constitutive nature of the "race/gender/class/sexuality/nation nexus;" the construction, use, and possible reinforcement of social categories; and the extent to which intersectionality is dynamic and contextual (Cho et al. 2013:786). Scholars in the field have also undertaken approaches for studying individual as well as institutional contexts, and have worked to articulate its particular ontological and epistemological assumptions (Cho et al. 2013). Practically—and keenly relevant to this dissertation—an important expansion of this area of study is known as "political intersectionality" (Cho et al. 2013). The notion:

> reflects a dual concern for resisting the systemic forces that significantly shape the differential life chances of intersectionality's subjects and for reshaping modes of resistance beyond allegedly universal, single-axis approaches. Political intersectionality provides an applied dimension to the insights of structural intersectionality by offering a framework for contesting power and thereby linking theory to existent and emergent social and political struggles. This praxis orientation demands that the realm of practice always already inform the work of theorists (p. 800).

Spade's (2013) approach identifies how structures in government and society create unequal life opportunities for certain groups or kinds of people who experience intersectional oppressions, and it calls for the all-out dismantling of these regimes. This attentiveness to policy and politics suggests that an intersectional lens is an appropriate approach for studying power and justice in the regulatory policy development process for UOG production, which can be carried out utilizing a critical policy ethnography.

Conceptualizing Intersectional EJ

Intersectionality is beginning to be applied within the context of environmental issues. (see Daum et al. 2019; Di Chiro 2006; Ducre 2018; Kaijser and Kronsell 2014; Krauss 1993;

Jampel 2018; LeQuesne 2018; Luft and Griffin 2008; Malin and Ryder 2018; Oloffson et al. 2016; Ryder 2017b; Sze 2006; Vickery 2018; Weber 2001; Weber and Hilfinger Messias 2012; Weber and Peek 2012.) These applications of an intersectional EJ are both theoretical and substantive. Authors expand EJ via intersectionality coupled with other critical theories and in the contexts of the Black Feminist imagination, ability and disability, disasters, environmental movements, global resource trading, and resource extraction. Furthermore, it is worth noting that there are other authors who have engaged in approaches that account for intersectionality in environmental studies without explicitly engaging the term (Boyce 2000; Fordham 2013; Harrison 2011; Ranganathan 2016). A growing body of EJ research has adopted other critical approaches to EJ (Agyeman et al. 2016; Faber 2008; Harrison 2014; Malin 2015; Malin and DeMaster 2016; Schlosberg 2007; Whyte 2017a; Whyte 2017b), while intersectionality as a critical approach to EJ remains to be further developed.

Pellow (2016:3; 2017) describes critical EJ (CEJ) studies as "a perspective intended to address a number of limitations and tensions within EJ Studies" including:

> (1) questions concerning the degree to which scholars should place emphasis on one or more social categories of difference (e.g., race, class, gender, sexuality, species, etc.) versus a focus on multiple forms of inequality;
> (2) the extent to which scholars studying EJ issues should focus on single-scale versus multiscalar analyses of the causes, consequences, and possible resolutions of EJ struggles;
> (3) the degree to which various forms of social inequality and power—including state power—are viewed as entrenched and embedded in society; and
> (4) the largely unexamined question of the expendability of human and non-human populations facing socioecological threats from states, industries, and other political economic forces.

Pellow (2016) calls for further engagement with these burgeoning areas of CEJ literature. Mohai et al. (2009) also explore the value of critical race theory and ethnic studies for understanding EJ issues, including intersectionality. Incorporating intersectionality as a critical approach to EJ

expands the field to more adequately investigate power and oppression and their role in creating environmental inequities and injustices. As Mohai et al. (2009:416) note, critical approaches, specifically intersectionality, can "help identify the range of possible factors that may account for disparate outcomes," which, politically, can lead to a "better understanding of the factors that result in environmental disparities [which] may help identify who is most responsible for such disparities and what role they should play in reducing them."

To accurately assess historical drivers of environmental injustice and achieve suitable and sustainable solutions, academics must engage in EJ research intersectionally, exploring the way multiple, overlapping structures of domination—i.e. racism, classism, sexism, ageism, ableism, and perhaps in this case corporatism—interact to create environmental inequalities. As noted by Ryder (2017b:85), "systemic discrimination interacts with intersectional identities to make certain populations and communities more vulnerable to environmental risk and harm" (see also Daum 2015). Without the application of intersectional analyses, the full extent of environmental risks, types of oppression, and vulnerabilities experienced by vulnerable communities can be minimized or masked (Ryder 2017b). Furthermore, intersectionally privileged populations and the ways they benefit from the socio-environmental status quo remain obscure (Ryder 2017b). Intersectional engagement can enhance our understanding of how being situated across multiple social locations creates differential experiences of environmental injustices and privileges.

This dissertation contributes to EJ and climate justice research by engaging in an inquiry of available spaces for achieving procedural justice across multiple scales of governance. It also investigates how powerful actors might disproportionately occupy those spaces, or actively work to diminish access to those spaces for less powerful actors. The study analyzes this in the context of local and state processes for establishing regulations for UOG production in Colorado. Not

only does this research contribute to advancements of EJ and climate justice theory, this dissertation also advances how particular methodological tools might be utilized in order to engage in intersectional approaches to studying power, meta-power and justice in energy and climate research.

To address the question of procedural justice (again, understood as meaningful participation in decision-making processes), I applied an intersectional theoretical lens to analyze forms of power and meta-power present in local and state policymaking processes. From this perspective, power (defined as the possession of, access to, and deployment of mechanisms to influence the regulatory decision-making process) operates across multiple axes, is relational, locational, contextual, and structurally embedded (Christensen and Jenson 2012).

Tracing Actor Transfer of Power Across Space and Time: Meta-power as a Complementary Framing of Power

For this dissertation, I examined power as it operates across space, time, and scale, highlighting the degree to which power imbalances that influence regulatory decisions for UOG production can manifest both across different groups of actors, organizations, institutions, and alliances, and within them. As such, I incorporate two complementary ways of conceptualizing and enacting power—via the exertion of meta-power and intersectionally. Meta-power refers to the capacity for actors to structure the rules of the game over time and from a distance (Hall 1997; Hall 2003; Hall and Burns 2012). Importantly, meta-power is more than fleeting; it allows empowered entities to structure rules and/or create institutions that shape processes and outcomes for long durations of time and across geographic boundaries. Meta-power can be clearly seen in the context of oil and gas production in Colorado over time, especially in the way that historical and contemporary actors in the oil and gas industry have been able to align with and influence state processes across time, essentially creating a state-industry regime. The

industry's long-term meta-power has facilitated their ubiquitous dominance in influencing regulatory decision-making processes and subsequent policy outcomes.

To accurately assess historical relationships and drivers behind environmental injustice, we must also account for how power operates across space and time. Clegg (1989:184) observes that the "central feature of power is fixing the terrain for its expression." Fixing the terrain means most simply to structure or culture those contexts (what Bourdieu might refer to as fields) to create, sustain and maintain power, control, and intentions within the context, but also in future and distal contexts. This is a form of meta-power (power over power) which can create conditions that reproduce power, regenerate control, and embed intentions. While similar to the concept of historical institutionalism which I have written about previously (Hall and Ryder 2017), meta-power explicitly accounts for the role of power in these processes in a way that historical institutionalism often glosses over. Meta-power is relational control enacted in a variety of ways, such as differential limitations on information accessibility, repealing regulations, and rule changes that exempt actions from oversight. These acts of control are all examples of meta-power which benefit authority, administration, and the entrenched—essentially, those who already possess a great deal of power. These are examples of the way power is reproduced to preserve power stasis.

Meta-power entails situational control and the transformation of intentions via the capacity to distribute resources, rights, benefits, roles, costs, intentions, and procedures, perhaps equitably, but frequently differentially. Power then is operative in circumstances where these distributions are utilized in interaction for control and intentionality. Indeed, we can characterize bureaucracies as organizations of meta-power by higher levels over lower levels (Hall 1997). These can be challenged but often remain reproduced, enhancing path dependency

along the way. The critical point is that ***in these contexts of concentrated meta-power, participants may fight or argue over resources or rights or roles, but the organization, culture, and rules of those arguments have been set by actors within another place and time***. In the context of contemporary UOG production, rules and regulations governing the oil and gas industry continue to be inherited from decisions made by powerful actors over roughly the last two centuries.

Clegg (1989) introduced the concept of strategic agency wherein an individual or a collective or organization of actors become the go to and go through place for related action, approval, and control, a "necessary nodal point," for "all traffic this lane," and the authority for delienating the discretion of all other agencies. Strategic agency is a key form of meta-power as it places limitations on other actors within a particular area of public concern. In our case, the Colorado Oil and Gas Commission (COGCC) has that location. It has historically been comprised of industry operators and was originally tasked with encouraging development. While there have been some incremental change, these issues remain. Moreover, Commission staff resist efforts to limit their jurisdiction and it would appear that meta-routines structure situations involving permits, safety, inspections, and responses to problems.

UOG production efforts are part of a march of history, of a national strategy, of a global market, and state economic development. As UOG technologies have opened up more urbanized spaces for drilling, this has become problematic for municipal authorities that would like to regulate oil and gas development within their boundaries. Centner and Kostandini (2015:234) suggest that local communities have an obligation and responsibility to their citizens for some authority over UOG production activity:

> *Because local governments are charged with maintaining the health and safety of their community, state governments should be hesitant to interfere with their*

> *affairs. Unless there is a clear economic justification for preempting local laws, the air pollution externalities, spatial inadequacies, and lack of flexibility suggest preemption may shortsighted. In a democracy, state legislatures need to proceed cautiously to avoid trammeling local governance that can more readily address localized negative externalities.*

In fact, municipalities argue that one of their central raison d'etre is for local land use and zoning. Since UOG production is regulated by the state, it is exempt from local land use and zoning regulations that other industrial activities must adhere to.

State preemption in the regulation of UOG production is particularly problematic in states like Colorado where the majority of cities and towns operate as home rule municipalities. The state of Colorado has a long history of support for local "home rule" over land use decisions. In the beginning of the 20th century, voters of Colorado approved and the State Supreme Court affirmed in the State Constitution the right of "home rule" for cities. In the Colorado Constitution and by Court decision if defined as a "local interest," home rule is exclusive. Yet, the state may pre-empt home rule regulations where there is a significant state interest. Where both have interests, home rule regulations may be acceptable if they do not 'operationally conflict' with state interests.

As a result of state preemption, drilling has occurred by or near residences, neighborhoods, and community facilities (Shaffer et al. 2016; Silvy 2018). Attempts to keep such activity at a desired distance have failed. The recourse has been to use home rule as a rationale for bans or moratoria. Legal suits filed by COGA challenged local control options on the grounds that only the state has the right to regulate drilling. State courts overturned local actions as unconstitutional, sustaining COGA's argument. The cities of Longmont and Fort Collins appealed this decision and the State Court of Appeals asked the State Supreme Court to decide the case—ultimately the Colorado Supreme Court ruled against both cities.

The Colorado Supreme Court has articulated four factors to determine what constitutes a local versus a statewide concern: (1) whether there is a need for statewide uniformity of regulation; (2) whether the local regulation could create 'extraterritorial' effects beyond the borders of the local jurisdiction; (3) whether there is a tradition of historic exercise of control; and (4) whether the state constitution explicitly vests authority over an issue at the state or local level.

On May 2, 2016 the State Supreme Court unanimously ruled against the cities:

> Applying well-established preemption principles, the supreme court concludes that the City of Longmont's ban on fracking and the storage and disposal of fracking wastes within its city limits operationally conflicts with applicable state law. Accordingly, the court holds that Longmont's fracking ban is preempted by state law and, therefore, is invalid and unenforceable. The court further holds that the inalienable rights provision of the Colorado Constitution does not save the fracking ban from preemption by state law. The court thus affirms the district court's order enjoining Longmont from enforcing the fracking ban and remands this case for further proceedings consistent with this opinion.

This decision signifies a profound exercise of meta-power and creates legal conditions that favor industry development while constraining home rule authority. Given this, a central issue in UOG production is how to give local governments a greater say in where and how it occurs within their boundaries. Through processes of meta-power, state-municipal disputes favor the state, creating advantage to UOG production over other industrial practices and displacing local governments from enacting one of their most critical roles and acting as protector of the people. This trend is not exclusive to Colorado as other municipalities have similarly attempted to develop regulations beyond state requirements and subsequently also faced lawsuits elsewhere.

An intersectional approach to studying procedural justice in energy and climate decision-making processes challenges various assumptions and actions that maintain and normalize the dominance of the fossil fuel industry in U.S. domestic energy policy. An intersectional lens

enhances the application of meta-power by highlighting how intersecting identities can impact who has a seat at the table and an opportunity to meaningfully influence decisions being made there, across scales and institutions. In the context of UOG production, mechanisms of power vary, (i.e. economic resources, property claims, time, access to policymakers, establishing shared meaning making). Questions of privilege and oppression in this context highlight not only the differential power actors have in policymaking, but, the extent to which oil and gas policies can benefit some actors and organizations at the expense of others. Without the application of these power analyses, the full extent of environmental risks, types of oppression, and vulnerabilities experienced by marginalized communities can be minimized or masked (Ryder 2017b). Further, intersectionally-privileged populations and the ways they benefit from the socio-environmental status quo remain obscure (Ryder 2017b). Below, I turn to a discussion of my methodological assumptions and methods I adopted to further develop an intersectional EJ approach to understanding the extension of power and meta-power in regulatory policy processes for UOG production.

Methodology and Methods

Critical Policy Ethnography: An Intersectional Method for Studying Power and Procedural Justice in the Regulatory Process for UOG Production

As noted above, UOG production has created legislative conflicts at multiple levels of governance in Colorado. The purpose of this dissertation wass to better understand what differential capacities stakeholders such as community members, land owners, oil and gas operators, and industry interest groups have to participate in and influence the development of regulations for UOG production across local and state government processes in Colorado. As stated above, my overarching research questions are: What opportunities do members of the public have for inclusive and meaningful participation in multiscalar conflicts, particularly

decision-making processes for UOG production in Colorado? Across organizations and scales, what power imbalances and barriers to participation exist and why?

Many studies establish the advantages of qualitative data collection in research methods, but in the context of this research, qualitative methods are most appropriate for their usefulness in studying: (1) social constructions and meaning making and (2) social and contested processes in a grounded, in-depth way (see Ambert, Adler, Adler, and Dettzner 1995; Marshall and Rossman 2016). Qualitative methodology aligns with interpretivist, social constructivist, critical, and poststructuralist research paradigms, and provides the ability to delve in-depth into complexities and processes (Creswell 2003; Marshall and Rossman 2016). As an analytical tool, intersectionality focuses on capturing and engaging "contextual dynamics of power" (Cho et al. 2013:788). Policy ethnography is an appropriate qualitative methodological approach to explore these questions of power and procedural justice at multiple scales, and one that is well aligned with an intersectional theoretical framework. A policy ethnography is "a form of extended, multi-sited ethnography" that incorporates organizational and policy analysis alongside ethnographic observations and interviews, and that operates with a policy goal in mind" (Brown et al. 2010:107). Policy ethnographies "provide useful qualitative data that give a nuanced and realistic ground-level view of policies too often analyzed abstractly from the top" (Dubois 2009 p. 221). They focus on studying policy "processes and practices" in order to develop a more comprehensive understanding of them (Dubois 2015:7).

While Dubois (2009; 2015) holds that policy ethnography is not limited to a critical approach, there are particular methodological decisions that a researcher can make in order to develop a critical policy ethnography. This includes illuminating processes of policy construction, analyzing unequal power relationships as policies are implemented, and identifying

how policies impact people who have internalized them.[3] In so doing, critical policy ethnography examines the "social and symbolic domination exerted throughout the policy process" (Dubois 2015:23). To conduct this critical policy ethnography, I engaged in three primary types of data collection: intersectionally informed, semi-structured interviews, critical policy and document analyses, and participant observation.

Like intersectionality and some branches of EJ research, critical policy ethnographies can be used to produce research that informs efforts at social change. As such, a critical policy ethnography that uses participant observation, interviews, and document analysis is useful for better understanding and enhancing the space for procedural justice in local and state UOG production policy processes. Critical theorists go beyond interpretivism by suggesting that not only is subjectivity in research unavoidable, but a researcher's politics are also inseparable from their research. As such, research in this vein should work to challenge values and norms in a way that can transform the lives of research participants and others for the better (Creswell and Creswell 2017).While an intersectionally-informed, critical policy ethnography has at this point remained undeveloped in environmental sociology, policy ethnographies aimed at creating social change (Brown et al. 2010) and intersectional ethnographies (Kaisjer 2014) have been conducted. Additionally, methods for intersectional policy analysis have been developed elsewhere, such as the field of nursing (see Hankivsky et al. 2014) and are beginning to be applied to environmental decision-making processes (De Kleyn 2017). This dissertation will strengthen the application of intersectional analyses and the use of critical policy ethnography in studies of energy and climate justice.

[3] Adapted from Dubois 2009.

Data Collection and Analysis

This research project developed as a branch of a National Institutes of Health study, under the direction of Principal Investigators John Adgate and co-principal investigator Stephanie Malin. The study is entitled "The QBC Study: Quality of Life and Biomarkers in Communities," which aimed to explore the impacts of UOG production on individuals' quality of life and stress levels. As such, the broader research endeavor focused on Northern Colorado residents' concerns and/or experiences of UOG production in terms of impacts to their quality of life and stress levels (for initial interview guide, see Appendix A). As I worked on this project, I interviewed key networks of mobilized residents living near UOG production, including members of Weld County's Weld Air and Water. Weld Air and Water is a community organization that works to enhance regulations on UOG production in Greeley and Weld County and served as a partner organization on this study. For this study, Weld Air and Water members served as the primary gatekeepers for identifying other individuals interested in participating in this study. In addition, prior research with community members and policymakers conducted in Loveland and Fort Collins, (funded by the Center for Collaborative Conservation) linked me in to networks with policymakers and community organizations.

For this research, I relied on a combination of purposive and network sampling (Marshall 1996; Biernacki and Waldorf 1989). After initial introductions to community partner organizations and concerned community members, I relied on network (or snowball) sampling in initial interviews to identify other members of the public that might be willing to participate in this study. As issues of governance continued to be an important issue in interviews, I decided to also interview elected officials and lawmakers to better understand the regulatory processes and lawmakers' perspectives about residents' quality of life and stress (see Appendix A for the

revised interview guides). For this part of the interview process, I contacted policy makers at the city, county, and state level via purposive sampling, and relied further on interviewees' suggestions for additional interview participants. This included state legislators who introduced regulatory oil and gas bills between 2012-2018, commissioners and staff from the COGCC, and members of the Colorado Oil and Gas Task Force. Through my own research, I was able to identify important policies, documents, and news articles also relevant to this topic. Participants also regularly brought documents and policies to my attention during interviews. These connections also allowed me to stay informed about community organizations and local and state government meetings held to address regulatory issues related to UOG production.

Intersectionally-informed, semi-structured interviews

My primary approach to data collection in this policy ethnography was semi-structured interviews. Semi-structured interviews are a key qualitative method where a researcher asks open-ended "grand tour, example, and experience" questions (Spradley 1979), which in the context of this research allowed for participants to express their experiences and perceptions of multiscalar regulatory processes for UOG production in Colorado. Semi-structured interviews align with a constructivist approach and are an imperative methodology for understanding the nuances of the policy process (Marshall and Rossman 2016). Further, they are an excellent tool for learning the intricacies of policy development processes that do not make it into legislative recordings. In this study, I adapted an IPBA interview guide to ask participants about issues of equity, fairness, justice, and power in decision-making processes for regulating UOG production in Colorado.

Hankivsky et al. (2012; 2014) developed an intersectionally informed policy analysis to explore inequities within women's health issues that are rooted in "racism, colonialism,

ethnocentrism, heterosexism, and able-bodism" (Hankivsky 2014:1). They also aimed to utilize the IBPA to "produce knowledge that captures how systems of discrimination or subordination overlap and 'articulate' with one another" (Hankivsky 2010:1). Their framework consists of guiding principles and twelve critical questions informed by those principles. The twelve questions are broken down into descriptive and transformative categories; the former aimed at uncovering a holistic understanding of the context of policy 'problems,' and the process through which these are "identified, constructed, and address[ed]," and the latter as an exercise for developing "alternative policy responses and solutions specifically aimed at social and structural change that reduce inequities and promote social justice" (Hankivsky 2014:3-4).

As Hankivsky et al. (2014) note, this IBPA framework is intended to be simple, flexible, and adaptable so as to be appropriate for different policy contexts. As such, I adapted their IBPA framework to be relevant for studying procedural justice in energy decision-making processes (see Appendix A). This allowed me to ask participants about the spaces in the decision-making processes that are open and available to them in terms of city, county, and state processes. I was also able to ask questions to gain insight into the extent to which they believed their participation in the regulatory policy development process was meaningful, whether all participants had equal ability to influence the decision-making process, how they would like to see the process changed, and who was missing entirely from the process, among other things.

Interviews lasted between one and two hours and were conducted in interviewees' homes, offices, home offices, or public locations such as libraries and coffee shops. All but two interviews were recorded and were accompanied by field notes taken during and after the interviews. During interviews, I also took hand-written notes and upon completion would compile these field notes digitally as a way to supplement what interviewees would say during

the interviews, as well to occasionally record information that interviewees did not want on audio record. The audio interview files were transcribed verbatim. I then coded the transcripts in NVivo (Drisko 2013).

I identified key patterns in the data by analyzing interview transcripts and developing initial codes related to emergent themes on power, inequality, and procedural injustice. More specific themes and analytical codes that emerged through continued analysis of the interviews included procedural injustice as exclusion from participation, procedural injustice as a lack of space for meaningful participation, and unequal industry influence over the decision-making process. Through thematic coding based in an understanding of procedural justice, I was able to draw out both just and unjust aspects of the regulatory process (see Rubin and Rubin 2012). In a policy ethnography, interview data can be triangulated with qualitative observations and document analysis. During and following completion of coding, I continually cross-referenced findings from interviews with written field notes from the interviews, the document/policy analyses, and my participant observation, to triangulate methods in development of a policy ethnography.

Document Analysis

Document analysis is another excellent tool for examining policies, as many public meeting documents are easily accessible. Document analysis "is a systemic procedure for reviewing or evaluating documents" and "requires that data can be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge (Bowen 2009:27, see also Corbin and Strauss 2008). Through document analysis, a researcher can access the processes of lawmaking and the particular discourses that become formalized within those processes (Creswell and Creswell 2017). In performing document analysis, I read texts line-by-line and

interpreted regulatory documents through a critical lens—identifying important contexts of the decision-making processes and corroborating evidence from the semi-structured interviews (Bowen 2009). Using a critical lens, this approach enabled me to expose unequal power relationships as agents engage in the policy construction processes, highlighting the "social, economic, symbolic, and political domination at work in the policy process" (Dubois 2015:463).

To conduct a multi-sited critical policy ethnography of the multiscalar processes for regulating UOG production in Colorado, I performed critical document analysis of relevant City Council and County Commissioner meeting minutes in six counties (described below). I also analyzed the COGCC's "A Decade of Change: COGCC Policy, Regulation, Transparency 2007-2017," the "Colorado Oil and Gas Task Force Final Report," proposed oil and gas bills at the Colorado General Assembly from 2012-2018, and Colorado Supreme Court decisions, such as the City of Fort Collins v. the Colorado Oil and Gas Association, the City of Longmont v. the Colorado Oil and Gas Association, and the Colorado Oil and Gas Conservation Commission v. Martinez. To analyze these documents, I reviewed them line-by-line, taking notes of important themes, opportunities for public participation, what stakeholders or institutions were shaping the processes, and where points of contention developed in the processes. This brought new information forward which I used to identify important points of discussion for interviews. The information garnered from this method also served to corroborate, verify, and at times contest interviewee perceptions and experiences of these processes.

Finally, I supplemented these analyses by reviewing news articles on efforts for regulating UOG production. Together, this allowed me to better connect policy texts to various state and local institutions, actions, and stakeholders' struggles to influence decision-making processes for regulating UOG production. In addition, data were further triangulated through

semi-structured interviews, described in more detail both above and below. Combined, I use these methods to corroborate participant perceptions and experiences of the process, and to analyze how the structure of the decision-making processes generated procedural justices.

Participant Observation

Participant observation as a qualitative method can be understood as "the systematic noting and recording of events, behaviors, interactions, and artifacts" in a particular social setting (Marshall and Rossman 2016:143). The process involves a researcher establishing a rapport in a social setting and learning about the activities and people within that social setting by both observing and participating in the activities in that social setting (Kawulich 2005). Essentially, researchers engaging in qualitative observations observe and note the way people are behaving and what activities they are engaged in within a particular research site (Creswell and Creswell 2017). When conducting observations, researchers may be strictly observers, strictly participants, or they may engage as both a participant and an observer, usually emphasizing one of those roles over the other (Creswell and Creswell 2017). In participant observation, a researcher acts as an instrument for data collection (Creswell 2003). When conducting observations, researchers may be strictly observers, strictly participants, or they may engage as both a participant and an observer, usually emphasizing one of those roles over the other (Creswell and Creswell 2017).

Participant observation is a particularly good method for process-focused research (Merriam 1988). In order to study processes and efforts to develop regulations for UOG production, I attended community organization meetings as an active participant observer. This included meetings held by pro-regulation community groups, local governments, and meetings hosted by other interested stakeholders, such as the League of Women Voters or the Sierra Club.

Pro-regulation community group meetings, often occurred in a school, library, coffee shop, or church setting. Essentially, these groups were relegated to spaces where they already had social ties to folks in these spaces, or, spaces where a business might be sympathetic to their cause. These meetings ranged from public, open meetings to closed, planning meetings. Planning meetings such as ones hosted by Weld Air and Water were limited to approximately 5-10 individuals who made up the core of the group. Planning meetings were generally used to strategize action, whereas public meetings were generally aimed at inviting a variety of speakers to discuss potential risk of oil and gas development with the goal of informing the public. These informative meetings were often in larger spaces but still regularly held in libraries or other publicly-owned buildings. The hosts of these informational meetings varied and included local governments like the City of Fort Collins, regional groups like the Larimer County and Greeley-Weld County League of Women Voters, and local chapters of national groups, such as the Sierra Club. In addition, these meetings were often hosted by community organizations concerned with drilling, such as Weld Air and Water, Protect our Loveland, and Citizens for a Healthy Fort Collins. When attending these meetings, I would be involved in the meeting proceedings and engaged when I had contributions I believed to be valuable to the group.

These events were always well-attended by local residents—particularly those who were middle-aged or of retirement age. In addition, women almost always outnumbered the men—and have across all communities in this research study been almost exclusively the spearheaders of initiatives for enhancing regulations on oil and gas development. One of the important rallying cries across community groups that became evident in these meetings, as well as during public comments at City Council, County Commission, and COGCC procedures was health and safety concerns for children, pregnant women, and for future generations such as folks' grandchildren

or great grandchildren. As such, motherhood regularly appeared as an important role and driver that motivated women to take on this charge.

In interviews, many middle-class, white interviewees would suggest that oil and gas development did not present an issue of EJ because unlike siting decisions for industrial facilities, the industry in the context of UOG production was relegated to wherever the resource was located and the subsequent geology of the area. Further, it was impacting wealthier white communities, spaces where some activism around UOG production was birthed. Yet data I collected from other interviewees and information garnered through attending meetings as a participant observer made it clear that this is not always the case. In observing meetings, I noted that individuals voicing concerns were primarily white, middle or upper class residents. Yet in the case of one large wellpad proposed in Greeley, Colorado, it was slated to sit 1,000 feet away from Bella Romero Elementary school—a low income Latinx school. This wellpad was initially proposed to be near Frontier Academy, a primarily middle class, white school but Frontier parents fought to have the well relocated. Though Weld Air and Water worked to try and rally the parents of Bella Romero students to protest the wellpad, even informative meetings held at the school building itself failed to draw out Bella Romero parents. As my interviewees pointed out, there are a complexity of reasons that white parents at Frontier would have more capacity to mobilize than Latinx parents at Bella Romero—in terms of resources, potential language barriers, employment and dependency on the industry for economic livelihood, and fear or concerns for themselves or others rooted in citizenship status. This is a clear example of the degree to which race and class play a role in where UOG production happens and who it impacts—beyond the geographic and geological considerations related to resource location.

In addition to meetings hosted by non-governmental organizations, I acted as a more passive participant observer at city council meetings where oil and gas regulations were considered in order to observe public comments and public-elected official interactions. While I attended these meetings in person when possible, I also observed these meetings via livestream. In observing, I did not personally engage in the process, but would take notes, primarily during public comment. When UOG production was being considered at a city or cunty level, the government meeting rooms were almost always packed to the brim. Folks would generally be split into two divisive camps, where those with industry ties would speak to the economic benefits of drilling and the safety of the process which had been refined over the last 50 years and those who were concerned with drilling in their communities would bring up potential risks related to toxic exposure, and concerns with air pollution, groundwater pollution, and at times climate change more broadly.

Generally participating industry proponents would be individuals in corporate positions for the industry, such as those working in marketing or as industry lawyers, or even company CEOs. They would appear before the councils and commissions in suits and ties, with a clear understanding of how the process worked and their legal rights to resources. These industry representatives would at times be supplemented by the presence of manual laborers who would discuss their dependence on their position in the industry for their family's economic livelihood. Concerned community members approached council and commissioners with a more laid back physical appearance, and would speak on behalf of themselves or other organizations such as the Community Action Network (CAN), Sierra Club, or as part of one of the many local organizations lobbying for local control or the banning of hydraulic fracturing. Often they would be less knowledgeable of the rights of the city or council but would present passionate arguments

related to health, safety and the environment. Often they had their own children in tow. In these meetings, I observed City Council and Commission members at times being dismissive or rude to non-industry stakeholders, a common complaint amongst interviewees in this research. Finally, I also listened to audio recordings of COGCC public hearings and rulemaking sessions. Substantively, opportunities for public comment in many of these sessions loosely mirrored those described above. I cross-checked my recorded notes from these observations with data derived from semi-structured interviews and document analysis for triangulation.

I have also been involved as a participant-observer in collaborative efforts in academic settings to bring together stakeholders such as researchers, community members, and public servants working on the issue of oil and gas development. For example, at a symposium I helped host at Colorado State University, we dedicated a session to the issue of EJ in oil and gas development in Colorado. This free event brought academics, community organizers, and concerned residents together from Greeley, Boulder, and Fort Collins to discuss the barriers they faced in pushing for regulations of UOG production in the Northern Colorado Front Range. Similarly, I attended a workshop hosted by the Center of the American West at the University of Colorado Boulder. Over the course of two days, over 60 stakeholders from academia, industry, government and other policy actors worked to hash through difficult questions about different aspects of drilling—historical contexts of resource extraction in the West, subsurface considerations, well life cycle analysis, and community impacts of drilling. Hosted on the University of Colorado-Boulder campus, the gathering lacked any meaningful representation from any of the Northern Colorado Front Range community groups that formed to push for regulations to keep their communities safe. Instead, the makeup of this meeting consisted of academic and political elites—individuals who were middle-to-upper class professionals that had

already had a role in shaping the framing of UOG production issues and subsequent policies and regulations for the practice. The meeting did however provide me an opportunity to connect with additional individuals to interview for this dissertation research.

Combined, I use the methods described above to corroborate participant perceptions and experiences of the process, and to analyze how the structure of these processes generated multiscalar procedural injustices. Together, and while continuously engaged in recording field notes throughout these methods, I worked to uncover the 'taken for granteds' of the policy development process, evaluating spaces of participation and stakeholders' capacity for influencing the process.

Research Sites & Participants

The primary geographic location for this research is along the Northern Colorado Front Range, which sits above the Niobrara and Denver-Julesberg Basins and has seen a rapid increase in UOG production over the last decade (Ryder 2017a; Svaldi 2017). The Northern Colorado Front Range is a subsection of the Front Range Urban Corridor, which is a stretch of urban areas running from Cheyenne, Wyoming to Pueblo, Colorado nestled against the eastern face of the Southern Rocky Mountain range. As of 2016, the population of the broader Front Range Urban Corridor was just under 5 million people, and the area continues to see booming population growth. This study is focused on six counties within the Northern Colorado Front Range: Adams, Arapahoe, Boulder, Broomfield, Larimer, and Weld County, and includes analyses of local government and community organization efforts at regulating UOG production both within these county processes as well as within city processes in Aurora, Fort Collins, Greeley, Lafayette, Longmont and Thornton. It also includes state-level decision-making processes generally undertaken in the Denver metro area.

Connected primarily by Interstate 25, a drive through these counties has offered miles of unspoiled views of the Colorado Rocky Mountains and the Front Range foothills for travelers over the years. Traffic has increased, but now too have the plethora of oil wells that dot the landscape. This is not just a matter of aesthetic, but some interviewees have reported experiencing physical symptoms as a reaction to the intensity of drilling operations along the highway corridor. Though populations continue to increase along this corridor, the counties and cities which comprise the Front Range still exist along a rural-urban continuum with multiple peri-urban areas. In all but Broomfield County, the counties populations are generally concentrated around major cities, but also retain large swaths of empty lands in either the plains for the foothills of the Rocky Mountains. The counties also vary further in terms of economic drivers, political orientations, environmental ethics, and experiences with and perceptions about oil and gas development and its regulation—both within and between county lines. Below I provide a brief description of each county.

Adams County

Directly north and east of Denver County, Adams County is home to several growing suburban communities just outside the city—such as Thornton, Westminster and Commerce City. Traveling south on I-25, the large and looming big box stores of Adams County are the first signs that suggest you're entering the outskirts of the Denver metropolitan area. The population density is 305 people per square mile[4], and while the county has urban and suburban communities on the outskirts of Denver, it also extends eastward into the plains. Thus, agriculture has played an important role in the county's history and continues to thrive today. The county wraps around the Denver International Airport, providing an opportunity to look up

[4] All demographic data mentioned in county descriptions are drawn from the U.S. Census.

and survey the number of planes zooming overhead at any given point. More importantly, the hub provides economic opportunities for residents.

New neighborhoods have been and continue to pop up all over the county. They range in affordability, though many older neighborhoods are historically working class. The constantly-emitting smokestacks that backlight the eastern urban-suburban area serve as a visual representation of how parts of the county disproportionately hosts industrial facilities and processing plants. A particularly memorable plant is the Purina factory, which upon catching a whiff elicits different reactions from the humans and dogs passing by. Unlike other counties in the Denver metropolitan areas, the average income in Adams County is $47,323—a bit higher than Weld County but paling in comparison to the $79,034 median household income of Broomfield. Like Weld County, there is a large Latinx population in Adams County, making up approximately 28% of the population. Thus, there are real concerns about environmental injustices tied to issues of race and class within Adams County.

Politically, the county has historically leaned Democratic. In the context of UOG production, recent disputes over well placement with Broomfield County bring up further questions of environmental inequality—proposed wells were moved within Broomfield County further away from Broomfield residents but in closer proximity to Adams County residents, who had no legal path for resources through the COGCC.

Arapahoe County

Just south of Adams County and nearly identical in shape, the stretched rectangle boundaries of Arapahoe County encompass the southeastern and southern outskirts of Denver's metropolitan area. While geographically they cover similar areas, Arapahoe County is the oldest county in the state. Given it's status as the state's first county, there has been an extended time

period for urban growth within the county. As such, the population density is quite and essentially double that of Adams County, with 608 people per square mile. Like Adams County, the county is a mix of urban areas, Denver suburbs, and expansive plains to Denver's east. The county is difficult to describe as it is home to cities like Aurora—which is rich with racial and ethnic diversity, home to Colorado's largest refugee population, and a working/middle class city—to places like Cherry Hills Village, which is 96% white and has a median household income of $190,805. Essentially, within-county disparity makes generalizations difficult.

Like Adams County, the primary areas that have been facing potential urban-UOG production conflict are on the eastern outskirts of the city, including near Aurora. Arapahoe county was historically a Republican stronghold, but also became more liberal beginning in the 1990s. Yet in the city of Aurora where the battle over oil and gas drilling has raged, conservative local government officials who welcome UOG production have predominantly prevailed. This has changed to some degree following the election of Nicole Johnston—a former leader in the anti-drilling efforts there—to city council in 2017. Two more Democrats with similar positions on drilling have since been elected, but they remain outnumbered. This was evident in a recent vote by the Aurora City Council to approve a drilling deal with Conoco Phillips despite several surrounding counties and cities recently placing new moratoriums on drilling after the adoption of new sweeping state regulations.

Boulder County

Situated south of Larimer County, west of Weld County, and northwest of Broomfield county, Boulder County is heralded nationally as a center of progressive and liberal politics, with a robust economy rooted in science, technology, and tourism. The city of Boulder is home to the University of Colorado-Boulder, which is nestled against the iconic and jagged Flatirons. The

city is stereotyped as a bit of a hippie bubble, where a walk down Pearl Street provides unique shops, colorful building murals, eclectic restaurants, historic theaters and music venues and vibrant street performances. During the summertime the waters of Boulder Creek quickly push eager tubers of all ages downstream.

Overall, the county's image is shaped largely by it's commitment to its environmental identity and ethic—which influenced their approach to UOG production. Across the county, trails and open space abound—and this remains a top priority for the county. Yet Boulder County also maintains a reputation for being one of the most expensive places to live in the state—which has pushed lower income households out of the county over the last few decades. The median income for Boulder County is $69,407. While lower than that of Broomfield, it is still much higher than other surrounding counties. While resource extraction has not been completely absent in Boulder County's history, it has not been a driving economic force or aspect of the county's identity. Furthermore, the extraction practices had not clashed with urban and peri-urban populations historically.

While the city of Boulder is by and large buffered from current efforts at drilling, east Boulder County is an area of interest for the oil and gas industry. This includes the city of Longmont, a well-populated and still relatively affordable city that runs north to south on 287 and is affectionately known as the home of Oskar Blues. It also includes county open spaces near the city of Lafayette, a small and quant city with a small downtown dotted with colorful single-story houses. In Lafayette, the hip go-to for community members working to keep drilling out of their community is the largest coffee shop on main street. In particular, members of East Boulder County United spoke with me about their concerns in the industrial-style spot. This group is viewed as some of the most radical activists against UOG production in the Colorado Front

Range and has disrupted meetings on regulations for UOG production at both local and state level governance processes. Currently, they continue to be critical of local governments and the new regulations put in place at the state level, despite Boulder County enacting a temporary moratorium on the practice.

Broomfield County

Often described as more of a bedroom community, Broomfield City and County serves as a residential community for commuters and also as a bustling business center hub with conference hotels around the Interlocken area. It sits just east of Boulder County and many parts of the county offer sweeping views of the mountains and Boulder's iconic flatirons. Initially the city of Broomfield was a part of Boulder County, but as it grew it expanded into Adams, Jefferson, and Weld County. Answering to four counties became inefficient and logistically difficult. Further, the city was politically at odds with Boulder County. As a result, Broomfield County was formed in 2001. This makes it the newest county in Colorado and the U.S.—a point of pride for those who I interviewed from the area. The county is situated about equidistance from Boulder and Denver, and the population is considered part of the Denver metropolitan area. The population density is 2,193 per square mile—quite dense relative to other counties in this study. While there are small pockets of lower income communities, by and large Broomfield County is populated by wealthy residential neighborhoods. Interviewees acknowledged that many residences sell for over $1 million, and this lavishness was fully displayed when interviews took place within the confines of large, several story homes situated neatly off of well-manicured roundabouts backing up to county open space.

Broomfield is seen as a 'swing' county politically, with voter's split relatively evenly between Democrats, Republicans and Independents. Relative to other nearby counties, this gives

off an impression that Broomfield is politically more conservative. As such, the 2013 passing of Question 300 which placed a five-year moratorium on fracking was a surprise to many. While it only passed by 20 votes, at the time this measure added validity to community activists whose efforts at regulating or preventing UOG production had often been characterized as engagement in partisan politics. An important question given the small geographic area and high population density of this county is whether drilling should even be considered as reasonable here at all.

Larimer County

Larimer County sits just north of Boulder County and west of Weld County, just about an hour's drive from Denver. It stretches north to the Wyoming border and contains a plethora of recreational lands managed by the city, county, state, and federal governments. The population density is 97 people per square mile, with residents primarily located along towns and cities along the I-25 corridor, particularly in Loveland and Fort Collins. A scenic campus city home to Colorado State University, Fort Collins has a thriving brewery culture and growing music scene which are contributing to the gentrification of historically marginalized communities who settled here as part of the agricultural labor force several decades ago.

Fort Collins is sometimes colloquially referred to as 'the next Boulder' both culturally and in terms of increasing costs of living. Outside of the employment opportunities at the university, the county has retained a reputation in the technology industry. Further, the tourism industry is vital to Larimer County, particularly in mountain settings like Estes Park. While Fort Collins maintains a reputation as a more liberal city, local representation is usually split fairly evenly between Democrats and Republicans. Furthermore, Larimer County as a whole was historically a Republican stronghold, with shifting political winds giving success to Democrats more regularly in the 1990s and 2000s.

Geologically, there is less current interest in UOG production in Larimer County than in neighboring Weld and Boulder County, given it's proximity to the foothills. Yet the applications for drilling have begun to roll in—the county received 130 drilling applications between October 2018-April 2019. Residents in both Fort Collins and Loveland formed community organizations that worked to place moratoriums on drilling within their city limits before drilling applications were spiking, in 2013 and 2014, respectively. As a testament to the politically divergent views within the county, Fort Collins voted to enact a 5-year moratorium on drilling while the moratorium in Loveland was voted down. Loveland maintains this approach, recently condemning the Colorado Municipal League for supporting Senate Bill 181 which develops more stringent regulations on drilling operations. As such, the county remains largely split both politically and in terms of approaches for regulating UOG production. As these permits begin to be processed, Larimer County activism is likely reignite.

Weld County

Upon entering Weld County, one gets an immediate sense of pride from residents, often tied into their historical roots in the agriculture and oil and gas industry. Yet outsiders often speak poorly of Greeley, noting the smells that accompany the agriculture and meatpacking industry there. As one interviewee put it, her community is often just referred to as a 'cow-town.' The feel is undoubtedly cowboy-esque, in a cowboy meets the great plains sort of way. There is an unstated sense of a 'pull yourself up by your bootstraps' mentality—from residents across the political spectrum. It is the largest county in Colorado, with vast expanses of plains stretching to the Wyoming border. With a population density of only 45 people per square mile, even the downtown of the county's largest city—Greeley—with it's 50's style diner and old store fronts gives off a rural county vibe. The County itself is quite wealthy given the economic benefits of

oil development there, yet the median income for residents is the lowest of the surrounding counties in this study. This is perhaps why one participant referred to the county as a 'sacrifice zone.' The Weld county mentality is rooted in its rural, politically conservative, agricultural and oil-rich history, and the residents remain economically dependent on agriculture and the meat-packing industry. The county and workforce, like Adams County, retains a high percentage of the Latinx population in Colorado, with 27% of people identifying as part of this ethnic category.

Across these counties, differences in class, economic and historic dependence on oil and gas development, and political and environmental ideology contributed to the development of different activist narratives and capacities for challenging UOG production. Weld Air and Water, for example, was formed in Weld County and by and large accept the necessity of UOG production in our current society—they merely lobby for more stringent regulations in terms of safety, siting, and well setback distances from occupied buildings. Boulder County on the other hand, has only recently faced the UOG production proposed in its boundaries. East Boulder County United has taken a more radical approach to challenging the practice, disrupting public meetings and calling for a ban on UOG production and an end to dependence on fossil fuels. These approaches vary in terms of their concreteness and are strategically formed to appeal to decisionmakers who subscribe to very different sets of ideological beliefs.

Traveling across county lines, there were no shortage of kitchen tables to sit around and talk about encroaching UOG production. After welcoming me in and often offering me coffee and homemade baked goods, interviewees and I would quickly move into the interview. From small wooden tables for two, to lavish glass tables set for eight, residents and community organizers would point out the window or walk me outside their property to point out looming wellpads or sites where UOG production sites had been proposed. These interviewees ranged

from college students to educators, registered nurses and public health workers, to lawyers (see Appendix B. Table 1 for a full list of participants' age, gender, and occupation). Other residents, community organizers, environmental advocates and elected officials would meet me with me at local, eclectic coffee shops or the nearest Starbucks—sometimes even with dogs in tow. When we would begin to talk about existing or proposed wellpads in their communities, they would eagerly grab my pen and the nearest piece of paper or napkin and begin mapping out their neighborhood to demonstrate the proximity and intensity of existing or proposed drilling sites. Though interviewees ranged in terms of age, gender, race, class and profession, many shared similar concerns for broad public health and environmental risks related to UOG production.

In other instances, generally when interviewing high-powered lawyers or government officials, I would find myself waiting in expansive conference rooms and oversized offices with corner views of the Front Range. Here, welcoming administrative assistants would ensure I had everything I needed before I was formally introduced to the interviewee. The offices were often sleek, exuding extravagance, but gave off a much colder vibe than being welcomed into individuals' homes. With full schedules and measured words, these interviews tended to be shorter and more challenging to delve in-depth into the question of procedural justice in the context UOG production.

Participants ranged from ages 20-83, with a median age of 56. Overall, the interviewees skewed older, with nearly 20% identifying as retired and just over 30% of retirement age. Of the 57 individuals I interviewed, 32 identified as female and 25 identified as male. Of the interviewees, all but six identified as white, non-Latinx, and only one individual identified as non-white. Given the makeup of individuals in decision-making positions and leading

community organizations, this is representative of the stakeholders we see active in attempting to influence the regulatory policy process for UOG production.

What the data also speaks to, then, is who is often missing from these decision-making processes. First, while there were indeed a handful of small kitchens I was squeezed into for interviews, more often than not it was clear from their profession, dress, and living or working spaces that interviewees were primarily middle- to upper-class Colorado residents. Indeed, the ability for participants to set aside time to devote to doing an interview during a workday was another hint at their class status. As such, voices from low-income factions of these communities were often missing from this study. Another community voice absent was that of the Latinx populations that could be impacted in these counties—particularly in places like Weld and Adams County where there are higher proportions of Latinx communities than in most of the Front Range. Their absence reflects a combination of potential factors to be untangled—from their own reliance on the oil and gas industry for their family's economic livelihood, to a lack of information made available in Spanish, and, potential fears of government authority and the potential that they or someone close to them may have an undocumented legal status. In some instances, such as the drilling taking place near a predominantly low-income Latinx school in Weld County, parents did not receive proper or timely notification of the proposed drilling activity nearby, making it difficult for parents to speak up. Even within several activist organizations I spoke with, they admitted that their own efforts at engaging the Latinx community were generally subpar. As such, their concerns or support related to UOG production and its impacts on their families and communities remain unclear.

Government representatives comprised 37% of participants, while members of non-profit environmental or community organizations represented 23% of interviewees. Twenty-one

percent of interviewees had no affiliation with a larger organization, and the remaining 19% of interviewees were of interest primarily because of their membership on the 2014 Colorado Oil and Gas Task Force. In terms of geographic location, 12 interviewees were from Larimer County and an additional 13 were from Weld County. I conducted 12 interviews in Boulder County, with four interviewees from Adams County and three interviewees from Arapahoe County as well as Broomfield County. Finally, I interviewed ten individuals from state institutions, organizations, or processes, such as the COGCC or the 2014 Oil and Gas Task Force.

Given that this area is a hotbed for UOG and subsequent conflicts and resistance, the Colorado Front Range is a highly relevant research site for exploring how regulatory processes for UOG production are shaped—as well as their implications for procedural equity. In particular, research here provides an opportunity to understand how different communities have faced similar limitations in controlling UOG production and what difference strategies these communities have pursued to challenge these limitations. Conducting the research across multiple cities and counties within the state of Colorado provides a multiscalar picture of overlapping and conflicting policy development processes at a micro- and meso- level of analysis.

Philosophical Underpinnings

Rigorous studies in the social sciences should always be informed by a researcher's epistemological and ontological assumptions, guiding research paradigms, and theoretical orientations. Research questions connected to these assumptions and orientations should drive the methodological decisions of a study. This is particularly true for environmental issues as interdisciplinary efforts are necessary for addressing increasingly complex and multiscalar, or wicked, environmental crises. As a social scientist, I see reality as subjective, contextual,

complex, fluid, and measurable through individuals' perceptions of it. That is, what we uncover in the social sciences is embedded in a complex and changing reality, where multiple truths exist and are often rooted in perceptions as opposed to one overarching, objective truth. This aligns with an interpretivist perspective along the naturalist-interpretivist paradigm spectrum. More specifically, my assumptions about knowledge and reality are further shaped by a combination of assumptions from social constructionist, poststructuralist and critical paradigms. That is to say, I see meaning and knowledge as created through power dynamics which shape how meaning and knowledge is created and what meanings and knowledge are privileged at the expense of others. Further, discourse is one of many tools through which the power to shape dominant forms of meaning and knowledge is exerted. My reliance primarily on qualitative methodology broadly, and the utilization of a critical policy ethnography for this research stems directly from my research questions as they are shaped by my epistemological and ontological orientations.

Overview of Dissertation Articles

Article 1: Developing an Intersectionally-informed, Multi-sited, Critical Policy Ethnography to Examine Power and Procedural Justice in Multiscalar Energy and Climate Change Decision-making Processes

As Goodman and Marshall observed in a 2017 call for papers, energy and climate change are "intimately related." Yet we often see the two researched separately, and analyses focused on a single level or unit of analysis. This suggests a need for research on the relationships between energy development and climate change across multiple scales. But what do issues of energy development and climate change look like at multiple, interrelated scales, and how do we most reliably study this relationship? In this article, I explore qualitative methodological tools rooted in intersectionality as a way to advance our capacity for exploring the differential relationships people have with energy development and climate change at multiple scales—one that explicitly

accounts for contextual justice and power. In this initial dissertation article, my primary research question is: How can intersectionality be used theoretically and methodologically to understand the nuances of power and issues of procedural justice across multiple scales of oil and gas governance as well as in the context of climate change?

Intersectionality is beginning to be applied in the context of climate change (Kaijser and Kronsell 2013), sustainability (Ryder 2017c), energy development (Daum et al. 2019), and environmental struggles and justice (Kaijser 2014; Ryder 2017b; see also Ryder and Malin 2018). In her intersectional approach to environmental struggles in Bolivia, Kaisjer (2014:32) relies on multi-sited ethnographies, semi-structured interviews, and participant observations to develop figurations, which "allows the analysis to center on particular, situated and embodied characters that act as nodes for relations of power in a specific context."

These same methodologies are useful for cutting through multiscalar issues in a way that accounts for energy development and climate change as contextual processes influenced by power. An intersectional lens is not limited to an individual level of analysis. Instead, it is useful for engaging in multiscalar issues because its analytic focus centers on the oppressive systems and structures that perpetuate oppression and discrimination, not simply individual identity (Cho et al. 2013). As noted by Tomlinson (2013:1012) "If critics think intersectionality is a matter of identity rather than power, they cannot see which differences make a difference. Yet it is exactly our analyses of power that reveal which differences carry significance." As such, the theoretical lens is focused more on power structures, systems, and hierarchies that create differential experiences of identity-based oppression, not the individual-level, intersectional identities that are created and maintained by these oppressive structures and systems.

The purpose of this paper is to lay a foundation of intersectional qualitative methodological tools for energy and climate change research. Here, I outline how a set of qualitative methodological tools—multi-sited ethnographies, life-story narratives and everyday life as a point of departure, and an intersectionality-based policy analysis (IPBA)—may be useful for incorporating intersectional analyses into social science research on energy and climate change. To demonstrate this, I highlight cases where these methods have already been developed within the context of an intersectional framework, then suggest how they can contribute to further developing multiscalar studies of energy and climate justice. Across interrelated scales, we must be able to evaluate how identity and shared group identity within specific contexts create conditions of privilege and oppression for actors and institutional actors within energy development, energy use, and climate change; particularly in terms of their relative access to and influence over the decision-making process, as well as the distribution of risks and benefits associated with energy development and climate change.

Building this foundation is imperative for establishing a more equitable distribution of the costs and benefits of energy development. It is also important for implementing effective plans for climate change mitigation and adaption efforts, as it allows us to better identify the inequities of the impacts of climate change and the way they are distributed across individuals, organizations, and governments. Without tools for this type of critical analyses, it is very likely that the future impacts of energy development and climate change will follow the pattern predicted, that is, that the most vulnerable segments of the world's population will be most severely impacted. To redress and further prevent this, it will be critical to have the appropriate methodological tools. Intersectional methods, which work toward a goal of addressing "how

multiple structures of dominance and subordination interact in complex patterns of power" (Kaisjer 2014:44) are one of the necessary tool sets.

Article 2: Multiscalar Meta-power and Procedural Justice in Processes for Regulating Colorado's Unconventional Oil and Gas Development

This article explores multiscalar approaches to regulatory policy development for UOG production in the northern Colorado Front Range, a shale-rich area where drilling continues to boom and several communities have attempted to resist it. Here, I explore the extent to which stakeholders have space for meaningful participation in policy formation, allowing them to have genuine influence over and opportunities to resist both local and state policy decisions in Colorado (that is, the space for procedural justice). The primary research questions addressed in this article are:

1. What opportunities do members of the public have for inclusive and meaningful participation in multiscalar conflicts, particularly decision-making processes for UOG development in Colorado?
2. Across organizations and scales, what power imbalances and barriers to participation exist and why?

This article advances the literature on multiscalar power and procedural justice through an analysis of the regulatory process for UOG production at the state and local level in Colorado. I address these research questions and issues via a critical policy ethnography (detailed above) that incorporates: (1) IBPA-informed qualitative interviews with residents, activists, elected officials, government staff members, and Oil and Gas Task Force members in Colorado and (2) critical document/policy analysis and (3) ethnographic meeting observations. The IBPA framework consists of guiding principles and twelve critical questions guided by those principles (the adapted interview guide is available in Appendix A). These principles are: intersecting categories, multi-level analysis, power, reflexivity, time and space, diverse knowledges, social justice, and equity (Hankivsky 2014). The twelve questions are broken down into descriptive and

transformative categories—the former aimed at uncovering a holistic understanding of the context of policy 'problems' and the processes through which these are "identified, constructed, and address" (Hankivsky 2014:3). The latter is an exercise for developing "alternative policy responses and solutions specifically aimed at social and structural change that reduce inequities and promote social justice" (Hankivsky 2014:3-4).

Through the application of meta-power, where power is understood as the capacity to create and structure the conditions within which actions (and decision-making) occur, this paper interrogates the embeddedness of industry power and influence over policymaking processes for UOG production in Colorado. In focusing specifically on the study of powerful actors, I shine a spotlight on the privileges of industry actors, how through meta-power they perpetually enact this privilege, and how subsequently they limit the capacity of other actors to influence decision-making processes in the UOG production context. Furthermore, I suggest that this multiscalar disempowerment does not impact all non-industry actors evenly, requiring an intersectional lens (which can account for within-group differences and compounding barriers) to properly parse out these experiences of disempowerment. Those who are multiply-marginalized face even more complicated structural barriers for participation. Finally, I discuss how we can further open up spaces within policy processes to be more inclusive and how we might distribute power and influence in decision-making processes more equitably at different governance scales.

Article 3: Issues of Procedural Justice in Regulating Unconventional Oil and Gas Development: Examining the Case of the 2014 Colorado Oil and Gas Task Force

My final dissertation article draws on the second article above by focusing on a particular decision-making process to examine the meso-level spaces where policies are discussed and formed. I examine the 2014 Colorado Oil and Gas Task Force's recommendation process, where

over half of the proposals considered were related to discerning regulatory authority in UOG production and related processes. In this article, my primary research questions are:

1. To what extent was the Task Force decision-making process inclusive, open, and equitable in terms of providing opportunities for Coloradans impacted by UOG production to participate in the decision-making process?
2. To what extent did these opportunities allow for meaningful participation in and influence over the decision-making process?
3. How did power imbalances create opportunities for some stakeholders and barriers for others in influencing the Task Force process and outcomes?

Through my analysis of this process, I note issues of procedural injustice in the Task Force composition and the rules that shaped the decision-making process. Specifically, I find issues of procedural injustice from the selection process, to the internal stakeholders' abilities to influence the decision-making process, and external stakeholders' abilities to influence the process. Methodologically I rely on a critical document analysis and interviews with members of the Oil and Gas Task Force. The broader contribution of this paper is that I outline how the state and industry wield power and work together to maintain the regulatory status quo at a more in-depth level of study of a particular process. In particular, I frame, discuss, and highlight how the industry engages in tactics of metapower—that is they engage in behaviors that allow for them to control the conditions of the decision-making processes for UOG production—to ensure that the decision-making processes continue to remain primarily at the state level where the industry is able to retain their dominant influence over the process and subsequent outcomes. In addition, I parse out how the industry's power creates multiple, intersecting barriers and burdens for non-industry actors whom desire to influence regulatory decisions for UOG production, ultimately creating differential opportunities for institutions, organizations, and individual actors to meaningfully participate in these processes.

Contribution to Knowledge

Methodologically, I am adapting a new tool for environmental policy analysis that can evaluate how well policy processes incorporate intersectional practices, and a guideline for how new policy processes can better accommodate intersectional issues. While the EJ literature is rooted in power concerns, the focus historically has been on those who have suffered as a result of environmental injustices. Less research has investigated the powerful responsible parties in these injustices, though green criminology is making headway in this area. By 'studying up' on more elite actors and their roles and influences over policy processes, relative to others stakeholders, my research can help identify what precisely enables some actors to have more meaningful participation and power over UOG production decision-making processes, here grounded in Colorado. This knowledge enhances the ability to challenge existing procedural injustices and create spaces for authentic public participation for marginalized groups.

In sum, this dissertation contributes to the existing literatures reviewed in several ways: (1) it interrogates how multiscalar energy policy decisions—and who gets a seat at the table in making them—have implications for procedural justice in the context of UOG production and regulation; (2) it advances the conceptualizations of energy and climate justice through an intersectional framework that explicitly focuses on power and procedural justice in policymaking; and (3) it expands energy and climate justice frameworks to better account for justice and power across multiple scales. As with the goal of any policy ethnography, my aim was and continues to be for this research to be relevant in the policy realm. In particular, it could be used to highlight the need to produce more equal opportunities for diverse stakeholders to meaningfully energy and climate decision-making processes more broadly.

Building a Research Trajectory

My interests in the governance of UOG production and spaces for public participation, as well as my theoretical concerns with intersectionality, have been developing over the past few years. As such, I have worked on multiple articles, chapters, and projects related to UOG production. This dissertation builds on my previous work in these areas, specifically on UOG production (Hall and Ryder 2017; Ryder 2017a), on advancing EJ literature by exploring multiscalar considerations (Malin et al. 2018), and on developing the literature on intersectional EJ (see Daum et al. 2019; Ryder and Malin 2018; Ryder 2017b). Collectively, these articles comprise a dissertation that contributes to knowledge production in the environmental sciences by applying intersectionality and meta-power to an extractive industry and EJ issues across multiscalar governance processes. Using these approaches to understand the intersections and extensions of power and oppression in the context of EJ, specifically procedural equity, has yet to be done in depth. Further, this dissertation builds on literature that is currently working to tie issues of energy and climate together across multiple scales (Barrett 2013; Malin 2015).

Conclusion

The purpose of this dissertation is to advance the existing literature on energy and climate justice by applying explicit analyses of power, privilege, and oppression to the policymaking process for regulating UOG production (i.e. hydraulic fracturing) at different scales of governance. I do so by adopting complementary conceptualizations of power as my organizing framework and adapting intersectional methods to the context of regulating UOG production. Currently energy and climate justice research, along with the more encompassing field of EJ, tend to lack both the incorporation of multiscalar analyses of justice and the critical scrutiny of the powerful and privileged actors and organizations when discussing issues of procedural justice. I address both of these gaps in the context of this project.

Through a policy ethnography, I identify what stakeholders were present, what stakeholders were absent, and the extent to which power, privilege, and oppression factor into the way the regulatory processes take shape across multiple governance scales. This further helps to reveal the way that power, privilege, and oppression are structured over time and via institutions, through which industry meta-power can influence and constrain the context and structure of the processes of developing regulations for UOG production. This is particularly important as the world's youth lead a global paradigmatic shift on fossil fuels and climate change (Carrington 2019) which will further encourage the growing reliance on unconventional energy sources.

ARTICLE 1: DEVELOPING AN INTERSECTIONALLY-INFORMED, MULTI-SITED, CRITICAL POLICY ETHNOGRAPHY TO EXAMINE POWER AND PROCEDURAL JUSTICE IN MULTISCALAR ENERGY AND CLIMATE CHANGE DECISION-MAKING PROCESSES[5]

Introduction

As pointed out by Goodman and Marshall in the call for this special issue, the main causes of anthropogenic climate change "have to do with the production, politics, organization and technology of energy." Furthermore, concern about energy systems goes beyond technology and economics, entailing "political power, social cohesion, and even ethical or moral concerns over equity, due process, and justice" (Sovacool et al.:16). Vanderheiden (2008:xii) notes that "Effectively addressing the problem of anthropogenic climate change…requires a commitment to fairness." He suggests that anthropogenic climate change is inherently an issue of global injustice, as its onset has been driven by global elites while its effects are and will continue to impact the world's poorest and most vulnerable populations. As an issue of global injustice then, approaches to addressing anthropogenic climate change must incorporate justice "as a central aim of global climate policy efforts" (Vanderheiden 2008:xiv). Given that historical and contemporary reliance on fossil fuels are a critical driver of anthropogenic climate change, energy, too, is inherently an issue of global injustice. Justice considerations, however, are largely absent in energy decision-making processes which have implications for climate change and its impacts (Sovacool and Dworkin 2014).

Questions of climate and energy injustice are not relevant only on a global scale. Energy and climate change research must also account for the multiscalar impacts of energy decisions, or, how energy decisions impact spatially categorized groups of people in a society (Moore

[5] This article was published as written following blind peer review. It is in 2018 in *Environmental Research and Social Science* Volume 45: Special Issue on the Problems of Methods in Climate and Energy Research.

2008; Soja 2005) (i.e. globally, regionally, nationally, locally, communally, and the body itself). In the past, energy and climate justice research has not always been connected across socio-political scales, where socio-political scales are understood as the different levels at which we see policy decisions made within a society. The bulk of climate justice literature discusses global-scale issues of distributive equity and rights-based approaches to justice (Schlosberg 2013). Concerns center around ecologically unequal exchange, ecological debt, and the burden of responsibility for contributing to and combating climate change (see Agarwal and Narain 1991; Caney 2006; Caney 2014; Hayward 2007; Jamieson 2001; Shue 1993; Singer 2004; Roberts and Parks 2007). This is changing, however. The climate justice literature has begun to acknowledge the importance of multiscalar considerations in their analyses (see Carmin and Agyeman 2011; Givens and Jorgenson 2011; Jorgenson and Givens 2014; Pellow 2007; Stevis and Felli 2016), as has energy justice literature (Jenkins et al. 2016; Sovacool 2014). There remains a need to further develop and incorporate issues of scale into justice research (Pellow 2016; Schlosberg 2013) as "few studies attempt to grasp how EJ struggles function at multiple scales, from the cellular and bodily level to the global level and back" (Pellow 2016:4, see also Herod 2011; Sze 2006). This remains particularly absent in energy and climate research focused on procedural justice, that is, research which examines spaces for meaningful participation in energy and climate decision-making processes (for exceptions see Jenkin 2016; Malin et al. 2018; Holland 2017). Studying decision-making processes is critical as it is through these processes that energy and climate policy outcomes are informed and established

Taken together, the above suggests a need for social scientists to further develop theoretical and methodological approaches to studying energy and climate change that can better account for the nuances of power, equality, and justice, and their underlying influence on the

decision-making processes which constitute our energy systems and climate change policies across multiple socio-political scales. Yet the question remains: How, exactly, might social science research do this? I suggest that developing intersectionally-informed methods such as a multi-sited critical policy analysis is one way to strengthen these gaps in the energy and climate justice literature.

In a review of 15 years' worth of energy research, Sovacool (2014) found that social sciences remain underutilized. When social science research is incorporated in energy research, it is primarily from economics, primarily authored by men from Western countries, and primarily done via quantitative methodologies (Sovacool 2014). This means that we are getting a limited understanding of the social aspects of our energy system and its consequences—they are (by and large) coming from a homogenous set of privileged perspectives utilizing a narrow subset of methodologies. Similarly, climate adaptation research has been considered mostly a field devoted to technical expertise, where large scale climate modeling and aggregate statistics are relied upon for the advancement of knowledge (Ayers 2011; Bassett and Fogelman 2013; Holland 2017). As a result of the lack of nuanced and diverse social science studies, the underlying social factors and the way energy actors and organizations reproduce the energy system status quo (which further contributes to climate change) are often overlooked and taken for granted. In order to get at the nuances of power and justice in the social processes and decision-making that constitute our energy system and its impacts on climate change, we need to incorporate new and diverse social science theory and research methods produced by a diverse set of social scientists. The burgeoning literature on energy and climate justice has been an important start (see, for example, Di Chiro 2010; Shepard and Corbin-Mark 2009, Shukla 1999, Sovacool et al. 2016, Sovacool and Dworkin 2014, Thomas and Twyman 2005, Whyte 2016).

Developing qualitative methodological tools rooted in intersectional feminist theory is a critical way we can build on this effort.

The term 'intersectionality' was first used by Kimberlé Crenshaw (1991), though literatures advancing the necessity of accounting for multiple systems of discrimination pre-date this work (for a review see Collins and Bilge 2016). In her earliest applications, Crenshaw uses it to describe how the identities of Black women, who are marginalized both because they are 'Black' and because they are 'women' render them "invisible in plain sight" (Adewunmi 2014). The concept is rooted in critical legal studies and Black feminism, and, challenges the way we tend to methodologically work within the context of social categories, particularly in terms of statistical qualifications of how membership in one or more distinct categories have direct effects on particular dependent variables. While intersectionality has begun to be applied to environmental contexts (see Kaijser 2014; Kaijser and Kronsell 2013; Daum et al. 2019; Ryder 2017a), an exploration of the methodological value of intersectionality to areas of environmental research—such as energy systems and climate change—is largely absent.

Qualitative methodological tools, such as multi-sited ethnographies, life-story narratives, analyses of everyday life as points of departure, participatory action research and policy analysis have been adapted by researchers conducting intersectional studies in other fields (i.e. health) and are valuable for advancing more equitable policies (see Caiola et al. 2014; Hankivsky et al. 2010; Hankivsky et al. 2012; Hankivsky et al. 2014; Kaisjer 2014; Kelly 2009; Rakovski and Price-Glynn 2010; Tolhurst et al. 2012). As intersectional methods center systems and structures of power, oppression, and domination, extending the application of intersectional-based methods is useful for cutting through multiscalar issues in energy and climate change in a way that accounts for energy development and climate change as contextual processes influenced by

power. (Cho et al. 2013). Across multiple socio-political scales, intersectional methods are effective for evaluating how identity and shared group identity within specific contexts create legacies of privilege and oppression for individual and institutional actors within energy development, energy use, and climate change; particularly in terms of their relative access to and influence over decision-making processes, as well as the distribution of risks and benefits associated with energy development and climate change.

Concerns about equity, fairness, justice, and power have gained attention in energy and climate research in the last three decades (see, for example, Heffron and McCauley 2017; Jenkins et al. 2016; Sovacool et al. 2016; Ryder 2017; Timmons Robert and Parks 2006; Timmons Roberts and Parks 2009). Despite the important void in the literature that this research is filling, parsing through issues of equity, fairness, justice, and power in the context of energy and climate change research presents important challenges. As such, it is imperative to situate the discussion of developing an intersectional methodology in the context of the challenges and barriers researchers face in applying this approach to studying energy and climate change.

As an early career sociologist, I have spent the last five years studying city, county, and state decision-making processes for developing regulations for UOG production in Colorado along the Niobrara-DJ Basin. My focus has been on determining the extent to which individual and organizational actors are able to meaningfully participate in decision-making processes, what is commonly referred to as procedural justice (see Schlosberg 2007, 2012). This, of course, is a very particular subset of energy and climate change research, but it has presented research challenges that apply more broadly to the study of energy and climate change. Over the course of the last five years, I have run into multiple barriers to conducting social science research on justice in the context of energy and climate change. Two of particular importance for this

discussion are: (1) a lack of access to the most and least powerful stakeholders and, (2) a lack of tools for analyzing the underlying ties between energy decisionmakers, the decision-making processes, and climate change across multiple socio-political scales. Together, these issues present challenges to accurately depicting the role of power and issues of injustice in energy and climate change decision-making processes. However, utilizing an intersectionally-informed, multi-sited critical policy analysis can help to address these issues.

An intersectional approach to studying procedural justice in energy and climate decision-making processes can work to break down the barriers mentioned above by challenging the taken for granted assumptions and actions that maintain the dominance of the fossil fuel industry as our energy policy status quo,[6] and by highlighting how the intersections of identity impact who has a meaningful voice in the decision-making process. Here, I review the concept of intersectionality as a theory and a methodological approach, discussing its value as a tool for advancing energy and climate change research that can uncover more nuanced, situated issues of power and justice in decision-making processes. Following this discussion, I draw on my current methodological approach to studying procedural justice in oil and gas decision-making processes to demonstrate the value of intersectionally-informed, multi-sited qualitative research methods for developing a more nuanced, multiscalar approach to energy and climate justice research. In closing, I suggest that an expanded use of additional intersectionally-informed, multi-sited methodological tools would be useful for future researchers to enhance the study of power, justice, and equity in multiscalar energy and climate change contexts.

[6] To understand the dominant influence of the oil industry over policy and politics, see, for example, McBeath 2016.

Enhancing Research on Energy and Climate Change Decision-making Processes: An Intersectional Approach to Procedural Justice

As stated above, intersectionality is a term coined by legal scholar and Black feminist theorist Kimberlé Crenshaw (1989, 1991).[7] The concept highlights the complexities that surround intersecting identity-based oppression. Specifically, Crenshaw (1991) demonstrates how Black women face both sexist and racist oppression in a social system dominated by white men. Scholars have continued to utilize this concept to demonstrate the extent to which Black women and their interests are marginalized differently than Black men who experience systemic oppression via racism, and White women who experience systemic oppression through sexism (i.e. see Crenshaw 1991; Collins 1993; Collins 2002; Collins and Bilge 2016; May 2015; Nash 2011). Crenshaw notes that this theory is more broadly applicable as oppressive systems move beyond race and gender and include other systems which are rooted in identity-based discrimination. This includes oppression rooted in ethnicity, age, nationality, disability, geographic location, legal status, and other aspects of collective identity. The intersections of these oppressive systems manifest as social justice issues which often then become issues of environmental inequity (see Bullard 2005; Ryder 2016; Vickery 2018).

Intersectionality has begun to be developed in socio-environmental studies, such as feminist political ecology (Sultana 2009; Sundberg 2017), sustainability (Ryder 2017b), resource extraction (Daum et al. 2019), climate change (Kaijser and Kronsell 2014; Sultana 2014), environmental risk (Olofsson, Öhman, and Nygren 2016), pollution (Sze 2006), urban ecology, (Di Chiro 2006) and disasters (Luft and Griffin 2008; Ryder 2017X; Weber 2001; Weber and Hilfinger Messias 2012; Weber and Peek 2012). Other authors have engaged in approaches that

[7] Importantly, however, intersectional thought, or, the study of intersecting identity-based oppression predates the work of Crenshaw's coining of this term in various texts, primarily by women of color, from the mid-1800s on (for a review see Bassle 2016, Collins and Bilge 2016, Ducre 2018, Jampel 2018).

account for the intersections of identity categories in environmental studies without explicitly engaging the term intersectionality. This includes research on disasters (Boyce 2000; Fordham 2013), environmental activism (Taylor 1997; Taylor 2000) and EJ (Harrison 2011).

While intersectional approaches to energy and climate justice research remain largely absent (exceptions include Kaijser and Kronsell 2014; LeQuesne 2019; Sultana 2014), literature within the broader field of EJ is increasingly examining the intersections of multiply-privileged and multiply-burdened actors in the relationships between people, society, and the environment. The growing field of critical EJ demonstrates the engagement of authors in research that examines power, inequality, and injustice, and the systems that have and continue to disadvantage some at the expense of others (see Agyeman et al. 2016; Faber 2008; Harrison 2014; Malin 2015; Pellow 2016; Pellow 2017; Schlosberg 2007). This includes issues of justice in both energy (Malin and DeMaster 2016) and climate change contexts (LeQuesne 2019; Whyte 2017a), where Whyte (2017b), interrogates the relationship between EJ, colonialism and the Dakota Access Pipeline. Yet many approaches continue to treat identity-based categories separately, that is, related, yet distinct. An intersectional analysis recognizes these identity-based categories as intertwined, overlapping, and inseparable from one another.

Recently, Malin and Ryder (2018:4) proposed a deeply intersectional approach to EJ, which "explicitly recognize and iteratively analyze the contextual/historical, often mutually reinforcing, inseparable, and multiply oppressive structures that intersect to control and dominate marginalized individuals and communities while simultaneously privileging powerful actors." LeQuesne (2019) further develops the concept of intersectionality in the context of the climate justice movement, suggesting that the movement at Standing Rock, North Dakota, went beyond simply a building of alliances within an indigenous environmental movement, but the formation

of a ‘matrix of resistance’ to pursue collective liberation and to counter the pro-Dakota Access Pipeline (DAPL) forces that constitute a ‘matrix of domination’(Hill Collins 2012). This approach is useful for thinking about multiple configurations of domination, oppression, and resistance across social groups, such as power differentials between fossil fuel activists and fossil fuel industry operators.

In addition, intersectionality pushes researchers to think about within-group differences in sets of privilege and disadvantage, such as within the subsets of activist organizations and industry actors regularly pitted against each other in energy decision-making processes. As such, one way an intersectional approach to justice issues advances this literature is by challenging the notion that certain stakeholder groups, or individuals within particular stakeholder groups are homogenous in terms of power, privilege, influence, and advantage (or lack thereof). It challenges EJ research to take on the study of environmental burdens and benefits as they are situated in complex configurations of intersecting sets of identity-based privileges and oppressions which are contextual, fluid, intertwined, and inseparable from one another. In doing so, an intersectional approach creates a more nuanced understanding of how power and inequality operate to establish and maintain environmental, energy, and climate injustices. A subset of these areas of research where this is particularly important is the study of procedural justice.

But what is procedural justice, and how do we study it? Broadly, EJ scholars speak about procedural equity as the ability for actors to have meaningful participation in decision-making processes which will affect them (Malin et al. 2018; Schlosburg 2013; Schlosberg 2007; Lake 1996). Holland (2017) describes procedural justice in the context of climate change and capabilities, that is, it is having the political power to shape decisions in the policy process. A

capabilities approach put forth by Schlosberg (2007, 2012) incorporates recognition as an important component of procedural justice. In the energy justice literature, Jenkins et al. (2016:178) describe procedural justice as concerning "access to decision-making processes," which govern distributions and manifest "as a call for equitable procedures that engage all stakeholders in a non-discriminatory way." A second approach to fleshing out procedural justice in energy research is undertaken by Sovacool et al. (2016). The authors' understanding of procedural justice aligns with what is outlined above, noting that procedural justice theories concern themselves with fairness in the decision-making process. In addition, they focus on transparency in the decision-making process and "the adequacy of legal protections, and the legitimacy and inclusivity of institutions involved in decision-making" (Sovacool et al. 2016:5) This approach places power as a central concern of procedural justice, in addition to recognition and participation (Sovacool et al. 2016). Critical questions in analyzing procedural energy and climate justice, put forth by Sovacool et al. (2016:5) include: "Who gets to decide and set rules and laws, and which parties and interests are recognized in decision-making? By what process do they make such decisions? How impartial or fair are the institutions, instruments, and objectives involved?"

These are questions that are not exclusive to procedural justice research in energy and climate change decision-making processes. In their work on social construction and policy design, Ingram et al. (2007) ask several critical questions about the process of policy development, including taking issue with the fact that while we are all technically equal in the eyes of the law, policy designs tend to primarily benefit the same groups of people while generally punishing others. They note that policy designs "affect participation through rules of participation, messages conveyed to individuals, resources such as money and time, and actual

experiences with policy…Messages convey who belongs, whose interests are important, what kind of "game" politics is, and whether one has a place at the table." (Ingram et al. 2007:100). Yet while social constructionist approaches question power within the policymaking process, the achievement of procedural justice goes beyond simply having a seat at the table. Participation in this case must be meaningful. Additionally, Ingram et al. (2007) discuss individuals' participation in the policy process as they are grouped based on one sole aspect of their identity, such as being a veteran or being an environmentalist. In reality, we recognize that these identities can and do overlap—creating a particular set of privileges and disadvantages for a homeless veteran participating in a policymaking process. This is the value of intersectionally-based procedural justice research.

Intersectional qualitative research methods are fruitful for examining these nuanced questions of power, process, and participation. Applying an intersectional approach to studying procedural justice in the context of oil and gas regulations has unveiled that not all industry operators can equally influence the decision-making process—nor are they equally impacted by the outcomes. For example, one Colorado state legislature I interviewed suggested that within the group of industry operators working in the state, small operators are often at the whim of the desire of larger companies. So, if a larger company believes they can absorb the cost of a regulation or fine, they may support the institution of that regulation or fine. In fact, it may work in their benefit to do so:

> *Sort of the big industry members, like Noble, are all about pushing out the smaller folks. So when the methane capture regulations came out from the governor a lot of the big boys went 'Hm, okay, we can do it, we can afford it, and also it's going to force these other guys out of it which means they'll have to sell and we can take it from them.' And you know I have some sympathy for that…Environmental regulations have come full circle because the more stringent you make it, the more likely it is that the only people who can operate on that world are like the Exxons and the Nobles, as opposed to some neighborhood mom and pop group*

> *that's out there…So it's, same thing with fines, when you increase fines. Industry to a certain extent was like 'Okay we can absorb a million dollars.' Except for the smaller mom and pops where their entire operating budget might be a million dollars.*

As such, while small scale industry operators exist in a more privileged position for influencing regulatory decisions relative to other actors such as activists, their positionality relative to larger-scale companies operating with bigger profit margins suggests that they have less influence on the process, and that ultimately the benefits and burdens of regulatory decisions related to oil and gas development are not distributed evenly within industry operators[8]. Furthermore, this reveals that an unintended consequence of oil and gas regulation in this case could be the further concentration of wealth and power into the hands of fewer fossil fuel companies—a troubling outcome for those concerned with equity and justice in the context of energy and climate change.

Conversely, even within groups that are predominantly marginalized, there is a recognition that some individuals have privilege that intersects with the way they are disadvantaged in the energy decision-making process. For example, I interviewed a bi-lingual Latina activist who has had little success in influencing how a wellpad site near her child's school. Despite the lack of procedural justice she has experienced in this decision-making process, she is quick to recognize how her privilege as a U.S. citizen means that she is able to speak up about these issues without the risk of deportation. She also acknowledges that she has the privilege of moving her child from the school if she deems it necessary:

> *If that site gets built, I can guarantee you that I am going to move my child to a different school. That again you know we'll bring up the concern about you know I have the luxury where I can move my kid somewhere else 'cause I have one [child]. And, you know, I have his dad involved. You know his dad's the one that does drop off and pick up from school. You know, so we have that flexibility where we can move into a different school, but, you know my sister that has kids*

[8] It is important to point out, however, that I would refrain from suggesting that because small business owners in the oil and gas industry may lack some privilege this does not mean that they constitute a historically oppressed group.

> *that go to the school, she can't move them. You know? That's the closest school to their house, they can walk to school. She works in Denver. So it's like what is my sister going to do? You know, what are all the other parents going to do that don't have a car that don't have a job that allows them that flexibility to take their kids to school. That's why I say I have the luxury to move my kids to another school. A lot of people don't.*

In this case, the intersections of ethnicity, language, transportation and work flexibility meant that while her experiences in the oil and gas decision-making process were ones where she was largely dismissed by both local and state officials, she recognized that the fact that she is even able to attend meetings, voice her opinion, and potentially move her child away from a potential environmental risk if necessary are all a result of sets of privileges she wields. Understanding these configurations of advantage and disadvantage are a unique contribution that intersectionally focused research can contribute to strengthening energy and climate change justice.

Intersectionality acknowledges interlocking structures of oppression, rendering analyses focused on single-category axis insufficient for understanding power, inequality, and how people oppressed by these interlocking structures are multiply burdened. As such, the experiences of those who are oppressed based on multiple aspects of their identity end up remaining absent from discourse, theory, and study (Collins 1993; Crenshaw 1991; May 2015). What I am arguing here is that it also leaves their needs frequently unconsidered and unmet in the policy world, in this case in terms of decisions about regulating oil and gas development.

The concern here is that in the context of energy and climate issues, those with the least amount of influence over the decision-making process are, for a variety of reasons related to interlocking systems of oppression—cannot or will not opt in. In my research in one Northern Colorado community, for example, historical local conditions (i.e. SWIFT raids, the 2013 Colorado floods), and contemporary national conditions (immigration policy under the Trump

administration) have created a situation where we infrequently hear Latinx voices in the oil and gas decision-making process. Documentation status and language capabilities also intersect with ethnic identity, so that those who are non-English speaking and/or undocumented are even less likely to have the ability to speak out about issues positively or negatively impacting their families and communities, even ones that might disproportionately impact them and their family (Dunn 2017). Further complicating this issue is that the oil and gas industry employs many people from the Latinx community in this region, so financially-dependent families may be further prevented from expressing concerns over regulation of the industry. These intersections of oppression are elaborated on by one study participant who was discussing the development of a large oil and gas wellpad sited near a low-income Latinx school in her neighborhood:

> *For the school population, you've got families who might be U.S. citizens but they also have lots of network within their family. So, they may have even one person who is not a documented immigrant and they are extremely afraid of ICE and ICE is active here. So, they're not going to speak up, even if they have a distant relative that's trying to make it into the country. They have some family tie, that's saying, well I don't want to put my family in danger…Another thing is that they're working class and they really are trying to support families and they often don't speak English. So, oil and gas is an employer. And, oil and gas tells them very clearly, they will not have work if they speak up. I mean it's very clear. You will not have work if you speak up. And again, you've got the network. There was a guy, he even spoke at the very first meeting. But he ended up renting a house to somebody who worked for oil and gas and he will not do anything he will not sign and he will not speak up because he could lose his renter…The other populations here are Somalian refugees, most of them are legal immigrants because they were brought over through churches. And they just came from a war-torn country and camps, where they have seen real tragedy and they don't even have a clue that this [oil and gas development] is bad, in comparison to where they were. And they don't speak English either. So, they don't know, and they are not going to be rebels…And a lot of the kids that are here, it's a really high trauma school, way high trauma. So, let's add a little more. Most of the kids that are at this school are free to reduced lunch…most of them are people of color. So, they are just not in position politically, we would like them to speak up, but they just won't.*

In the case of this development project, age, ethnicity, nationality, legal status, language, class, and direct or indirect dependence on the oil and gas industry are all factors that are important for understanding who experiences benefits and risks related to oil and gas development, and how these benefits and risks manifest in peoples' lives.

As demonstrated above, energy and climate research would benefit from an intersectional lens that can expand analyses of power to include interlocking systems of oppression and inequality across multiple socio-political scales. By focusing on the entrenched power dynamics within our existing energy systems, the relationship between these systems, and climate change, issues of justice become a central tie through which a discussion of one must encompass them all. Without the application of an intersectional analysis, the full extent of environmental risk, oppression, and vulnerability that accompany energy decisions is masked. Furthermore, intersectionally-privileged populations and the ways they benefit from the socio-environmental status quo remain obscure (Ryder 2017a). Intersectional inquiry can enhance our understanding of how being situated across multiple social locations creates differential experiences of environmental privileges injustices in energy and climate contexts, particularly in energy and climate decision-making processes. But what does an intersectional inquiry into studying energy and climate change look like, methodologically speaking?

Developing an Intersectional Qualitative Methodology

Given how oppressive structures interlock, it is not accurate to describe the impact of multiple oppressions simply as a sum of multiple structures (Crenshaw 1991). Quantitative analyses alone are methodologically insufficient for understanding power, oppression, and justice. From an intersectional perspective, power operates across multiple axes, is relational, locational, contextual, and structurally embedded (Christensen and Jenson 2012). Mechanisms of power

vary, (i.e. economic resources, property claims, time, access to policymakers, establishing shared meaning making) and qualitative intersectional methods can unpack the differential levels of power that actors have in energy and climate change decisions.

Qualitative methodology aligns with interpretivist, social constructivist, critical, and poststructuralist research paradigms, and provides the ability to delve in-depth into complexities and processes (Creswell 2003; Marshall and Rossman 2011). As a qualitative analytical tool, intersectionality focuses on capturing and engaging what Cho et al. (2013:788) refer to as the "contextual dynamics of power." Gender studies have developed qualitative intersectional methodologies such as life-story narratives and analyses of everyday life as points of departure for advancing intersectional understanding (see Christensen and Jensen 2012). More recently methodological advancements of intersectionality have been developing in medical research and nursing journals (Caiola et al. 2014; Hankivsky et al. 2010; Kelly 2009; Rakovski and Price-Glynn 2010). These authors have engaged in document analysis, semi-structured interviews, and have even developed an intersectionality-based policy analysis framework with eight guiding principles and critical questions that can help challenge health inequities (see Hankivsky et al. 2012; Hankivsky 2014).

While there remains little application of intersectional methods in energy and climate research, Kaisjer (2014) utilizes intersectionally-informed qualitative methods to discuss the interwovenness of identity-based oppression in environmental conflict. In her study of environmental struggles in Bolivia, Kaisjer (2014:32) relies on multi-site ethnographies, semi-structured interviews, and participant observations to develop figurations, which "allows the analysis to center on particular, situated and embodied characters that act as nodes for relations of power in a specific context" (p. 32). In my own research on procedural justice in oil and gas

regulatory and decision-making processes, I engage in a multi-sited critical policy ethnography. Within this ethnography I have developed an adapted version of Hankivsky et al.'s (2014) intersectionality-based policy analysis framework which I utilize as a semi-structured interview guide (see Appendix A). I turn now to a discussion of this application of intersectional methodology, and its value for addressing gaps and barriers in energy and climate research.

Conducting an Intersectionally-informed, Multi-sited, Critical Policy Ethnography on Procedural Justice in Energy Decision-making Processes—Addressing the Problem of Scale

Accounting for Multiple Scales in Energy and Climate Justice Research

As mentioned initially, one methodological barrier in the context of studying energy and climate justice issues is that the research is often focused exclusive on energy or climate issues, and with a focus on a single scale. Yet barriers to participation in energy and climate decision-making processes exist across multiple socio-political scales and manifest differently depending on geographic, historical, cultural, political, and energy contexts. This brings up important methodological questions, such as: How exactly can we account for issues of power and justice as they are situated within and impacted by social relations and energy processes across multiple socio-political scales? What, if any methodological tools are flexible enough to be effective for studying energy and climate issues across these scales? Below, I elaborate on problems of scale in energy and climate research and discuss how an intersectionally-informed, multi-sited critical policy ethnography is valuable for developing more robust research on issues of power, privilege, and justice within energy and climate decision-making processes across multiple scales.

Thinking about the multiscalar nature of energy and climate decision-making processes reveals the complexity of developing a robust understanding of power, privilege, and

disadvantage when it comes to issues of procedural justice. As a general example, we can think about debates around just action for climate change. Divisions about how to mitigate impacts of climate change are often divided between nations in the Global North that are historical emitters and nations in the Global South whose carbon footprint is much smaller (Caney 2010; Caney 2014; Hayward 2007; Roberts and Parks 2009; Shukla 1999). The dominant approach put forth by political elites from the Global North is ahistorical, it emphasizes an equity in carbon reduction across nations, and these approaches usually win out over proposals put forth by the Global South's political elite which account for historical emissions and rely on a narrative of equitable opportunity for development. As noted by Pickering et al. (2012) this came to a particular head in 2011 climate talks when the 'Durban Platform' failed to mention the word 'equity.' This was done at the behest of wealthy nations who feared the notion of equity had become too closely aligned with the way it was being conceptualized by leaders in the Global South (Pickering et al. 2012).

If, however, we think about these global decisionmakers relative to other actors and organizations within the nations they are representing, the platforms put forth by these elite actors from both the Global North and the Global South accept the global energy system status quo as it is situated in the global capitalist growth system, which emphasizes rights to develop, or in some cases, a right to emissions (see Hayward 2007). Other actors with less privilege and power very clearly challenge these systems, citizens from across both the Global North and the Global South. For example, protesters outside the various Conference of the Parties (COP) meetings on climate change demonstrate how non-political elites and organizations challenging the energy status quo are by-and-large prevented from having a seat at the table. Yet even these

protestors have some level of resource and privilege to have the capacity to travel the distance required to protest a moving global conference.

Across nations, individuals facing oppression based on intersecting components of their identity—class, gender, race, ethnicity, sexuality, age, and ability—are in some cases excluded from energy and climate decision-making processes, if for some reason they are ineligible to run for office in their own country, or they lack resources to be able to voice their opinion about policy decisions that may directly impact them. In particular, the voices of non-political elites and multiply-marginalized groups in the Global South are missing from discussions of energy and fossil fuel decisions that will impact climate change, the burden of impact which they will bear disproportionately.

Across varying scale, we must be able to evaluate how identity and shared group identity within specific contexts create sets of conditions of privilege and oppression for actors and institutional actors within energy development, energy use, and climate change; particularly in terms of their relative access to and influence over the decision-making process, as well as the distribution of risks and benefits associated with energy development and climate change. With a focus on power structures, systems, and hierarchies, an intersectionally-informed, multi-sited policy ethnography can act as a tool for examining issues of energy and climate justice across multiple socio-political scales.

Applying an Intersectionally-informed, Multi-sited, Critical Policy Ethnography to Address the Question of Scale

The focus of my research is on understanding the extent to which procedural justice is being achieved in policy processes where decisions are made about regulations for oil and gas development at the city, county, and state level in Colorado. Furthermore, I work to contextualize this analysis as it is situated between both smaller (i.e. neighborhoods and the

body) and larger (i.e. national and global) socio-political scales. In order to study this, I engage in a multi-sited, critical policy ethnography, which consists of a combination of semi-structured interviews, participant observation, and document/policy analyses (i.e. recorded public meetings).

A multi-sited ethnography "moves out from the single sites and local situations of conventional ethnographic research designs to examine the circulation of cultural meanings, objects, and identities in diffuse time-space" (Marcus 1998:79). It is useful for studying global processes and critically examining issues of interconnectedness across socially constructed scales (Kaisjer 2014). Multi-sited ethnographers recognize that designating a geographically bounded field in a world where global connectivity is constantly expanding is challenging (Kaisjer 2014). As Kaisjer (2014:49) notes from her research, "processes in a certain context cannot be separated from processes across a wider range of space and time; scales co-emerge in continuous interaction and interdependency." Furthermore, this approach highlights how scale is socially constructed in research to make distinctions between, for example, the local and the global, when in fact, scales are more interconnected than we paint them to be when we construct these categories (see Kaisjer 2014; Tsing 2005).

A multi-sited ethnography challenges traditional understandings of a research site or field, as well as the categories of scale constructed across a range of micro-macro settings (Kaisjer 2014). It does so by employing methods that trace various people and their divergent perspectives and experiences across different geographic and social contexts (Kaisjer 2014). These methods can include qualitative interviews, observations, and document analysis.

Multi-sited ethnographies are an excellent tool for energy and climate change research given that by their nature they are issues that cut across geographic lines, have differential

impacts across a variety of particular locales, and are multiscalar. The siting of an oil or gas well, for example, provides one concrete location. Yet the potential impacts from this concrete location can pass socially constructed territorial boundaries. In my research, citizens in at least three Northern Colorado cities have expressed concerned about the proximity of proposed oil and gas development sites to their homes. But while their houses fall within the city limits, the nearby proposed drilling areas are actually on county land. This creates difficulty in pinpointing a particular site or socio-political scale of focus for this research, which becomes further complicated by the way activists in these communities are challenging oil and gas development both within and outside of their community and across multiple governance scales.

We can take an even broader scope to understand this issue as multi-sited and multiscalar. First, the extraction process is only one phase of energy development, and to trace the entire production-consumption chain of the resource is to span across space, time, and scale. Furthermore, the implications of the oil or gas well itself span across multiple socially-constructed scales, from concerns about localized social and environmental impacts to contributions to global emissions. Given that energy and climate change issues are multi-sited, multiscalar processes, isolating a particular place, project, or scale of importance in energy and climate issues is not only difficult, it provides an incomplete picture.

A particular type of multi-sited ethnography useful for unpacking power, privilege, and oppression in the context of energy and climate change is a critical policy ethnography, which focuses on analyzing these issues in the context of decision-making processes. A policy ethnography is "a form of extended, multisited ethnography" that incorporates organizational and policy analysis alongside ethnographic observations and interviews, and "operates with a policy goal in mind" (Brown et al. 2010:107). Policy ethnographies "provide useful qualitative data that

give a nuanced and realistic ground-level view of policies too often analyzed abstractly from the top" (Dubois 2009:221). They focus on studying policy "processes and practices" in order to develop a more comprehensive understanding of them (Dubois 2015). A critical policy ethnography pays particular attention to the process of policy construction, analyzing unequal power relationships as policies are mobilized by policy agents (Dubois 2015), and identifying how policies impact people who have internalized them. In so doing, a critical policy ethnography examines the "social and symbolic domination exerted throughout the policy process" (Dubois 2015).

For example, the 2014 Colorado Oil and Gas Task Force was established by then-Governor Hickenlooper to develop regulations on UOG production (see Dissertation Article 3). The Task Force consisted of a variety of stakeholders representing the interests of the industry, environmentalists, and Coloradans. The application to become a member of this Task Force was open, the Task Force traveled around the state to multiple different meeting sites, and in the end the Task Force passed a very small percentage of regulations that were proposed. Yet, it was through intersectionally framed questions to participants that I was able to uncover interesting inequities in terms of Task Force selection and decision-making—while anyone could apply, some individuals were invited and appointed specifically at the request of the Governor. In addition, the rules for passing a regulatory recommendation were unclear and participants felt the rules were changed partway through the process in a way that served the industry. Many interviewees expressed disdain for a process they believed to unjustly favor the oil and gas industry in Colorado. Without this type of critical process analysis, many of these nuances of power and injustice within the decision-making process would remain buried.

The Task Force is only one example of the oil and gas decision-making processes in Colorado (see Dissertation Article 2). Activists, environmentalists, and concerned citizens are attempting to influence decision-making processes by placing their bodies strategically in peaceful protest, by voting in local and state elections, by introducing local initiatives that ban or more stringently regulate oil and gas development, by petitioning for state ballot initiatives, and by filing lawsuits against the state. Industry operators too are operating across multiple sites and scales, investing money in city, county, and state elections, investing money to keep local and state regulations from advancing, and by suing individuals and cities which challenge their legal rights to access the resource. To date, the state regulatory body has yet to formally deny a drilling permit—suggesting that the oil and gas industry operators continue to wield more influence over the decision-making process across multiples sites and scales in Colorado. The relationships across these processes could not be fully uncovered without the undertaking of a power-focused multi-sited, multiscalar methodological approach to policy research.

Adopting a more flexible approach to site and scale can present its own methodological challenges. Where do we draw the lines to form the scope of a research project? How do we refrain from incorporating so many sites and scales that we lose our focus? How do we avoid focusing so narrowly that we gloss over situating our research in the proper historical, geographical, social, cultural, and political contexts? This can be a difficult balance to achieve. However, utilizing flexible boundaries as developed in work on action and strategic action fields is a useful approach for thinking about developing multi-sited and multiscalar research, as this approach accounts for nested fields within and outside of a defined scope of research (for example, see Ryder 2017).

An intersectionally informed, multi-sited critical policy ethnography, then, allows for a more nuanced and relational approach to understanding the "production, politics, organization and technology" of energy decisions, the role of power, privilege, oppression and access to participate in energy decision-making processes, and the subsequent socio-environmental consequences, both localized (i.e. air quality) and diffuse (climate change) across multiple socio-political scales. Furthermore, it allows for a more expansive scope in the study of energy and climate issues that account for the influence of relevant events, actors and processes across time, space, and scale, which influence energy and climate outcomes.

Adapting an IBPA for Energy and Climate Research – Addressing Nuanced Issues of Power, Privilege, and Justice

Accounting for Nuanced Power and Justice in Energy and Climate Decision-making Processes

A second methodological challenge in energy and climate change research is determining the appropriate tools for studying power, privilege, and justice as situated, historically and geographically contextual, fluid, and nuanced. Asking questions geared at understanding domination and oppression and the ways that it may manifest differently across intersections of identity, get at the critical question of ***"who?"***. Who makes energy and climate decisions? Who has the power to create and maintain the status quo for energy and climate change decision-making processes? Who benefits? Who is burdened? Below, I elaborate on the importance of accounting for intersectionality when studying power, privilege, justice, and oppression in energy and climate decision-making processes. Further, I discuss how an IBPA is valuable for developing a fuller understanding of these issues.

Intersectionality illuminates the way that seemingly unrelated systems of domination are connected through shared logic patterns (May 2015). Spade (2013) identifies how structures in

government and society create unequal life opportunities for certain groups or kinds of people who experience intersectional oppression and calls for the all-out dismantling of these regimes. Spade's attentiveness to policy and politics suggests that an intersectional lens is an appropriate approach for studying power and justice in energy and climate change processes, highlighting the relationships between powerful fossil fuel regimes and elected officials and the way this shapes the policymaking process. This relationship is captured well by LeQuesne's extension of the term petro-hegemony, which he describes as encompassing the "discursive, economic, and political strategies fossil fuel companies leverage to shape and maintain favorable relations of consent, compliance, and coercion to advance their interests" (2019: page not yet avail.). It was also commonly identified by participants in my own research. For example, one Colorado lawmaker discussed the influence of oil and gas money in elections, as well as their ability to continually be lobbying politicians. The lawmaker recalls a particular time where the state legislature was voting on increasing the number of inspectors the state employed to monitor oil and gas wells:

> *I'm pretty sure we have more oil and gas lobbyists in the lobby right now than we have oil and gas inspectors in the state of Colorado…if you've been to the Capitol, there is literally a lobby in front of the House floor. Lobbyists are not allowed on the House floor, and the same thing with the Senate. And so they just stand there and wait for us to come out…So that's the level of influence that they can buy. It's not just political ads. It's influence changers who are hired by the industry to be a constant presence there.*

Here and elsewhere, the influence of industry on the decision-making process relative to other stakeholders is clear. Yet, it does not always take the same form, nor is it always happening at the same place or scale. That is, the industry has time and money, which can be exerted anywhere from local-level elections to state-level bills, and beyond. An intersectional approach enhances justice research focused on the social processes that constitute energy systems and

anthropogenic climate change, and is useful in identifying what constitutes petro-hegemony and the power exerted in establishing and maintaining it. Of equal importance is its use for uncovering whose voices are less powerful, as well as whose are not heard at all in energy and climate decision-making processes.

Utilizing an IBPA to Examined Nuanced Issues of Power and Justice

As part of an intersectionally informed, multi-sited, critical policy ethnography of energy and climate decision-making processes, I engaged in semi-structured interviews. While intersectionality is a guiding theory for this research, it is particularly important for the semi-structured interview guide, which I developed by adapting the IBPA proposed by Hankivsky et al. (2014). They developed this intersectional framework to explore inequities within women's health issues that are rooted in 'racism, colonialism, ethnocentrism, heterosexism, and able-bodism" (Hankivsky 2014:1). They also aimed to utilize the methodological tool to "produce knowledge that captures how systems of discrimination or subordination overlap and 'articulate' with one another" (Hankivsky 2010:1). The IBPA framework consists of guiding principles and twelve critical questions informed by those principles. The twelve questions are broken down into descriptive and transformative categories—the former aimed at uncovering a holistic understanding of the context of policy 'problems,' and the process through which these are "identified, constructed, and address[ed]," and the latter as an exercise for developing "alternative policy responses and solutions specifically aimed at social and structural change that reduce inequities and promote social justice" (Hankivsky 2014:3-4).

As Hankivsky et al. (2014) note, this IBPA framework is intended to be simple, flexible, and adaptable to be relevant for different policy contexts. As such, I adapted their IBPA to be relevant for studying procedural justice in energy decision-making processes (see Appendix A).

This allowed me to ask participants about the spaces in the decision-making processes that are open and available to them in terms of city, county, and state processes. I was also able to ask questions to gain insight into the extent to which they believe their participation in the regulatory policy development process is meaningful, whether all participants had equal ability to influence the decision-making process, how they would like to see the process changed, and who was missing entirely from the process, among other things.

Applying these types of inquiries to energy and climate change policy processes can uncover the way policymakers frame what constitutes a 'problem' in energy and climate change policy, how power plays a role in the framing that is used to identify these problems, and who has the power to influence the way policymakers frame the issues. Like social constructionist approaches to policy processes, what becomes labeled and defined as a 'problem' is a political exercise within which power and influence matter a great deal (Rochefort and Cobb 1994, Ingram et al. 2007). For example, not every policymaker I have interviewed considers climate change a legitimate 'problem.' If enough powerful people dismiss climate change as a policy problem, policies to address the issue of climate change, and, as such, policies to regulate fossil fuel emissions, will not move forward. Furthermore, if enough powerful people dismiss research on energy, climate change, and justice entirely, it can be difficult for a researcher to move their study forward.

In previous sections, I have described in some detail how the use of the IBPA has revealed relevant intersecting identities that impact the extent to which individuals are able to have meaningful participation in and influence over decision-making processes for oil and gas regulations in Colorado. This was achievable via the IBPA as the questions on my interview guide ask directly about different knowledge sets of participants, their role in the decision-

making process, what stakeholders have been involved in decision-making processes, which ones have been absent, and how the benefits and burdens of oil and gas development are distributed across involved or impacted actors and organizations. This helped to identify the most and least powerful actors and organizations in decision-making processes. However, this did not necessarily translate into access to these actors or organizations. The barriers that keep multiply-marginalized individuals from participating in the policy process to regulate oil and gas development also work to frequently keep them from being willing or able to participate in academic studies. But at the other end of the spectrum, the most powerful and influential individuals working in the fossil fuel industry have little incentive to opt in to these same studies.

As such, while conducting this research, a difficult challenge has been the recognition that the individuals who have agreed to participate are in many ways—across race, gender, class, and relative power over the decision-making process—more homogenous than not. They generally represent a range of individuals who, while they do not wield the power that industry operators do, are also not completely powerless. Though even within this group of participants I have and will continue to draw out intersectional differences (differential activist capacities, strategies and alliances, for examples), it is important to recognize that this is only a small portion of the spectrum when discussing issues of procedural justice in energy decision-making processes. Furthermore, the triangulation of intersectionally-informed methods is helpful for at least partially counteracting this. Industry operators regularly attend and address lawmakers at public meetings that are often recorded. As such, participant observation and critical document analysis can provide some insight into intersectionally-privileged actors and organizations in the decision-making process.

Despite this flaw, intersectional approaches that highlight power in policy processes can lead to new knowledge and insights enhancing the potential for disrupting and challenging the status quo in the energy and climate change policy realm. By incorporating intersectional questions of power and privilege into the energy and climate policy development and evaluation processes, researchers can better identify those who are being excluded—intentionally or unintentionally—from policymaking processes, in the hope of making them more inclusive.

Developing an Intersectional Methodological Toolkit for Future Energy and Climate Research

Sovacool (2014:2) suggests a need for energy researchers to further explore "concepts from the disciplines of gender studies, philosophy and ethics, communication studies, geography, social psychology, cultural anthropology, development studies, governance, and the sociology/history of technology, as well as topics such as energy justice, identity, persuasion, scale, behavior, innovation, externalities, and subsidies (among others)." That is, energy scholars must engage in energy and climate change research by, as Goodman and Marshall suggest, acknowledging that energy decisions and systems are comprised of socio-political processes, which, Sovacool (2014) points out, often historically have largely benefitted some actors at the expense of others. Here, I have touched on several of these areas of expansion—utilizing an identity-based framework from gender and critical race studies to frame issues of justice and power while accounting for its manifestation across multiple scales of energy and climate decision-making processes.

Here, I have argued that an intersectional approach to studying issues of procedural justice in energy and climate change policies begins to address these critical concerns. More broadly, utilizing process-focused intersectional methodologies for studying energy and climate issues provides the tools for examining and critically analyzing the underlying social factors that create and reproduce inequity and injustice across multiple socio-political scales. The scope of

intersectional approaches that could potentially constitute a 'methodological toolkit' of sorts is not limited to the methods I engaged in to conduct a multi-sited critical policy ethnography, nor the use of an adapted IBPA. Beyond what I have discussed here, I would encourage future authors to explore the further application of other intersectionally-informed qualitative methods such as life story narratives, everyday life as a point of departure (Christensen and Jensen 2012), figurations (Kaisjer 2014), participatory action research (Tolhurst et al 2012), and photovoice (Lee and Sum 2011; Sethi Ms 2014) to address issues of power, justice, and equity in energy and climate research.

Sovacool et al. (2014:15) view the social sciences as offering potential sites of resistance, where the voices of the marginalized can be incorporated and privileged, and oppression can be challenged. They note that energy research must shift away from a narrative of "great men and machines" to one of diversity and inclusion which examines "layers of identity, structures, institutions, and representations," and asks questions about who is influential over, who is absent from energy decision-making processes, and what actors actively and violently silence the voices of dissenters in energy decisions. As I have suggested, studying the 'who' and the 'how' of these processes results in a clearer understanding of differential opportunities for participation in and influence over policymaking. These types of concerns manifest as questions about the 'how' of regulation and the space for achieving procedural justice in energy and climate policy decisions.

Across varying scales, we must be able to evaluate how contextual, intersecting identities create sets of conditions of privilege and oppression for social actors and institutional players within energy development, energy use, and climate change, and how these generate procedural and distributional equity concerns. Identifying the way environmental inequities are distributed across individuals, organizations, and governments, based on pre-existing arrangements of

privilege and oppression will help to eradicate existing inequalities and combat inequality in future energy and climate decision-making processes.

Intersectionality works toward the goal of liberating people from multiple forms of oppression and is thus embedded in critical research that works to promote broad social change that eliminates inequality (Cho et al. 2013). Critical theorists go beyond interpretivism by suggesting that not only is subjectivity in research unavoidable, but a researcher's politics are also inseparable from their research. As such, research should work to challenge values and norms in a way that can transform the lives of research participants and others for the better (Creswell and Creswell 2017). By focusing on power structures, systems, and hierarchies, qualitative intersectional methods can work to transform our energy and climate systems into ones which account for and address inequality and differential needs and capacities. Without approaches such as this, the most vulnerable segments of the world's population will continue to be most severely impacted by the current state of our energy system and the coming changes to our climate.

ARTICLE 2: MULTISCALAR META-POWER AND PROCEDURAL JUSTICE IN PROCESSES FOR REGULATING COLORADO'S UNCONVENTIONAL OIL AND GAS DEVELOPMENT

Introduction

UOG production has played an increasingly important role in the U.S. energy sector since the turn of the last century. The U.S.'s hydrocarbon production has shifted global energy dynamics, and shale gas is projected to continue to increase as a share of U.S. natural gas production (EIA 2018). As the practice has spread and intensified across multiple states, environmental and public health concerns have emerged (see Adgate et al. 2014; Finkel 2015; Ladd 2018). In addition, the practice has created conflict about regulatory governance and decision-making processes, given that federal deregulation created a regulatory vacuum wherein states decide how to zone and regulate UOG activity (Davis 2017; Mayer et al. 2017; Mayer and Malin 2019; Warner and Shapiro 2013).

Multiscalar governance tensions have arisen as a result of state preemption—which renders local zoning regulations ineffective for controlling site locations for proposed wellpads and other infrastructure (Davis 2014; Duffy 2014; Malin et al. 2018). This has been a recurring issue in shale-producing states, with contestation increasing in places where the practice has become urbanized, such as the northern Colorado Front Range. Here, UOG production continues to encroach upon communities also experiencing rapid population growth (Kroepsch 2018; Malin et al. 2018; Ryder 2017; Turkewitz 2018; Zilliox and Smith 2017), leading to increased concerns about the environment, public health, and quality of life issues such as light and noise pollution and truck traffic (Malin et al. 2018; Shaffer et al. 2016).

Over the last decade, residents along the northern Colorado Front Range have been active in challenging the urbanization of UOG production across different governance scales and branches. As such, developing a mutiscalar perspective is critical for fully understanding these conflicts. Given that Colorado is one of the top UOG producing states and is heralded for having the most stringent regulations in the nation (Zirogiannis et al. 2016), a more holistic understanding of the state's regulatory processes and outcomes has broader implications for the practice nationwide.

Research on regulating UOG production has flourished (see Davis 2012; Davis 2014, Davis 2016; Davis 2017; Fisk et al. 2017; Kitze, 2013, Knight and Gullman 2015, Lozano-Maya 2016, Nolon and Polidoro 2012, Rice; Negro 2012; Negro 2014) and literature focusing on the processes for regulatory decision-making is also beginning to intensify (eg., Denning 2018; Malin et al. 2018; North et al. 2014; Rinfret et al. 2014; Ryder 2017; Shaffer et al. 2016; Zilliox and Smith 2016; Zilliox and Smith 2017). Less research has focused explicitly on issues of power and procedural justice in these processes (Cook 2015a, Cook 2015b, Cotton 2017; Kroepsch 2018; Malin et al. 2019), and how these issues manifest between actors and organizations across multiple governance scales and processes (Malin et al. 2018).

This paper extends the current literature by examining the issue of *procedural justice*—that is, the extent to which individuals have equitable, inclusive, and meaningful involvement in decision-making processes that will impact them (Malin et al. 2018; Schlosberg 2003; Schlosberg 2007; Lake 1996)—across multiple governance scales. In other words, I ask, who gets a seat at the table to participate authentically in making decisions across different governance processes, and how are certain actors empowered or disempowered across these scales?

In this analysis, I attend to two critical factors. First, I identify relevant governance scales for assessing procedural justice issues in the regulation of UOG production. Second, I explore issues of power and procedural (in)justice across these governance scales and institutional actors, uncovering which institutions have the most influence over the process and analyzing how they have gained such significant procedural power.

The driving research questions of this article are:

1. What opportunities do members of the public have for inclusive and meaningful participation in multiscalar conflicts, particularly decision-making processes for UOG production in Colorado?
2. Across institutions and scales, what power imbalances and barriers to participation exist and why?

Below, I examine these dynamics in Colorado regulatory processes, specifically focusing on how state decisions have bolstered industry power to participate in and influence decision-making processes, at the expense of others' capacity to do the same. I explore people's access to procedural justice through meaningful participation—that is, who is able to influence policy formation and other decision-making processes. I also examine how these processes and the actors involved intersect, cooperate, and conflict across different governance bodies at multiple scales.

In line with Betsill and Bulkeley's (2006) arguments that the politics of climate change disrupt traditional conceptualizations of scales of governance and divisions therein, I argue that the politics of UOG production also defy traditionally distinct governance scales. I begin by discussing the relevance of multiscalar research in environmental governance, followed by an overview of the literature on meta-power and procedural justice in this context. I then describe the regulatory context for understanding multiscalar conflicts in UOG production in Colorado. After reviewing my methods, I turn to my findings, where I suggest that the multiscalar meta-

power wielded by the oil and gas industry may create multiscalar disempowerment of the public, community organizations, and local governments in regulatory decision-making processes—leaving the most impacted people the least empowered to influence them. Furthermore, this multiscalar disempowerment does not impact all non-industry actors evenly, requiring an intersectional lens (which can account for within-group differences and compounding barriers) to properly parse out these experiences of disempowerment. While governments still hold a relatively privileged position in decision-making processes which community organizations are often able to gain access to, other Colorado residents in these communities, such as refugees, undocumented immigrants, non-English speakers, and industry workers and impacted residents who have signed non-disclosure agreements, rarely even have the capacity to organize or bring their voices to the decision-making processes at all. Those who are multiply-marginalized across these categories face even more complicated structural barriers for participation.

A Multiscalar Approach to Environmental Governance Processes

Identifying appropriate governance scales for managing natural resources and the environment has been perennially challenging (Wyborn and Bixler 2013). Yet frequently issues of governance—and particularly environmental and natural resource governance—cannot be accurately understood through an analysis at a single scale. Conversely, multiscalar approaches account for the different levels at which we see environmental policy decisions made within a society (Ryder 2018).

To date, the bulk of environmental governance research has failed to critically explore multiscalar governance processes. Multi-level governance analyses focus on the way "vertical tiers of government and horizontally organized forms of governance" are connected, which is helpful for studying environmental governance both across and within scales (Betsill and

Bulkeley 2006:149). While this framework helps analyze the role of nation-states in macro-level, global environmental governance efforts, it can be applied more broadly to varying levels of governance, from the micro to the meso and the macro, or global (Betsill and Bulkeley 2006).

Recent research on multiscalar governance moves away from the notion of pre-determined governance scales and treats the creation, maintenance, and re-construction of different governance scales as processes that overlap and are socially constructed (see Buizer, Arts and Kok 2011, Bulkeley 2005, MacLeod and Goodwin 1999). Instead of taking space and scale as "pre-given, contained, natural entities," this approach suggests that environmental governance involves "both political processes of scaling and rescaling the objects and agents of governance" (Bulkeley 2005:875). By examining environmental governance across multiple, socially constructed, contested, and contextually rooted scales, this lens facilitates analyses that account for how different governance scales interact with, complement, or conflict with one another in environmental decision-making (MacLeod and Goodwin 1999). We can also better understand and analyze the relationships between actors, power, and authority across these multiscalar governance processes (Betsill and Bulkeley 2006), to examine which decision-making scales are privileged in certain resource governance conflicts, and how and why particular scales are privileged in particular resource contexts. Reed and Bruyneel (2010:646) study the emergence of actors' differential power, authority, and action across multiple environmental governance scales to determine both 'who gets what,' and 'who gets to decide.' These questions of distributive and procedural justice in multiscalar environmental governance processes are vital—and they are at the core of my multiscalar analysis.

Policy decisions are often developed at and implemented across different socio-political scales (micro, meso, macro). Research on both climate and energy justice has started to

emphasize the importance of multiscalar considerations (Carmin and Agyeman 2011; Givens and Jorgenson 2011; Jorgenson and Givens 2014; Pellow 2007; Jenkins et al. 2016; Sovacool 2014). While not framed explicitly as a multiscalar analysis, Holland's (2017) recent work on procedural justice in local adaptation to climate change begins to expand how approaches to climate change must account for multiple governance scales. Like climate change, UOG production has multiple impacts at various scales. As such, research must account for the multiscalar *regulations* of these practices. That is, researchers should examine how groups of people across different spatial categories are impacted by various aspects of UOG production (see Moore 2008, Soja 2005, Williamson 2015).

By advancing a multiscalar procedural justice analysis of regulatory processes for UOG production, I contribute to the integration of multiscalar research in EJ. Currently "few studies attempt to grasp how EJ struggles function at multiple scales, from the cellular and bodily level to the global level and back" (Pellow 2016:4, see also Herod 2001 and Sze 2006). Focusing on multiscalar governance processes in these contexts will not only make for more procedurally just decision-making processes, but, ideally, the establishment of more distributively just policy outcomes.

Meta-power and Procedural Justice in Environmental Governance Processes

Procedural justice comprises one conceptual thread of EJ, concerned with people's ability to meaningfully participate in decision-making processes that impact them (Malin et al. 2018, Schlosberg 2003; Schlosberg 2007, Lake 1996). The issue of fairness in decision-making process—or the act of what Shrader-Frechette (2002) calls "reclaiming democracy"—has been a main component of EJ literature since the 1990s (i.e. see Dunion 2003; Hampton 1999; Hunold and Young 1998; Lake 1996; Petts 2005). When achieved, procedurally just processes can be

tools for achieving justice in a distributional sense and regarding political recognition (Schlosberg 2003).

In the context of energy justice, procedural justice has been defined as "a call for equitable procedures that engage all stakeholders in a non-discriminatory way" (Jenkins et al. 2016:178). Sovacool et al. (2016) extend the definition of procedural justice to include considerations of fairness, transparency, legitimacy and inclusivity. They identify concerns for who gets to make rules and laws, who is recognized in that process, and to what extent the process for decision-making is comprised of impartial or fair "institutions, instruments and objectives" (Sovacool et al. 2016:5). Further, Alexis-Martin and Malin (2017) and Malin et al. (2019) recognize the importance of access to useful, transparent information as necessary for people's authentic participation.

Procedural justice is often thought of visually and is characterized as having a seat at the table (see Buday 2019). Yet, having a seat at the table only goes so far when it comes to achieving procedural justice in a decision-making process. In order to achieve procedural justice, people must feel they have *authentically* and *meaningfully* participated in a process where their wants and desires were weighed equally with those of other stakeholders. That is, to realize procedural justice, participants must feel that they have the ability to substantively contribute and influence the policy process and subsequent outcome, usually tied to access to useful and transparent information.

More broadly, other approaches get at issues of procedural justice as well. Social constructionists focused on policy design point out that policies are generally designed to primarily and repeatedly benefit the same small faction of people (Ingram et al. 2007). Essentially, policy designs exacerbate inequalities in existing policy arenas. Further, policy

designs “affect participation through rules of participation, messages conveyed to individuals, resources such as money and time, and actual experiences with policy...Messages convey who belongs, whose interests are important, what kind of “game” politics is, and whether one has a place at the table.” (Ingram et al. 2007:100).

For sociologists, this has important implications for industry meta-power (Malin et al. 2019; Hall 2003; Ryder and Hall 2017) and diminished spaces for public participation. Clegg (1989:184) observed that the “central feature of power is fixing the terrain for its expression.” Fixing the terrain means most simply to structure or culture a context in order to create, sustain and maintain power and control, both within that context and in future and distal contexts. This is a form of meta-power (power over power) that can create conditions that reproduce power, regenerate control, and embed intentions (see Bruns and Hall 2012; Hall 2003; Malin et al. 2018).

Differential limitations on information accessibility, repealing regulations, and rule changes that exempt actions from oversight are all examples of meta-power that benefit the already powerful. In this way, power is reproduced to preserve power stasis. This exercise of power can be challenged but often remains reproduced. The critical point is that in power contexts, ***participants may fight or argue over resources or rights or roles, but the organization, culture, and rules of those arguments have been set by extralocal institutions or actors operating in another place and time***. In the context of contemporary UOG production, rules and regulations governing the industry continue to be inherited from decisions made by powerful state and industry actors over the last two centuries. Furthermore, the state continues to retain control over regulatory processes, but is heavily influenced by the oil and gas industry. Together, they continue to create the conditions within which regulatory decisions are made in

Colorado. As they continue to structure these contexts to favor industry interests, they also limit the space for other stakeholders to participate in and influence these decision-making processes.

Below, I examine meta-power and procedural justice in the context of multiple, nested governance scales for regulating UOG production, highlighting the multiscalar nature of the industry's power and influence which disempowers local residents and stymies the multiple strategies that are being pursued across governance scales to enhance local autonomy and control over the practice. To do so, I engage in a multi-sited critical policy ethnography, described below.

UOG Production and Conflict: The Colorado Regulatory Context

The primary issue that has created multiscalar governance conflicts in Colorado is that of state preemption, originating in a nearly thirty-year-old court case, Voss v. Lundvall Inc. The lawsuit developed after residents of Greeley voted to ban oil and gas drilling. Industry operators sued, and in the 1992 decision, the Colorado Supreme Court ruled in favor of Lundvall Inc (Verlee 2014). The decision read that a city ban could not be upheld, given "statewide interest in the efficient development and production of oil and gas resources" (Antonacci 2015). This remained virtually unchallenged as UOG production picked up in western Colorado around the 2000s, despite other concerns and conflicts (see Davis 2012). It was not until the urbanization of UOG production along the Front Range that challenges to state preemption began to gain significant ground. As UOG production moved into these areas, drilling sites began to be proposed and permitted in suburban residential areas and near high occupancy buildings with vulnerable populations, such as elementary schools (Shaffer et al. 2016; Silvy 2018). This urbanization has also heightened concerns about air quality, water quality and quantity, public health, well siting and setback distances, and quality of life issues such as truck traffic, road destruction, and noise

and light pollution as the practice encroaches on communities in Colorado (Malin et al. 2018; Shaffer et al. 2016). As a result of their constituents' concerns, local governments along the Front Range began to work on developing strategies for regulating UOG production in their jurisdictions around the start of the 2010 decade.

In Colorado, a home rule state, municipalities can opt out of some state decisions. As such, residents and local officials in many Front Range communities feel they should have the authority to determine where UOG production can occur within their jurisdiction, and whether or not it can occur at all (Malin et al. 2018; Ryder 2017). Importantly, in Colorado (and elsewhere), state preemption overrides city and county authority on regulatory decisions for UOG production, such as the siting of wellpads. In fact, one regulatory agency—the Colorado Oil and Gas Conservation Commission (COGCC)— is solely responsible for permitting oil and gas wells and regulating industry activity in Colorado.

In response to the spread of UOG production, some cities and counties adopted memorandum of understandings (MOUs) described in more detail below. Other local governments along the northern Colorado Front Range took more aggressive approaches. Fort Collins, Longmont, Erie, Lafayette, and unincorporated Boulder County passed long-term moratoria or bans on the practice of hydraulic fracturing between 2012 and 2013 (Fitch 2013, Ryder 2017). These were put in place either by local elected officials, or as a result of ballot measures organized by concerned community groups such as Citizens for a Healthy Fort Collins or Our Longmont. State preemption lawsuits were filed against Fort Collins and Longmont and ultimately the Colorado Supreme Court struck these local efforts down in 2016. The Court found that local attempts to limit UOG production were illegal 'takings' from mineral owners who wanted to develop their assets—squashing any county, municipal, or neighborhood attempts at

regulating or prohibiting the practice in certain areas. Community groups have also been active at proposing regulatory ballot initiatives at the state level, proposing initiatives addressing local control and setback distances both prior to and after the Task Force was established in 2014.

Multiscalar activism around regulations for UOG production continues to develop. In 2017, Colorado residents voted again on an initiative aimed at establishing statewide setback distances, though the vote ultimately failed to pass. The efforts at shaping regulatory processes and outcomes have not been limited to those discussed above. Regulatory contestations also play out in two other state-level avenues for developing regulatory mechanisms—the COGCC's decision-making processes and the Colorado General Assembly (the state legislature). Clearly, Colorado's Front Range is a hotbed for UOG production and subsequent conflicts and citizen's uprisings, making it an important place for analyzing power, justice, and participation in multiscalar and multi-jurisdictional regulatory processes.

Methodology and Methods

Methodological Framing

To study multiscalar issues of procedural justice across nested governance scales in Colorado, I apply a multi-sited, critical policy ethnography. This involves using semi-structured interviews, participant observation, and policy-oriented critical document analyses as triangulated methods for uncovering stakeholder access to and influence over regulatory decisions for UOG production which may impact them.

Policy ethnographies are "a form of extended, multi-sited ethnography" that utilize policy analyses in addition to ethnographic methods (Brown et al. 2010 p 107). They "provide useful qualitative data that give a nuanced and realistic ground-level view of policies too often analyzed abstractly from the top" (Dubois 2009:221). Critical policy ethnography is a useful tool for

studying issues of procedural justice, as it can be used to unpack power dynamics. Critical policy ethnography draws out unequal power relationships as agents engage in the policy construction processes, highlighting the "social, economic symbolic, and political domination at work in the policy process" (Dubois 2015:463). Multi-sited ethnography allows researchers to capture processes that are contextually embedded in space and time and compare these across and between other scales (Kaijser 2014). This paper focuses on nested policy processes and their embeddedness in several other interwoven regulatory processes in the state of Colorado and beyond.

To conduct a multi-sited critical policy ethnography of the multiscalar processes for regulating UOG production in Colorado, I performed critical document analysis of relevant City Council and County Commissioner meeting minutes in the six counties described above. I also analyzed the COGCC's "A Decade of Change: COGCC Policy, Regulation, Transparency 2007-2017," the "Colorado Oil and Gas Task Force Final Report," proposed oil and gas bills at the Colorado General Assembly from 2012-2018, and Colorado Supreme Court decisions, such as the City of Fort Collins v. the Colorado Oil and Gas Association, the City of Longmont v. the Colorado Oil and Gas Association, and the Colorado Oil and Gas Conservation Commission v. Martinez. To analyze these documents, I reviewed them line-by-line, taking notes of important themes, opportunities for public participation, what stakeholders or institutions were shaping the processes, and where points of contention developed in the processes. This brought new information forward which I used to identify important points of discussion for interviews. The information garnered from this method also served to corroborate, verify, and at times context interviewee perceptions and experiences of these processes.

Finally, I supplemented this analysis by reviewing news articles on efforts for regulating UOG production. Together, this allowed me to better connect policy texts to various state and local institutions, actions, and stakeholders' struggles to influence decision-making processes for regulating UOG production. In addition, data were further triangulated through semi-structured interviews, described in more detail both above and below. Combined, I use these methods to corroborate participant perceptions and experiences of the process, and to analyze how the structure of the decision-making processes generated procedural injustices.

City, County and State Governance Processes As Multiple Research Sites

The regulatory processes for UOG production take place across the local and state level, and include city council meetings, county commissioner meetings, the Colorado General Assembly sessions, the COGCC public hearing and rulemaking processes, and the 2014 Colorado Oil and Gas Task Force meetings (see Dissertation Article 3). As primary policy sites in this research, the background contexts for Front Range communities, the COGCC, and the Colorado General Assembly are provided below.

Front Range Local Government Contexts

The primary sites for conducting semi-structured interviews and participant observation to inform this dissertation is along the Northern Colorado Front Range. For my multi-sited data collection, I focused on cities and counties within the Northern Colorado Front Range. Here, a car ride that once afforded miles of unspoiled viewing of the Rocky Mountains and eastern plains are now speckled with drilling rigs. New drilling sites are at times walled off by haybales, and the efforts to flare off natural gas light up the night in an otherwise dark sky. The UOG production boom has created concerns over visual and noise pollution, as well as more traditional concerns over water and air pollution as the Niobrara and Denver-Julesberg Basins

have seen a rapid increase in drilling activity since the early in the last decade (Ryder 2017a; Svaldi 2017). I worked across six Colorado cities—Fort Collins, Greeley, Lafayette, Longmont, Aurora, and Thornton—in six counties, including Larimer, Weld, Boulder, Broomfield, Adams, and Arapahoe. In addition to residents across these counties, I interviewed members of the 2014 Colorado Oil and Gas Task Force, as well as state legislators who have introduced bills on oil and gas regulating since 2012. In these spaces, drilling expansion has not deterred population growth as the area continues to gain a reputation among beer lovers, outdoor enthusiasts, and individuals looking for a high quality of life. Though across and within these counties histories and ideologies and relationships with oil and gas development differ, both generational Coloradans and newcomers have been disturbed by a lack of concern for public health and the contradictions of extensive drilling in counties and communities that have extensive relationships with the land—either through agriculture, recreation and tourism, or both.

The Colorado Oil and Gas Conservation Commission (COGCC)

Established in 1951 and housed within the Department of Natural Resources, the COGCC is the primary regulatory authority over oil and gas production in Colorado. It is the state regulatory body that handles oil and gas permitting, regulations, disputes, and decision-making. The COGCC was initially tasked with "the prevention of waste and mismanagement and protecting oil and gas interests and mineral rights through organized, rational, and effective oil and gas management" (Ryder and Hall 2017:155). The mission has since expanded to include a regulatory role aimed at promoting safety, welfare and public health (1985), and environmental protections (1994) (Ryder and Hall 2017). As of January 2019, their mission as written on their website was to "foster the responsible development of Colorado's oil and gas natural resources" (COGCC 2019). The body currently consists of nine commissioners, three of which must have

substantial experience with oil and gas. In the past, the commission was made up of seven members, and historically those seats have primarily been held by individuals from the oil and gas industry.

Colorado General Assembly

Another state-level avenue for regulating oil and gas development is the Colorado General Assembly. The bicameral state legislative body was established in the state's constitution in 1876. The House has 65 seats while the Senate retains 35 members. State statutes addressing oil and gas regulation can be accessed in the Colorado revised statutes. In terms of recent efforts to address regulation for UOG production, the legislature has introduced 55 bills since 2012 (AEL Tracker 2019). Of those introduced, just 14 were enacted. Ten were introduced, 23 failed, 7 passed one chamber, and 1 passed both chambers.

Data Collection Methods and Analysis

Qualitative data collection methods are well-established generally, and in the context of this research, qualitative methods are most appropriate for their usefulness in studying: (1) social constructions and meaning making and (2) processes in a grounded, in-depth way (see Ambert, Adler, Adler, and Dettzner 1995; Marshall and Rossman 2011). To conduct this critical policy ethnography, I engaged in three primary types of data collection: intersectionally informed, semi-structured interviews, critical policy and document analyses, and participant observation.

This research project developed as a branch of a National Institute of Health study that aimed to explore the impacts of UOG production on people's quality of life and stress. As such, an early focus of the research was with Northern Colorado residents' concerns and/or experiences of UOG production impacts to their quality of life and stress levels. However, as I

began to develop my dissertation as an aspect of this study, my research focus shifted to issues of regulatory policy processes and concerns of procedural injustices within these processes.

Throughout data collection, I relied on a combination of purposive and network sampling (Marshall 1996; Biernacki and Waldorf 1989). A leader of a pro-regulation community organization, Weld Air and Water, acted initially as the primary gatekeeper in this study. In addition, prior research with community members and policymakers conducted in other Northern Colorado cities led to some previous links to policymakers and activists under the umbrella of the current study. Throughout, I relied on network (or snowball) sampling in initial interviews to identify other citizens that might be willing to participate in this study. These connections also allowed me to stay informed about community organization activities and local and state government meetings held to address regulatory issues in the context of UOG production. In addition, I was able to directly contact individuals who had been involved in a variety of public regulatory efforts—state legislators who introduced regulatory oil and gas bills, commissioners and staff from the COGCC, and members of the Colorado Oil and Gas Task Force. I identified important policies, documents, and news articles also relevant to this topic (as described above)—and participants also regularly brought documents and policies to my attention during interviews.

Intersectionally-informed, Semi-structured Interviews

Traveling across county lines, there were no shortage of kitchen tables to sit around and talk about encroaching UOG production. After welcoming me into their home, and often following an offering of homemade baked goods, interviewees and I would quickly move into the interview. From small wooden tables for two, to lavish glass tables set for 8, residents and community organizers would point out the window or walk me outside their property to point out

looming wellpads or sites where UOG production sites had been proposed. These interviewees ranged from college students to educators, registered nurses and public health workers, to lawyers (see Appendix B, Table 1 for a full list of participants' age, gender, and occupation). Other residents, community organizers, environmental advocates and elected officials would meet me with me at local, eclectic coffee shops or the nearest Starbucks—sometimes even with dogs in tow. When we would begin to talk about existing or proposed wellpads in their communities, they would eagerly grab my pen and the nearest piece of paper or napkin and begin mapping out their neighborhood to demonstrate the proximity and intensity of existing or proposed drilling sites. Though interviewees ranged in terms of age, gender, race, class and profession, many shared similar concerns for broad public health and environmental risks related to UOG production.

In other interviews, generally with high-powered lawyers or government officials, I would find myself waiting in expansive conference rooms and oversized offices with corner views of the Front Range. Here, welcoming administrative assistants would ensure I had everything I needed before I was formally introduced to the interviewee. The offices were often sleek, exuding extravagance, but gave off a much colder vibe than being welcomed into individuals' homes. With full schedules and measured words, these interviews tended to be shorter and more challenging to delve in-depth into the question of procedural justice in the context UOG production.

Participants ranged from ages 20-83, with a median age of 56. Overall, the interviewees skewed older, with nearly 20% identifying as retired and just over 30% of retirement age. Of the 57 individuals I interviewed, 32 identified as female and 25 identified as male. Of the interviewees, all but six identified as white, non-Latinx, and only one individual identified as

non-white. Given the makeup of individuals in decision-making positions and leading community organizations, this is representative of the stakeholders we see active in attempting to influence the regulatory policy process for UOG production.

I adapted an IPBA interview guide to ask participants about issues of equity, fairness, justice and power in decision-making processes for regulating UOG production in Colorado. These included questions such as: How are different groups of people impacted by these issues? What inequalities exist in the process of developing regulations for unconventional oil and gas development? What spaces exist for different stakeholders to participate in the decision-making process? What key stakeholders were included/excluded in this process? Where and how can we enhance spaces for different stakeholders to participate? What sort of power dynamics do you see across these actors and organizations? (see Appendix A).

I conducted 57 interviews in total, which lasted between one and two hours and were conducted in interviewees' homes, offices, or a public location, as described above. All but two interviews were recorded and were accompanied by field notes taken during and after the interviews. The audio interview files were transcribed verbatim. I then coded the transcripts in NVivo (Drisko 2013). I identified key patterns in the data by analyzing interviews and developing initial codes. Themes and analytical codes that emerged through continued analysis of the interviews include procedural injustice as exclusion from participation, procedural injustice as a lack of space for meaningful participation, and unequal industry influence over the decision-making process. Through thematic coding based in an understanding of procedural justice, I was able to draw out both just and unjust aspects of the regulatory process (see Rubin and Rubin 2012).

Document Analysis

Document analysis "is a systemic procedure for reviewing or evaluating documents" and "requires that data can be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge (Bowen 2009:27, see also Corbin and Strauss 2008). Through document analysis, I read and interpreted these policy and regulatory documents—identifying important process contexts and corroborating evidence from the semi-structured interviews (Bowen 2009). With a a critical lens, I was better able to uncover unequal power relationships as agents engage in the policy construction processes, highlighting the "social, economic symbolic, and political domination at work in the policy process" (Dubois 2015:463).

To conduct a multi-sited critical policy ethnography of the multiscalar processes for regulating UOG production in Colorado, I performed critical document analysis of relevant City Council and County Commissioner meeting minutes in the six counties and five cities described above. I also analyzed the COGCC's "A Decade of Change: COGCC Policy, Regulation, Transparency 2007-2017", proposed oil and gas bills at the Colorado General Assembly from 2012-present, and Colorado Supreme Court decisions, such as the City of Fort Collins v. the Colorado Oil and Gas Association, the City of Longmont v. the Colorado Oil and Gas Association, and the Colorado Oil and Gas Conservation Commission v. Martinez.

Finally, I supplemented this analysis by reviewing news articles on local and state level efforts to regulate UOG production. Together, this allowed me to better connect policy texts to various state and local institutional governance and stakeholders' struggles to influence decision-making processes for UOG production across multiple governance scales. In addition, data were further triangulated through semi-structured interviews with a variety of stakeholders, described

above. Combined, I use these methods to corroborate participants' perceptions and experiences of multiple governance processes, and to analyze how the structure of these processes generated procedural injustices.

Participant Observation

Participant observation as a qualitative method can be understood as "the systematic description of events, behaviors, and artifacts" in a particular social setting (Marshall and Rossman 1989:79). The process involves a researcher establishing a rapport in a social setting and learning about the activities and people within that social setting by both observing and participating in the activities in that social setting (Kawulich 2005). In participant observation, a researcher acts as an instrument for data collection (Creswell 2003). This is a particularly good tool for process-focused research (Merriam 1988).

In order to conduct this research, I attended community organization meetings as an active participant observer, such as those held by Weld Air and Water. The organization served as a partner organization on the study this research project developed from—a National Institutes of Health study, under the direction of Principal Investigators John Adgate and co-principal investigator Stephanie Malin. The study is entitled "The QBC Study: Quality of Life and Biomarkers in Communities," which aims to explore the impacts of UOG production on individuals' quality of life and stress levels. For the larger study and this dissertation, Weld Air and Water members served as the primary gatekeepers for identifying other individuals interested in participating. Weld Air and Water is a self-described grassroots group of Weld County residents who are organized around oil and gas development, providing information and advocating for health and safety. Their planning meetings I observed were often limited to approximately 5-10 individuals who made up the core of the group and would squeeze into the

basement of a local Greeley church. Planning meetings were generally used to strategize action, whereas public meetings were generally aimed at inviting a variety of speakers to discuss potential risk of oil and gas development with the goal of informing the public. These informative meetings were often in larger spaces but still regularly held in libraries or other publicly-owned buildings.

At these meetings, I would be involved in the meeting proceedings and engaged when I had contributions I believed to be valuable to the group. In addition, I acted as a more passive participant observer at various city council meetings where oil and gas regulations were considered in order to observe public comments and public-elected official interactions. While I attended these meetings in person when possible, I also observed these meetings via livestream. Finally, I also listened to audio recordings of COGCC public hearings and rulemaking sessions. During these observations, I also recorded notes that I cross-checked with data derived from semi-structured interviews and document analyses for triangulation.

Findings and Analysis

A review of the processes for regulating UOG production along the Colorado Front Range over the last decade revealed significant power imbalances and issues of procedural justice across multiple governance scales. As I establish below, the oil and gas industry has retained significant influence across governance scales, both historically and today, allowing them to enact multiscalar meta-power in regulatory processes. Their long-term economic and political power has allowed them to historically shape—and *continue* to shape—regulatory decision-making processes to their advantage while diminishing the influence of other stakeholders affected by drilling. Below, I discuss multiple dimensions of the industry's meta-power across time and scale, and the implications for procedural justice. I examine procedural injustices in terms of: (1)

existing policies and regulatory structures that have and continue to favor the industry; (2) the industry's exertion of multiscalar meta-power in current regulatory decision-making; and (3) the industry's capacity to shape the composition of members of decision-making bodies, particularly through the appointment and election of industry-friendly decision makers to state and local governing bodies. My findings highlight issues of multiscalar procedural justice that are relevant for the past, present, and future of UOG production regulations in Colorado.

After I present my data establishing the industry's influence on regulatory decisions for UOG production, I highlight how this influence has helped generate multiscalar disempowerment of local governments and members of the public in Northern Colorado, that manifests differently across different groups of non-industry stakeholders. I suggest that the state bodies for regulating UOG production are captured by the industry, which in turn hamstrings local government processes related to UOG permitting and production. Furthermore, I show how industry-friendly elected officials across the city, county, and state level are also often coopted by the industry—hindering Northern Colorado Front Range residents' efforts at meaningful participation across multiscalar decision-making processes.

Meta-power and Regulatory Conditions Shaped by Historical State-Industry Regimes

Meta-power refers to the capacity for institutions, firms, or actors to structure the rules of the game over time and from a distance. Importantly, meta-power is more than fleeting; it allows the empowered entity to structure rules and/or create institutions that shape processes and outcomes for long durations of time and across geographic boundaries. Historical actors in Colorado's oil and gas industry have been able to align with and influence state processes across time, exercising meta-power to create a state-industry regime. The industry's long-term power over

state institutions has facilitated the oil and gas industry's ubiquitous dominance in influencing regulatory decision-making processes and subsequent outcomes.

My interviewees frequently observed the effects of the industry's meta-power. For example, a Lafayette mother active in trying to restrict UOG production in East Boulder County conveyed the disempowerment felt by Colorado residents as they faced development, even as they were aware of the industry's substantial historical influence over oil and gas policy formation. She said: *"Every decision-making process that is in place has been shaped by oil and gas…oil and gas has built a system that works perfectly for their interests and needs and that's how they're participating. So I just think if you've created a system to win, you're going to win. And they win."*

To understand the current regulatory conflicts over UOG production, it is critical to recognize how the oil and gas industry has for decades influenced rule-making and institution-building around oil and gas production. Two legal contexts emerged as especially relevant for demonstrating the industry's multiscalar meta-power in an historical context: (1) state preemption and (2) property and mineral rights law. Together these work as compounding barriers to non-industry actors' capacities for influencing decision-making processes in the multiscalar context of contemporary UOG production.

State Preemption

Rooted in the Supremacy clause of the U.S. constitution, preemption in the context of current UOG production derives from the Colorado Supreme Court's 1992 ruling in favor of the oil and gas industry, which struck down Greeley's oil and gas ban. As such, the industry has benefitted from state preemption (detailed above) for almost three decades. When the 2016 Colorado Supreme Court ruled against attempts at local control over UOG production in Fort Collins and

Longmont, they were closely following the 1992 precedent to reinforce the oil and gas industry's power. This decision also reinforced *state* power over local preference—even in a home rule state—which ultimately strengthened the industry's capacity to challenge local regulations.

After the 2016 Supreme Court ruling was established, challenges to state preemption became even more difficult. One interviewee who works as a lawyer and is regularly contracted by local governments to assist in developing regulations within the bounds of state preemption asserted how important the 2016 Supreme Court decision was in furthering the historical state-industry relationship when he said:

> *When the Fort Collins and Longmont cases came down, it clarified it's not only that you materially impede the state interest. But you can't forbid what the state authorizes or authorize what the state forbids. It gets a whole lot harder to draft regulations…In the previous iteration of operational conflict, I could create sort of onerous regulations and the industry wouldn't want to challenge it because they want to just get the well in and out…so the preemption standard has gotten worse. That tilts the field more in the favor of the oil and gas industry.*

The consequences of state preemption are drastic for local governments, which have been left with few options for addressing residents' concerns about drilling. Despite UOG production's encroachment into high-occupancy areas, as long as operators abide by state law, local ordinances will be preempted. My interviewees frequently observed the procedural injustices and complications that resulted from the earlier Supreme Court decision. A former Lafayette city council member explained the importance of the 1992 decision in continuing to empower the state to facilitate development when he said: *"The Colorado Supreme Court ruling…it's something that you cannot overcome unless you overturn that decision by the court. And all municipalities are under Colorado State Law. So that's really not a thing that we can easily, as a community, overcome."*

In the case of state preemption, the traditional local governance tools and processes for zoning, land use, development, and permitting are inapplicable. One Adams County public official drew attention to how this renders their local permitting process ineffectual and irrelevant: *"I don't think Adams County has ever denied [a permit]...I don't even know why we have to go through the process. I asked our attorney that. Why do we even have this process when even if we turn it down, they can still drill?"*

As a result of state preemption, few tools remain for municipalities or counties to determine how and where drilling happens within their boundaries. Instead, if local governments try to create regulations more stringent than state law, they are at risk of being involved in a long, costly lawsuit with the state. Aside from identifying and verifying an alternative site, the only regularly used tool for local governments to wrestle some control over zoning and operations of UOG production has been the Memorandum of Understanding (MOU). In this context, MOUs are voluntary contracts between local governments and operators that allow for the locality to impose stricter regulatory standards on the operator without violating state preemption.

Yet, local empowerment is not necessarily achieved under MOUs. For MOUs to be effective, local governments must incentivize them for operators. The result is that opportunities for local community input in local decision-making processes for UOG production are diminished. As one environmental lawyer remarked, *"What do they [local governments] have to trade? Sadly, and this I think is not a fair trade…public input. It's awful. You know local governments don't want to do it but they don't have…any other leverage really."* That is, MOUs waive the requirement for the industry to hold public hearings on their development proposals. As such, communities can negotiate more stringent regulation of UOG practices in urbanized areas of the Front Range, but members of the public are then excluded from commenting on

specific drilling proposals. Further, community members generally have no capacity to affect the *terms* of MOUs or the behaviors of operators in their broader communities.

Some residents I interviewed also expressed concerns that community leaders were utilizing one MOU template across local governments, with little variation from one place to the other. From their perspective, this indicated that while members of the public had little influence on the terms of the MOUs, the industry had substantial influence. As one Lafayette resident and community activist I interviewed observed:

> *Everything they're [city council] doing is like lock step with what's happened in Broomfield, what's happened in Erie, what's happened in Adams County…Industry has talked these different communities into regulation, into drilling and into what they have now. And it's like MOUs, like if there's a script everybody's following it, so there clearly is one. So our council members are falling right in step with that…they don't have any power.*

Thus, even though MOUs could offer one limited opportunity for procedural justice for Coloradans living amid drilling, even that tool is subject to industry influence in the shaping of regulatory terms. This practice can extend the industry's influence across the region. In my previous research, for example, the city of Loveland (lacking technical expertise) relied heavily on Anadarko and the COGCC to draft their MOUs (see Ryder 2017). The industry can work at multiple scales and in multiple communities at the same time and, with knowledge of multiple MOU agreements, sett the local regulatory terms. While the industry has power and information across these scales and sites, local governments and residents do not—and suffer a power imbalance as a result.

Local governments are disadvantaged in their capacity to govern, and the space for community members to participate in decision-making processes is diminished in the MOU process. Instead of local governments or the public being empowered through local-level

processes, enforcement of home rule, or the creation of robust and publicly informed MOUs, the state-backed industry, has been able to set all the rules of the game in these local contexts.

In these cases, the industry's meta-power helps generate multiple procedural equities for local governments and residents via state preemption. The MOUs are regularly developed in a way that is tailored to and acceptable by industry operators in the state, leaving local governments bargaining powers in the MOU negotiations greatly reduced. Still, non-industry local government actors remain wholly a part of the MOU decision-making process, albeit they are disadvantaged by the way it is set up. Other non-industry stakeholders such as community organizations aren't just disadvantaged by the way the process is set up, they're ability to act as stakeholders in the process are greatly diminished, and in many cases, completely eliminated. This is to say nothing of the capabilities for economically, racially, or otherwise marginalized residents who are unaffiliated with any organization or institution and their capacity to influence regulatory decisions related to UOG production in their communities. Thus, this exercise of industry metapower manifests in disempowerment which is compounded for some non-industry actors more than others. Ultimately, those who are most likely to face the impacts of drilling in their community face the most compounding barriers to participation, making this a clear case of procedural injustice, in these local governance processes for regulating UOG production.

Property/Mineral Rights

The history of mineral rights in Colorado and more broadly the Western U.S. have also developed to serve both state and industry interests. Elsewhere, I highlight how state interest and industry influence have created path dependent mineral rights laws from the late 1800s through today (Ryder and Hall 2017). Further, I demonstrate their relevance for UOG production, noting

the mining industry's influence over the shape of Colorado's constitution and the subsequent dominance of mineral rights over surface rights in UOG land use conflicts.

In the current UOG regulatory context, existing mineral rights laws compound state preemption, due largely to the 2016 Colorado State Supreme Court decision that privileged the rights of mineral rights-holders over surface dwellers. As such, mineral rights laws act as a second barrier that keep city and county governments from participating in regulation of UOG production in their jurisdictions. That is, local governments that prevent a mineral owner or lessee from accessing their mineral resources (seen as private property) face being sued by that party on the basis of legal 'takings.'

Across interviews, community leaders and residents described how this left their communities disempowered, unable to limit or ban UOG production or slow development, even if members of the public disapproved of drilling. For instance, one city attorney described the legal threat inherent in this context:

> *If I [ban fracking]…I'm going to get handed a summons and complaint for a lawsuit that you've effectively condemned our rights [to] the minerals below the surface of this city. So, how much money am I going to have to pay to the oil industry for those rights in an inverse condemnation action? I think that's really the sticking point, the obstacle.*

A former Lafayette city council member described how untenable it became for communities or even neighborhoods to resist UOG production by blocking development. He explained: *"If I as the owner of the mineral rights am deprived from my ability to do business, I can sue the city for one hundred, two hundred, three hundred million dollars that I think my mineral rights are worth. So, taking that legal position essentially bankrupts the city."*

Much as state preemption threatens a costly lawsuit for local governments whose regulations violate it, mineral rights laws create the conditions for mineral rights owners to sue a

local government that prevents them from accessing their minerals. Combined, the threats of these lawsuits severely limit local governments' avenues for regulating UOG production within their boundaries. The former Lafayette city council member quoted above also highlighted this problem: *"We can't really go against the state because we can't win that battle and we can't really go against property rights because it's a legal battle that we're bound to lose and it can bankrupt the city."* Local governments have limited institutional power to establish rules and regulations that meaningfully and effectively address residents' concerns, enhancing the industry's and state's meta-power, even as it minimizes their own power and ability to establish procedurally just regulatory processes.

The oil and gas industry has been empowered by mineral rights laws that were established and reinforced by a tightly interwoven state-industry relationship, which has privileged the extractive development of natural resources in Colorado (see Daily Camera 2019; Ryder 2017). Despite changing technologies, landscapes, and populations, few changes have been made to mineral rights laws to more appropriately address the conditions of the current UOG production context. Efforts to address these changes, such as the Wildgrass neighborhood's lawsuit against the state challenging the forced pooling[9] of their mineral rights or Senator Foote's efforts to exempt open spaces from forced pooling (Daily Camera 2019), have thus far failed to establish meaningful change. For example, in the latter case, Senator Foote co-sponsored bills in both the 2017 and 2018 legislative sessions to exempt local governments from being subject to forced pooling on properties where the local government owns the mineral rights, including open spaces. In both instances, the bills failed after being assigned to and killed by party line votes in the Senate State, Veterans and Military Affairs Committee. Essentially, a handful of industry-

[9] Forced pooling is a subset of mineral rights law that interviewees also discussed as having implications for procedural justice. A full review of this component of mineral rights law is out of the scope of this paper.

friendly state senators prohibited the state senators from even being able to vote on the bill—an exercise of industry meta-power in state decision-making processes that results in procedural injustice for Colorado residents and which I discuss more in-depth when I turn to the Colorado General Assembly's decision-making processes below.

With the possibility of lawsuits from a variety of powerful parties and a legal context that has historically ruled against local government challenges to state preemption and mineral rights laws, local governments have been disempowered in the current UOG regulatory process. Their seats have been pulled away from the proverbial table; many are unable to govern UOG production in their jurisdiction but must instead watch from the sidelines. At best, local jurisdictions can enter into MOUs with individual operators, but even these agreements often advance industry preferences and limit input from non-industry stakeholders.

This legal and regulatory context is not new, though the pace and scale of UOG production truly is. Historically, state preemption and mineral rights laws were created by previous state governments to advantage the extraction industries (Ryder and Hall 2017)—and these laws now continue to advantage current UOG production industry operators. Furthermore, current multiscalar challenges to these laws—via local level bans and moratoria and state level ballot initiatives on setback distances—have exacerbated the unevenness of the regulatory playing field between the state, industry actors, and all other stakeholders. This has allowed the state of Colorado to retain sole control over regulating the practice, a governance site where industry operators can wield their multiscalar and multi-jurisdictional meta-power influence to prevent changes that threaten their power over decision-making processes. Consequently, spaces for affecting regulatory change have diminished and challenges to the UOG production regulatory status quo have been quashed, making it clear that non-industry Northern Front Range

residents who are privileged enough to access the decision-making process (despite the disadvantages they face within them) do not have the right to say "no" to UOG production, regardless of how the practice may impact them and their community.

Meta-power and Regulatory Conditions Shaped by Current State-Industry Regimes

Historical state and industry actors who developed rules and structures that at the time favored the oil and gas industry were also creating the conditions for the current regulations that have created multiscalar governance conflicts. Yet, we must also understand how the industry's contemporary meta-power is state-enabled and disadvantages other stakeholders in the current processes for regulating the industry. In many ways, my data show an important continuation of past state-industry regimes and their power, where the oil and gas industry continues to hold a privileged position in Colorado governance processes. As one city attorney I interviewed remarked, *"For so many years…[the oil and gas industry] pretty much had free reign in the state. They've had a very friendly oil and gas commission. They've had a very friendly legislature."*

This sentiment was shared by many other interviewees in this study, who identified how current processes in the COGCC and the Colorado General Assembly continue to serve the interests of the oil and gas industry at the expense of Colorado residents who stand to be impacted by drilling in their communities. Below, I discuss how the COGCC and the Colorado General Assembly decision-making processes demonstrate the regulatory capture of both of these institutions. This has important implications for meta-power and procedural inequity in this context. Indeed, my findings show how the industry influences these processes while simultaneously creating barriers for other stakeholders who want to participate in zoning or regulating UOG production.

Meta-power, Regulatory Capture, and Procedural Injustice in COGCC Decision-making Processes

The COGCC's processes are the heart of the battleground for influencing regulatory policies and processes for UOG production. As described above, for 34 years, the COGCC's mission focused squarely on promoting oil and gas development. Today, the COGCC is tasked with balancing its focus on development with protecting public health, safety, and the environment. Yet the orientation to servicing the industry remains firmly embedded in the COGCC's institutional culture and behavior.

Inequitable Application of Institutional Mission.

Many interviewees suggested that it is a conflict for the COGCC to be responsible for *promoting* UOG production while also *permitting and regulating* it, and that the regulatory agency ultimately has failed to balance these tasks. Interviewees frequently contrasted the organization's mission with how other state regulatory bodies operate. For instance, one state legislator noted, *"Any of the other state departments that regulate certain industries don't actually advocate on behalf of that industry too. So, I do think we do need to separate those missions."* Many interviewees noted that the COGCC's efforts at fostering industry development precluded the COGCC from fulfilling the second, protective part of their mission. For instance, an interviewee from a state-level conservation group said,

> *I do still think that the COGCC should be protecting the health and safety and the environment of people over fostering the development. There are other state agencies that foster economic development, like the Office of Economic Development. They can do that job. It's like the COGCC is the only agency within our state government that actually has this type of dual mission. That's not a normal thing…So I think that that's still a really big deal.*

In much the same way state preemption helps exempt the oil and gas industry from local zoning regulations, the COGCC's charge to regulate and promote development demonstrates another

way that there is one set of regulatory rules for the oil and gas industry and another set for all other industries, as in all other cases regulatory and promotional activities are done by separate organizational bodies.

Unsurprisingly, interviewees often saw the COGCC as more closely aligned with the industry and with fostering industry development, lending significant institutional power to the oil and gas industry in regulatory decision-making processes, particularly at the state level. Many of my interviewees sensed a deep conflict of interest, where the COGCC was both protecting and was beholden to the oil and gas industry and not the public. For instance, one oil and gas lawyer I interviewed noted that *"The oil and gas commission has to foster the development of the oil and gas resource…And that makes people believe the oil and gas commission is more interested in developing oil and gas than protecting health, safety, and welfare."* Another interviewee echoed this and noted its inequitable impacts on people's daily lives when she observed: *"The regulating entity [COGCC] is not really working for the health of the people but really more for the industry. So, there's an imbalance in terms of…quality of life of those who live in this state and the ability of some businesses to do business."* Members of the public perceive the COGCC's privileging of the oil and gas industry in regulatory decisions as directly related to the disempowerment of their communities and loss of quality of life—significant signs of procedural inequity and the industry meta-power that drives it.

While over time the COGCC's mandate has expanded to include considerations of environmental and public health, there is little evidence that its regulations and processes for developing regulations have shifted to accommodate this expansion in any meaningful way. These concerns about the COGCC's mission highlight issues of procedural justice, particularly when only one part of their mission and one group of stakeholders drives the operations and

processes so thoroughly. If the COGCC is solely focused on fostering oil and gas development, this suggests their processes would be designed to resist regulating the industry in a way that might hinder that development. Yet they are solely responsible for enacting industry regulation as well. As such their mandates conflict—to privilege one has implications for the other, and vice versa. The loss of public access to decision-making spaces as a result of the COGCC's focus on their mandate to foster development have not been lost on people I interviewed. Said one, *"The rulings of that body [the COGCC] in their totality really has favored the industry over communities."* The COGCC's initial role as a governing body that accommodates oil and gas development means that the state body has, through industry influence, shaped the context for regulatory decision-making in a way that maintains and perpetuates the interests of industry operators over non-industry stakeholders in UOG production contexts.

The contention over the COGCC's dual mandate was the basis of the Martinez v. COGCC lawsuit, wherein the organization was sued due to a perceived failure to uphold its public health and environmental mandate. However, in 2019 the Colorado Supreme Court ruled in favor of the COGCC, demonstrating how outside challenges to industry-favorable state regulations continue to be thwarted by the state through the Supreme Court.

Inequitable Decision-making Power at the COGCC.

Coupled with the mission's directive is the issue of who holds decision-making power at the COGCC. The dominance of the oil and gas industry in these commissioner seats has consistently acted as a barrier when non-industry actors try to influence the decision-making process of the COGCC. For instance, a former Lafayette councilman I interviewed noted how the COGCC's links to the industry diminished the space for public participation and influence over the COGCC's decisions:

> *There hasn't been a way to either challenge those decisions, overturn those decisions, make that body [COGCC] more accountable for citizens, creating a more balanced perspective within the board. The board is very industry friendly, as opposed to having more balance, so communities feel, including [me], incredibly frustrated and hopeless…There's absolutely little we can do to challenge that no matter how much testimony and research you have to prove your point…It is a very frustrating position to be in.*

As the interviewee above notes, the opportunities within COGCC decision-making processes do not facilitate procedural equity. Members of the public have few avenues through the COGCC to voice their concerns in a way that influences decision-making within the body, which enhances the industry's meta-power while creating procedural inequity for members of the public and local governments.

This concern was echoed by other interviewees, who highlighted the difficulty the public has in influencing decisions within the COGCC's rulemaking hearings. One former mayor asserted:

> *I've seen how the Oil and Gas Commission treats public input and testimony…And it is…intentionally designed to discourage citizen input.* ***And it makes citizens feel like they have no voice in the process.*** *And their [community members'] concerns are routinely ignored by the COGCC. So, in terms of having community members sort of feel like they have a meaningful voice in the process, then certainly the current COGCC process does not do that.*

Another lawyer I interviewed observed how the limitations in lodging public comments online—even when using the COGCC's own website and tools—made it difficult to comment and essentially impossible to submit a detailed (longer) comment, complaint, or request. Ultimately, opportunity for procedural equity; that is, the power to impact and participate in decision-making, is lost in this process, as he reported:

> *There is nothing that you can do to put in an attachment…if it's more than two written pages, it cuts you off… It should be accessible to people. People should have the ability to submit comments and have those comments actually considered...There is no way for citizens to impact the decisions.*

These limitations on written submissions reduce the capacity for meaningful, constructive, or innovative input, as it is difficult to develop a substantive argument and provide citations and evidence to support those arguments when space is limited to approximately two pages of material with no ability to include attachments.

In addition to issues with influencing COGCC rulemaking processes, interviewees were also critical of the organization's process for well permitting and the degree to which it serves industry interests. First, they note that the industry has never formally denied a well permit. For instance, one lawyer I interviewed noted: *"The Colorado Oil and Gas Commission is favorable to the oil and gas industry. They are better today than they have been…but they've never denied a well permit. They've never [at the time] moved a well permit from one location to another…the current operational structure is in favor of operators."* Other interviewees echoed these observations, repeating the oft-mentioned claim that the approval of drilling permits was a 'rubber stamp' process. Here, we see issues of procedural justice manifesting because the space for public input in COGCC processes is quite exclusionary. The lawyer mentioned above highlighted how he was able to get around the limitations for submitting input to the COGCC, but he noted that this process was not one that was accessible to the general public. Beyond an inadequate online avenue for submitting substantive comments to the COGCC, the lack of permit denial sends a clear message that even if appropriate means for submitting comments to the COGCC existed, it is unclear if these comments would ultimately alter any permitting outcomes anyway.

Part of the public's expressed frustration with the COGCC's procedures and state legal requirements relates to the permitting process being an administrative one. That is, permit application decisions do not generally necessitate a public hearing and are often completed by

COGCC staff with little transparency into the process. However, there is one exception to this—if a stakeholder has the appropriate legal standing, they can call for a public hearing on the drilling permit. Yet, what constitutes legal standing is determined by the COGCC, who has currently defined it in such a way that it standing is narrowly limited to the surface owner where the well is being drilled, the local government whose jurisdiction the well falls under, and (in some circumstances) the operator. Adjacent surface owners, local governments with adjacent jurisdiction, and residents close enough to be impacted have no capacity to ask for a public hearing on proposed drilling permits that might impact them.

Thus, procedural inequities often result for residents and local governments who could be impacted by a proposed drilling site, even when that development is proposed across jurisdictional lines. One county commissioner I interviewed highlighted the procedural inequity and disempowerment she and her constituents experienced in navigating this process. She said:

> *Extraction [an industry operator] moved their wells from a site and put it a thousand feet away from our [Adams County] housing development without notifying us or without notifying the citizens. When the COGCC came into Broomfield…they wouldn't allow our citizens to testify, even though they were being impacted by those gas wells... I called [COGCC staff] up after that and complained. And [they] said 'Too bad,' and [they] only stayed maybe three minutes on the phone with me.*

The limitations on legal standing for requesting a public hearing are set by the COGCC itself. As such, they have the ultimate authority to determine who is able to challenge their permitting decisions and have chosen to strictly limit access to these processes. Their authority was reinforced by a 2012 Colorado Supreme Court decision in Grand Valley Citizen's Alliance v. COGCC. After Grand Valley residents within 1-2 miles of a proposed well site were denied a public hearing, they sued the COGCC. Ultimately, the Colorado Supreme Court ruled in favor of the state. People I interviewed acknowledged the absolute power the COGCC holds here. For

instance, one former state employee bluntly paraphrased the Supreme Court's ruling, *"The commission acted within its authority. The statute gives them the right to make the rules. They made the rules. You're not part of the rules. You [local residents] don't get a hearing."*

A lack of transparency and opportunity for challenging drilling permits leaves a variety of stakeholders excluded from this process—and has likely helped shape a context wherein the COGCC has yet to formally deny a permit to an operator. Further, the COGCC's willingness to engage in lawsuits to maintain their current rules and regulations regarding legal standing for public hearing processes suggests that the COGCC has little room in their institutional culture to expand the spaces for more stakeholders to have meaningful opportunities to weigh in on proposals. That is, they have a vested interest in maintaining current operational practices that mutually benefit the industry and the state. As I have established here, and in the context of preemption and mineral rights lawsuits, Colorado Supreme Courts have exercised meta-power in their decisions to reify state and industry power in the established processes.

Perhaps the most problematic affront of this concentration of power to procedural equity is the degree to which the COGCC regulates UOG production unilaterally, while also acting as the primary institution *structuring the rules* for the regulatory processes. Given this, who sits on the commission influences many factors, including: (1) regulations for UOG production, (2) the rules which guide the body's decision-making processes for developing regulations, and consequentially, (3) the opportunities for outside stakeholders to influence these processes and regulations. As one current county commissioner observes: *"There's a lot of oil and gas industry influence on that body both in the members and then how it's run…The industry kind of runs the commission."*

Given these imbalances and the industry's ability to directly control COGCC processes, the primary body for regulating UOG production is being held in regulatory capture. Broadly, regulatory capture, occurs when "special interest affect state intervention in any of its forms" (Dal Bó 2006:203). Here, the form of state intervention consists of processes for regulating UOG production. Currently, the oil and gas industry's influence over COGCC decision-making processes is tied to the organization's 1951 mandate to foster oil and gas development. Furthermore, the historically industry-heavy composition of the Commission has meant that the primary decision makers throughout the COGCC's history have had strong interests in protecting the industry. As a result, the COGCC processes are not designed to accommodate non-industry stakeholders in the decision-making process, nor have efforts to re-structure these processes to incorporate these voices been effective.

The extent of regulatory capture, and its implications for industry meta-power, was apparent to interviewees. For example, an environmental lawyer I interviewed observed:

> *The [COGCC] is a captured agency. They [industry] not only take up all of the director's time while he or she is in their office, they also end up taking them off to camping and do trips together, and you hear…I go into these stakeholder meetings. There's four former directors sometime in a room. Really? So, you know, that agency is broken.*

Given the degree to which the COGCC is made up of individuals who have previously been in the industry (and often return to the industry), it is difficult to draw a line between where the industry ends and the COGCC begins. Ultimately, the implications of this are that the industry is able to work with the state to fend off challenges to the state's position as the appropriate governance scale for UOG production. Further, the COGCC processes where the conditions of decision-making favor industry operators, do not accommodate non-industry stakeholders—further removing those who are multiply burdened by barriers to participating in the regulatory

process and ultimately creating a primary regulatory arena for UOG production that exacerbates existing procedural injustices that the body itself has helped create and maintain.

Meta-power, Regulatory Capture, and Procedural Injustice in Colorado General Assembly Decision-making Processes

Unlike their direct influence over COGCC regulatory processes,where industry operators control decision-making power by holding the most seats at the table, industry operators do not generally occupy seats in the Colorado General Assembly. Instead, the industry draws on their lobbyists to maintain their disproportionate power in the processes for regulating UOG production within the state legislature. Their capacity to do so stems from the sheer volume of lobbyists that the industry is able to keep on retainer. For instance, a county commissioner I interviewed observed how saturated Denver is with oil and gas lobbyists when she said:

> *If you go down to the legislature there is a gaggle of lobbyists paid by the oil and gas industry to push back against every legislative proposal. So that's how they play in this realm as they push back…They have a robust role in the policy making process and a lot more power and money to put in it. And to date they have been very successful at thwarting regulation.*

In fact, the number of active lobbyists at times outweighs the number of regulatory inspectors in Colorado, a testament to the oil and gas industry's multiscalar meta-power. As the industry fought legislation aimed at increasing the number of state oil and gas inspectors, one legislator pointed out the sheer volume of lobbyists at work when he observed:

> *I'm pretty sure we have more oil and gas lobbyists in the lobby right now than we have oil and gas inspectors in the state of Colorado... Lobbyists are not allowed on the House floor, and the same thing with the Senate. And so they just stand there and wait for us to come out...So that's the level of influence that they can buy. It's not just political ads. It's influence changers who are hired by the industry to be a constant presence there.*

The overwhelming presence of oil and gas lobbyists enhances the degree to which industry operators can monopolize legislators' time. The consequences are a strengthening of their ability to maintain procedural rules that work to advantage them, but it also affects procedural equity in these legislative spaces as the industry is able to usurp the space that could otherwise be available for other stakeholders to access legislators and influence regulatory policies. The industry's ability to be constantly present in legislative sessions was not possible for other non-industry stakeholders. Beyond barriers for individuals to testify in legislative sessions, even conservation and other non-industry organizations capable of hiring a lobbyist face drastic comparative differences in their power to influence policies and processes. As one Longmont resident-activist recalls:

> *I went down to testify one day…One of the senators came out and says to one of the lobbyists, 'Now what is it I'm supposed to say on this? And they go 'Da, da, da, da, da.' He [the senator] went in and said that exactly. That's the influence that they have…At the Sierra Club, we share a lobbyist with like five other organizations...There were like fifteen new gas lobbyists who are standing around and talking about this bill. That's such asymmetrical power base for people versus the power.*

As the interviewee above demonstrates, the industry's influence at the state legislature is overt. The presence of the industry's countless lobbyists in these spaces gives them the power to sway individual legislators in their voting patterns, which, one former state legislator confirms: *"Oil and gas has been very good at creating allies…I was one of them…They did it on purpose. They knew what they were doing. They courted us and made us feel good and we thought we were doing the right thing."* This adds a significant layer to the exertion of industry meta-power at the state-level.

Furthermore, because of their capacity to influence so many state legislators, they are often able to prevent bills from being voted on in the first place. This is evidenced by the small

number of oil and gas bills that have passed in the last few years. One state legislator describes this process:

> *[Currently] the oil and gas industry controls the Senate. And so, they've been fighting for status quo and pretty much got status quo. So the way that it practically looks like is: A bill comes over from the house, let's say it's my [bill name removed] bill and an oil and gas lobbyist goes over to the Senate President or the Senate Majority Leader or their staff and says 'We'd like to see this bill die, please assign it to State Affairs.' And that's exactly what they do.*

The heavy industry and lobbying presence at the state legislature highlights one industry strategy for influencing regulations over UOG production—preventing regulatory change by dominating the very spaces in which the public and other stakeholders can participate is an effective way to maintain the status quo. Just as with the COGCC, the industry's influence in state legislative processes prevents change—a practice of extending multiscalar meta-power horizontally.

The industry's overwhelming influence impacts the spaces where procedural justice could potentially occur. Often, industry's strong presence means they reduce the opportunities for meaningful participation for members of the public and other stakeholders. This emerges in a variety of ways. First, at state hearings, residents are vastly outnumbered relative to industry representatives. As one Lafayette resident-activist explained, it can be intimidating to attend these hearings and testify:

> *There's like fifty paid oil lobbyists all the time and going down to testify is scary and it's hard. [name removed] and I go with our three-year-olds and [her] one-year-old, and we go down about once a month and we testify. It's not easy, it's not fun, it's not how we want to be spending time with our kids. But there's not a lot of people [testifying]…and that's a problem.*

Furthermore, residents discuss being met with hostile environments when engaging with industry-influenced policymakers in these spaces. They found these encounters intimidating exhausting, and skewed toward oil and gas interest. Said one woman who acts as a community organization leader:

> *Our senator, she's very oil and gas…she's actually attacked some of our residents who've gone down there [to the state legislature]…It's been horrible. So it takes a lot of guts to go down there and speak…It's like the whole thing is set up against you. It's all in favor of oil and gas. It feels like that in Denver…It's hard to feel powerless.*

Not only does the industry's monopoly on power in these processes usurp power from other actors and enhance their meta-power, it creates an intimidating environment for other people and stakeholders, which is exacerbated by industry-influenced politicians.

Across the state legislature and the COGCC, decision-making processes are set up by the industry either directly or by state proxy actors. This capacity for the industry to shape decision-making processes for UOG production, to exercise meta-power, and create the conditions and rules of these processes results in a system designed by the industry, for the industry. The exertion of this power not only increases industry standing, it diminishes spaces available for procedural equity, that is, for all stakeholders to participate in and influence these processes. Consequently, interviewees expressed feelings of hopelessness and disempowerment, and have found few effective ways to challenge the state-industry relationships in the COGCC and the Colorado General Assembly. In fact, many grassroots and legal efforts have actually strengthened those ties, as the Colorado Supreme Court has regularly ruled in favor of the state and the industry in contemporary legal challenges brought forward.

This industry dominance stems in part from being able to benefit from the conditions put in place to favor their desires in the past, such as in the context of mineral rights laws, or having sufficient resources and expertise to know when not to pursue legal challenges that might set precedent that works against them. It also exists as the industry is able to continue to use resources and expertise to create the conditions of current regulatory decisions, like successfully suing Longmont and Fort Collins or successfully preventing ballot initiatives they see as

unfavorable from passing. In addition, the industry is also able to influence which stakeholders come into positions of decision-making power, which enhances their regulatory influence in current decision-making processes while also ensuring their ability to maintain this power in future regulatory contexts. This embedded state-industry relationship rooted across time and space makes challenges to the industry's meta-power difficult and has normalized procedural injustices in decision-making processes that continue to differentially disadvantage non-industrial stakeholders across multiscalar governance conflicts. Without challenging the abilities of the industry to directly and indirectly use meta-power to set the conditions for these regulatory decision-making contexts, lasting procedural justice in this context is likely not achievable.

Industry Meta-power and Capacity to Shape the Composition of Rulemaking Bodies

In addition to their ability to both structure rulemaking processes and favorably influence decision-making processes both historically and currently, the industry also holds exerts meta-power across jurisdictional and scalar governance processes by shaping the composition of rulemaking bodies. That is, industry operators are able to effectively influence who becomes the decisionmakers that are elected and appointed to regulatory bodies such as the state legislature, the COGCC, county commissions, and city councils. This ensures regulatory outcomes that favor industry interests in current and future decision-making processes—essentially ensuring the maintenance of the status quo.

Interviewees regularly observed the power that the oil and gas industry has to influence election outcomes in Colorado via money in politics. Said one:

> *We're seeing tens of millions of dollars coming from one side [industry]. And it certainly guides the conversation. I mean there's no doubt about it…You've got somebody with deep pockets that can you know, sort of do whatever they want.*

In particular, interviewees discussed how the industry uses elections to influence who holds decision-making seats at the Colorado General Assembly and also, inadvertently, at the COGCC. Explained one interviewee, a resident-activist from Longmont: *"The oil and gas industry has so much money and power. And they give so much money to the people that they want elected…And so, then you end up with people in power like Hickenlooper that is beholden to the oil and gas industry…The same way with people in the legislature."* Interviewees suggested that the industry has in the past been able to ensure that the governor appoints COGCC members that will be friendly to the industry. In particular, there has been a frustration with former Governor Hickenlooper's role in ensuring an industry friendly COGCC, as his Governorship tenure (2011-2019) spanned the course of many of these conflicts.

The same concern about the role of industry money and influence over COGCC appointments is also present in state legislative elections. When a candidate's campaign support comes substantially from the oil and gas industry, this affects regulatory outcomes and enhances industry meta-power. As one interviewee observed:

> *The folks that are well funded and protected by the oil and gas industry end up with a very ride or die mentality…When you know that your biggest funder and your biggest protector and the thing that's keeping you in office is an industry where even if you pass a very mild regulation, they are going to remove that [support] from you—you're bought and paid for. And I think that's really unfortunate how common that is.*

Given this, it appears that there is no state-level regulatory body that is not coopted or captured by the oil and gas industry. Previously, this state-level capture was sufficient for maintaining the status quo. However, since local governments have engaged in efforts at implementing local regulations for UOG production, industry influence in campaigns, elections, and ballot measure have begun to permeate local government politics to a larger extent. The industry continues to break records in terms of amount of dollars invested in local races and ballot measures (Fish

2019). This now happens so frequently that my interviews revealed that some local governments are considering reform to local reporting laws. One city attorney noted:

> *There was a lot of money poured into our [2014] city council election, like the week or two before the election, from a political committee that was funded by the oil and gas industry…That created a lot of consternation here. It was a very interesting money dump. It may cause us to rethink some of our campaign contribution reporting laws.*

Given the degree to which interviewees expressed concern over the oil and gas industry's financial investment in campaigns and against resident-proposed ballot measures for regulating UOG production, if the recent influx of industry money into local campaigns leads to campaign finance reform, this could create governance conditions, at least at the local governance level, where procedural justice in these processes might actually be enhanced.

At the local level, industry investments have focused on electing officials who are either favorable to the industry or not interested in challenging the state's and industry's dual dominance in UOG regulatory decisions. For instance, in one county, a government staffer noted:

> *The [county] commissioners are very involved in wanting to make certain that the oil industry flourishes…they see that there are a lot of jobs, a lot of good things that happen along with oil and gas development. So they're always looking to encourage rather than discourage oil and gas development.*

As a result, residents reported frustration with their local government officials, suggesting that their efforts to voice their concerns or influence local strategies for regulating UOG production are ignored, and at times even met with hostility. For instance, one resident-activist who attended local meetings about UOG production observed that *"The problem with the [county] commissioners is that they limit what you can say in their meetings. They don't listen, they interrupt you. They'll yell at you."* In a different community, one resident-activist who attended meetings to fight a large set of wellpads slated for her neighborhood: *"I got just exhausted*

because I felt attacked by a couple of the city council members and I just couldn't take it anymore. I've worked so hard to be logical and reasonable in everything I've tried to do and it's very hard to then be attacked and words put in my mouth that were never said." As these interviewees express, residents with concerns about drilling have continually felt unheard in their local governance processes. Not only is their input not being meaningfully considered, at times individuals express feeling attacked. Being received in such a way acts to discourage participants not only in their immediate effort to be a part of the process, but it also could act as a deterrent which keeps them and other residents from attempting to participate in future processes. These actions send the message that residents and their input are not only not going to be considered, they are not welcome in these spaces. In the context of meta-power and procedural justice, industry-influenced governance actors are extending the industry's meta-power over these spaces by ensuring that procedural injustices which differentially disadvantage non-industry stakeholders are reinforced in regulatory contexts for UOG production across, space, time, and governance scales.

While the industry's influence can be examined at one scale or within one rulemaking body's processes, many of my interviewees perceived this influence as multiscalar in nature. Said one city attorney:

> *Traditionally, it's been whoever has had the resources to effectively lobby and get in front of the people making the decisions. If you're ConocoPhillips or Anadarko or any of these wonderful oil companies you're going to spend lots and lots of money on your lobbying efforts. And, you're going to be able to buy face time, essentially, with the people who are making the decisions whether at the general assembly, city council, wherever. You're going to make sure that the governor appoints the right people to be on the state oil and gas commission. Right?*

Through elections and (indirectly) through political appointments, the oil and gas industry is able to insert strategic individuals into positions of regulatory decision-making power across state,

county and city governments in Northern Colorado. When successful, opportunities for procedural justice are further diminished. Not only are industry-backed decisionmakers not motivated to push for regulatory change, they do not appear motivated to expand the spaces for members of the public to participate in making decisions and influence policy. This effort ensures that the industry has inserted key governance actors that will essentially do their meta-power bidding. That is, governance actors who are instated by the industry can just as easily be challenged by the industry if they do not perform in decision-making processes to the liking of the oil and gas operators and their lobbyists.

By tying up candidates success and power to the industry's success and power, the industry ensures that their allies in government will act in ways that mutually benefit both parties—enhancing the meta-power possessed by both the industry and the governance actors who is also influential in shaping the regulatory conditions for a host of other issues wherein powerful industry actors control the conditions and narratives of other decision-making spaces. As such, the issue of industry-meta-power transcends just the oil and gas contexts, though it is perhaps the context where industry influence and meta-power is most markedly visible. To challenge this continued deployment of industry meta-power, interviewees suggested that perhaps removing money from politics would create multiscalar governing contexts where elected officials and governance actors would be more inclined to be beholden to their constituents.

Why Industry's Multiscalar Meta-power Matters for Procedural Equity: A Discussion on Multiscalar Public Disempowerment

Interviewees recognized how the oil and gas industry exerted meta-power across multiple governance scale processes, as substantiated above. Further, they recognized the degree to which

the exercise of that power had direct implications for their ability to influence regulations for UOG production, with one state legislator suggesting anyone opposing the industry has to operate "like an insurgency." As such, procedural justice issues too manifested across multiple governance scales for establishing regulations for UOG production. Community organizations (and occasionally environmental and conservation organizations) reported experiencing disengagement from lawmakers, disempowerment, and a lack of procedural justice as they lobbied for regulations across these multiscalar and mutibranch processes.

One community organization leader from Boulder County captures how this has become institutionalized over time. He says:

> *I mean, what didn't we do though? I mean we went to our local government, and we went to our county government and we went to the state government. We wrote the letters to the editor. We placed stuff onto the ballot and had direct votes on it. Door knocking, grassroots organizing, public forums, educational events. We ran and continue to run the absolute gamut of what is offered as a way to influence governmental politics…At that point you've arrived like every other movement, like it's not you, it's the system. The system is engineered to do this.*

Ultimately, the industry's capacity to influence the processes and outcomes of nearly every regulatory effort meant that, at every turn, community members' efforts to gain some power and influence—or just a few important seats at the table—were consistently thwarted. Frustration with fighting UOG production was expressed across my interviews with Northern Colorado residents. Many worked across governance scales and were consistently defeated. As one Longmont resident-activist explained: *"We waited for it [the lawsuit] to go to the Supreme Court and then lost. We worked on the Blue-Ribbon panel. We testified with the EPA, we testified at COGCC; I don't know how many times…We filed as interveners in different lawsuits and nothing worked. Nothing has worked."* These spaces for public engagement have been diminished by the industry's multiscalar meta-power, that is, their capacity to set the rules and

structures of regulatory processes at different vertical and horizontal governance levels. For interviewees, this meant a recognition that, as one Lafayette resident-activist put it, "*the whole system is broken*," and as such, "*there's really no authentic ways of getting involved."*

Despite deep, long-term power imbalances, Colorado residents have pursued countless avenues for fighting the oil and gas industry in an effort to regain some degree of control over how industry operations near their communities and homes are regulated. Yet, these efforts have been successfully evaded by the industry's influence over the both state and local regulatory processes. Without structural change and systemic challenges to industry meta-power, the status quo will likely stay intact. Essentially, power and justice in these regulatory contexts are relational. That is, the more the industry is able to exert meta-power and control the conditions of regulatory decision-making processes in a way that both process and outcome work in their favor, the more difficult it becomes to achieve an even, procedurally just playing field.

What this research demonstrates is that this most recent UOG production boom has strengthened the relationship between the oil and gas industry and the state, enhancing the industry's metapower and decreasing spaces for non-industry stakeholders to participate in decision-making processes in a meaningful, procedurally just way. This is the case at the state level, but also increasingly at the county and city governance levels as well—demonstrating the importance of accounting for multiscalar governance decisions and highlighting how powerful entities like the oil and gas industry can advocate for decisions about resource conflicts to be made at the governance scale or scales which are most advantageous to them. Further, even when decisions move outside of a powerful industry's preferred governance scale, they are able to use their resources and expertise to adapt and coopt governance actors and processes across multiple governance scales.

Conclusion

The purpose of this paper is to explore the opportunities for inclusive and meaningful participation in multiscalar decision-making processes for UOG production in Colorado. The driving research questions are:

1. What opportunities do members of the public have for inclusive and meaningful participation in multiscalar conflicts, particularly decision-making processes for UOG production in Colorado?
2. Across organizations and scales, what power imbalances and barriers to participation exist and why?

In addressing these questions, I find that industry actors have significant meta-power and can thereby influence multiscalar decision-making processes for regulating UOG production. Further, industry power acts as a barrier to participation for other stakeholders as it reduces access to decision-making processes and decisionmakers, stymying opportunities for meaningful and influential participation for other actors in these processes.

As such, in interrogating power dynamics at multiple governance scales, I found procedural injustices emerged in three ways in these contexts: (1) Existing policies and regulatory structures that have historically and currently favored the industry; (2) The industry's exertion of multiscalar meta-power in current regulatory decision-making; and (3) The industry's capacity to meaningfully influence processes through the appointment and election of industry-friendly decision makers in both state and local processes. I've shown how the industry has developed significant power and influence across scales, both historically and currently, allowing the oil and gas industry to enact multiscalar meta-power across time, space and scale. Their long-term economic power has allowed them to historically shape—and *continue* to shape—regulatory decision-making processes in a way that advantages the industry's influence while diminishing the influence of other stakeholders affected by drilling.

Through its wielding of multiscalar meta-power, the industry was able to maintain differential access to knowledge, policy processes, and policymakers, while also successfully reinforcing laws that serve their interests and creating exceptions for ones that don't, particularly at the state level. My data suggests that the state bodies for regulating UOG production are captured by the industry, which in turn hamstrings local government processes related to permitting and regulation. Furthermore, my data shows how industry-friendly elected officials across the city, county, and state levels are often coopted by the industry—hindering Northern Colorado Front Range residents' efforts at meaningful participation across multiscalar decision-making processes. The industry's capacity to influence the process and outcomes of nearly every regulatory effort meant that at every turn, community members' efforts to gain some power and influence—or just a few important seats at the table—were consistently thwarted. Ultimately, this helped generate multiscalar disempowerment of local governments and members of the public in Northern Colorado, resulting in patterns of procedural inequity.

These findings support previous research on the state-level governance of UOG production, particularly that it serves industry interests and influences the industry to lobby for continued state-level regulation (Davis and Hoffer 2012, Warner and Shapiro 2013). My findings also align with broader research that examines state-industry relationships. Hayes (2001), for example suggests that industries hold privileged spaces in state processes and as such can block efforts at challenging the regulatory status quo. Cobb and Ross (1997) note that in these instances, if change does occur, it is likely to be minor, economical, and designed to appease those who are advocating for change, what they refer to as 'symbolic placating strategies.' In interrogating power in these processes through the analytical framework of meta-power, my research traces specific strategies that industries use to: (1) maintain their preferred governance

scale, (2) to set the conditions of decision-making processes in such a way that they are able to ward off any challenges to the regulatory status quo, and (3) when necessary, buckle to pressure on symbolic changes to regulations which have little practical implications for their practice (such as the few recommendations approved by the 2014 Task Force, discussed in Dissertation Article 3).

When examining issues of procedural (in)justice, the structure of decision-making processes, how they are designed, who designs them, and who these processes benefit are all critical points of analysis. As Ingram et al. (2007) note, policy designs tend to primarily benefit the same, already powerful groups of people while generally punishing others. Further, policy designs "affect participation through rules of participation, messages conveyed to individuals, resources such as money and time, and actual experiences with policy...Messages convey who belongs, whose interests are important, what kind of 'game' politics is, and whether one has a place at the table." (Ingram et al. 2007:100).

The procedural injustices identified in regulatory processes for UOG production mirror these issues in policy design and indicate that these regulatory policies and related processes are designed to serve the 'usual suspects'—that is, historically powerful oil and gas industry actors, at the expense of Colorado residents. This aligns with previous research on the concerns of Colorado residents impacted by UOG production who have felt ignored or neglected by the COGCC's enforcement practices (Opsal and Shelley 2014) or who experienced procedural inequity in other processes, such as lease-signing (Malin et al. 2019). It is critical to recognize the enabling role that the state of Colorado plays in creating inequities in policy processes and design. Pellow (2017) suggests that EJ literature must continue to frame the role of the state in perpetuating environmental injustices as "state-sanctioned violence." As government entities

create and maintain these processes, it is essential to hold them accountable for their role in both exercising meta-power and enabling the industry's exercising of meta-power, as both institutional actors create and maintain existing power imbalances in terms of whose voices are heard and influential in these processes.

Historically and currently, the industry's influence has saturated state decision-making processes. Without meaningful structural changes, the industry will exercise meta-power to continue to maintain control over future regulatory processes, effectively deepening existing procedural injustices experienced by local governments and concerned communities. Again, the industry's ability to continue to control the conditions of regulatory contexts mean that there is unlikely to be successful challenges to the structure of decision-making processes which would open them up to more meaningfully, procedurally just participation from non-industry stakeholders. Even currently, there is concern about the loopholes the industry has created in the newest regulatory overhaul effort for UOG production passed by the Colorado General Assembly, allowing them to challenge new regulations on the basis of whether or not the new regulations are "necessary and reasonable." As such, there remain concerns about procedural justice and the industry's ability to challenge new regulations designed to provide the space for northern Colorado Front Range local governments residents to have more of a say in how UOG production is regulated in their communities.

While there have been few opportunities for equitable and just participation, there have been some efforts that have successfully challenged the industry's power in small ways. At the local government level, some cities and counties have implemented their own Task Forces, and oil and gas advisory or citizen review boards. In addition, several candidates have run successful campaigns after leading community organizations opposed to drilling. Local governments have

also hired additional staff with expertise in UOG production, while local government designees work between the COGCC and local governments and push for harmonization between comprehensive development plans and newly-required operator comprehensive drilling plans. Still, some of these efforts do not directly challenge industry influence in regulatory processes, and therefore do not affect structural dynamics of meta-power.

Interviewees broadly called for the expansion of regulatory scales for decision-making (drilling sites, neighborhoods, basin-level geographic areas), transparency in terms of data and process, and the re-structuring of regulatory decision-making processes to promote active participation in processes over efficiency in reaching decisions. Further, they see balancing the composition of governing bodies to include non-industry voices who value and encourage resident's active participation in these processes. For many this is only achievable by addressing the role of industry money in campaigns and elections—which could level the playing field and create decision-making bodies where challenges to current rules and conditions of oil and gas regulations are actively undertaken by those who are in the positions of power and privilege with the capacity to challenge them. Altering the capacity for industries to influence decision-makers through elections and lobbying could allow for a governance context where the success of the industry and elected officials are disentangled from one another, as opposed to their current relationship where their exertion of meta-power is mutually dependent on one another and mutually beneficial. This would open more doors for a variety of stakeholders to be able to meaningfully access elected officials who are not beholden to oil and gas interests, and the ability for decision-making processes to be more even and procedurally just.

These suggestions for improving access and ability to meaningfully participate in and influence decision-making processes are relevant to the broader literatures on EJ and

governance, particularly in the context of energy and climate change. By focusing on multiscalar power structures, systems, and hierarchies, I contribute to a growing body of research that can help transform our energy and climate systems into more equitable and accountable assortments of policies, procedures, and institutions. In the face of impending global climate change, this sort of equitable approach will only aid necessary mitigation and adaptation strategies. Otherwise, our social science research could help perpetuate a normative research field where social actors and organizations remain decoupled from their roles and responsibilities in the construction of and participation in these energy systems; where the embeddedness of a system (1) is taken for granted (2) remains unscrutinized and unchallenged, and (3) acts as a path-dependent barrier to the envisioning and building of an alternative energy and climate future.

ARTICLE 3: ISSUES OF PROCEDURAL JUSTICE IN REGULATING UNCONVENTIONAL OIL AND GAS DEVELOPMENT: EXAMINING THE CASE OF THE 2014 COLORADO OIL AND GAS TASK FORCE

Introduction

UOG production has significantly changed the U.S.'s energy portfolio in the 21st century. The U.S. is now the number one producer of hydrocarbons in the world (EIA 2017). Projections from the U.S. Energy Information Agency suggest that shale gas production will continue to grow as a share of oil and natural gas production in the U.S (EIA 2018). This shift in domestic energy production has contributed to the nation's economy, positively impacted import and export balances, and is seen by some as a "cleaner" potential bridge fuel for transitioning to renewables (see Argetsinger 2011; Bilgili et al. 2016; Yergin 2014). However, the rapid expansion of UOG production has also led to a variety of risk concerns, such as impacts to the environment and public health (i.e. see Adgate et al. 2014; Finkel 2015; Ladd 2018). The practice has advanced so hastily that it also often outpaces state and local governments' abilities to regulate industry operations. Furthermore, there has been much debate about what governing authority has the right to regulate various aspects of UOG production. Governance conflicts stem from state preemption of local governments' zoning authority in a regulatory context absent of federal oversight (see Malin et al. 2018; Ryder 2017; Warner and Shapiro 2013).

Current UOG production research examines regulation at the federal, state, and local level (see Davis 2012; Davis 2014; Davis 2016; Davis 2017; Enockson 2014; Freilich and Popowitz 2012; Minor 2014; Negro 2012). As Lozano-Maya (2016) asserts, examining governance is crucial for adequately addressing and reducing risks related to UOG operations. Yet, few studies focus on the process of governance itself, that is, the "shaping and

implementation of strategies" to regulate UOG production (Ryder 2017a:23). Particularly, questions of who is able to shape and implement regulatory strategies, and whether governance processes for UOG production allow for equitable and just opportunities for participation and influence over them, remain underexamined.

Here, I analyze one particularly contested regulatory process, in a state with booming UOG production and vibrant debates over its governance—the 2014 Colorado Oil and Gas Task Force. I ask three critical research questions:

1. To what extent was the Task Force decision-making process inclusive, open, and equitable in terms of providing opportunities for Coloradans impacted by UOG production to participate in the decision-making process?
2. To what extent did these opportunities allow for *meaningful* participation in and influence over the decision-making process?
3. How did power imbalances create opportunities for some stakeholders and barriers for others in influencing the Task Force process and outcomes?

In addressing these questions, I identify issues of power and procedural injustice and inequity, highlighting how the structure of the Task Force process meant those with the least opportunity to meaningfully influence the process were those who were most likely to be impacted by the Task Force's regulatory recommendations. In closing, I suggest ways to enhance procedural justice and equity in regulatory processes for UOG production moving forward.

Conceptual Review: Procedural Justice, Environmental Governance, and Decision-making

Procedural justice comprises one conceptual thread of EJ, concerned with people's ability to meaningfully participate in decision-making processes that impact them (Malin et al. 2018; Schlosberg 2003; Schlosberg 2007; Lake 1996). The issue of fairness in decision-making processes—or the act of what Shrader-Frechette (2002) calls "reclaiming democracy"—has been a main component of EJ literature since the 1990s (i.e. see Dunion 2003; Hampton 1999; Hunold and Young 1998; Lake 1996; Petts 2005). Procedural injustices lead to distributive injustices,

that is, uneven outcomes such as disproportionate exposures to toxic and industrial contaminants for communities of color and low-income communities (Fraser 1997; Young 1990). On the other hand, when achieved, procedurally just processes can be a tool for achieving justice in distribution and as political recognition (Schlosberg 2003).

In the context of energy justice, procedural justice has been defined as "a call for equitable procedures that engage all stakeholders in a non-discriminatory way" (Jenkins et al. 2016:178). Sovacool et al. (2016) extend procedural justice concerns to include considerations of fairness, transparency, legitimacy and inclusivity in terms of who is participating in energy decision-making processes. They identify concerns for who gets to make rules and laws, who is recognized in that process, and ask to what extent the process for decision-making is comprised of impartial or fair "institutions, instruments and objectives" (Sovacool et al. 2016:5). Further, Alexis-Martin and Malin (2017) and Malin et al. (2019) recognize the importance of access to useful, transparent information as necessary for people's authentic participation.

More broadly, social constructionist approaches to policy design point out that policies are generally designed to primarily and repeatedly benefit the same small faction of people (Ingram et al. 2007). Essentially, policy designs exacerbate inequalities in existing policy arenas. Further, policy designs "affect participation through rules of participation, messages conveyed to individuals, resources such as money and time, and actual experiences with policy...Messages convey who belongs, whose interests are important, what kind of "game" politics is, and whether one has a place at the table." (Ingram et al. 2007:100). For sociologists, this has important implications for industry meta-power (Malin et al. 2019; Hall 2003; Ryder and Hall 2017) and diminished spaces for public participation.

Procedural justice is often thought of visually as having a seat at the table (see Buday 2019). Yet, having a seat at the table only goes so far when it comes to achieving procedural justice in a decision-making process. In order to achieve procedural justice, people must feel they have *authentically* and *meaningfully* participated in a process where their wants and desires were weighted equally with those of other stakeholders. That is, to realize procedural justice, participants must feel that they have the ability to substantively contribute and influence the policy process and subsequent outcome. Here, I examine procedural justice in the specific institutional context of the 2014 Colorado Oil and Gas Task Force—a unique effort undertaken by the state of Colorado in an attempt to create a better balance of power between stakeholders and regulatory authority across governance scales.

Framing Procedural Justice through Lenses of Power: Intersectional Theory and Meta-power

A critical component that contributes to issues of procedural injustice yet remains understudied is the role of power in decision-making processes. In this article, I use an intersectional theoretical lens to analyze how power and meta-power manifest within the 2014 Oil and Gas Task Force process for developing recommendations for regulating UOG production. Here, I define power as the possession of, access to, and deployment of mechanisms to influence the regulatory decision-making process. Like in other applications, here power operates across multiple axes, and can be understood as relational, locational, contextual, and structurally embedded (Christensen and Jenson 2012).

Meta-power refers to the capacity for actors to structure the rules of the game over time and from a distance (Hall 1997; Hall 2003). Importantly, meta-power is more than fleeting; it allows empowered entities to structure rules and/or create institutions that shape processes and

outcomes for long durations of time and across geographic boundaries. Meta-power is relational control enacted in a variety of ways, such as differential limitations on information accessibility, repealing regulations, and rule changes that exempt actions from oversight. These acts of control are all examples of meta-power which benefit authority, administration, and the entrenched—essentially, those who already possess a great deal of power. These are examples of the way power is reproduced to preserve power stasis.

While intersectional thought is woven through historical works by women of color, the term intersectionality was coined by Black feminist and critical legal scholar Kimberlé Crenshaw (1989, 1991) and holds that different systems of oppression and power interlock to create multiple, inseparable burdens of oppression and opportunities of privilege for individuals and groups that play out across intersecting aspects of our identities, i.e., race, gender, class, and/or nationality (Collins 1993; Crenshaw 1991; May 2015). When these systems and structures are treated as isolated and disconnected, the experiences of those who are oppressed based on multiple aspects of their identity end up remaining absent from discourse, theory, and study (Collins 1993; Crenshaw 1991; May 2015). Here, I also make the argument that intersectionally-oppressed individuals also end up being absent from policymaking processes, leaving their voices unheard and their needs frequently unconsidered and unmet in the policy world, in this case in terms of decisions about regulating oil and gas development.

Political intersectionality "provides an applied dimension to the insights of structural intersectionality by offering a framework for contesting power and thereby linking theory to existent and emergent social and political struggles" (Cho et al. 2013:800). Spade's (2013) approach to political intersectionality identifies how structures in government and society create unequal life opportunities for certain groups or kinds of people who experience intersectional

oppressions, and it calls for the all-out dismantling of these regimes. This attentiveness to policy and politics suggests that an intersectional lens is an appropriate approach for studying power and justice in the regulatory policy development process for UOG production. Furthermore, an intersectional approach to studying procedural justice in energy and climate decision-making processes challenges various assumptions and actions that maintain and normalize the dominance of the fossil fuel industry in U.S. domestic energy policy. The concern here is that in the context of energy and climate issues, those with the least amount of influence over the decision-making process are, for a variety of reasons related to interlocking systems of oppression—cannot or will not opt in.

Recently, Malin and Ryder (2018:4) proposed a deeply intersectional approach to EJ, which "explicitly recognize and iteratively analyze the contextual/historical, often mutually reinforcing, inseparable, and multiply oppressive structures that intersect to control and dominate marginalized individuals and communities while simultaneously privileging powerful actors." Without the application of these power analyses, intersectionally-privileged populations and the ways they benefit from the socio-environmental status quo remain obscure (Ryder 2017b). To date, however, most research on intersectionality leaves the homogeneity of privileged and powerful actors unscrutinized. In regulatory policy processes aimed at UOG production, mechanisms of power vary, (i.e. economic resources, property claims, time, access to policymakers, establishing shared meaning making). Questions of privilege and oppression in this context highlight not only the differential power actors have in policymaking, but, the extent to which oil and gas policies may benefit some actors and organizations at the expense of others.

In this article, I use an intersectional lens, coupled with an application of meta-power, to highlight how intersecting identities can impact who has a seat at the table and an opportunity to

meaningfully influence decisions in the context of the 2014 Colorado Oil and Gas Task Force. I find that those who primarily have seats at the decision-making table in the is process are middle- to upper-class, middle-aged, politically connected white men who professionally move in and out of public office, private practice in the oil and gas industry, and larger environmental or conservation organizations. Further, few actors represented the interests of Front Range residents most likely to be burdened by unregulated impacts of UOG production in their communities. This suggests that the Colorado Oil and Gas Task Force process was not intersectionally-inclusive, but that instead, those who participated were largely individuals who possess many of the same overlapping power and privileges as it relates to their gender, class, race, and political status. Thus, the process reinforced traditional arrangements of political dominance bringing to demonstrating the existence of issues that are of key concern in intersectionality and procedural justice research: social inequality, power, relationality, social context, and social justice (Collins and Bilge 2016). Finally, this research shows that politically-privileged industry stakeholders had the capacity to disproportionately influence the Task Force process and outcomes as a result of their capacity to wield meta-power through their influence over the state's structuring of the Task Force decision-making process.

Regulating UOG Production: A Literature Review

Regulatory conflicts over UOG production have led to a plethora of policy research on the topic (see Kitze, 2013; Knight and Gullman 2015; Lozano-Maya 2016; Nolon and Polidoro 2012; Negro 2012; Negro 2014). Questions about governance—specifically, what governing entity has the authority to regulate UOG production—are key concerns. This regulatory vacuum was created due to federal deregulation of UOG production under the 2005 Energy Policy Act, which

exempted them from seven of fifteen environmental regulations, including aspects of the Clean Water Act and the Safe Drinking Water Act (Malin et al. 2017).

One vein of this research has focused on what governance level (federal, state, local) stakeholders prefer to regulate the practice, and what influences these preferences (see Malin et al. 2017; Malin et al. 2019; Mayer 2019; Mayer and Malin 2019; Mayer and Malin 2018; Smith and Ferguson 2013). Despite differences in stakeholder preferences for appropriate regulatory scale, federal deregulation has meant that UOG production has and continues to be primarily regulated at the state level (Davis 2012; Davis 2017; Eisner et al. 2006). As such, state-level regulatory strictness and flexibility for developing shared state-local governance models vary widely (Fisk et al. 2017; Rice 2016). Warner and Shapiro (2013:1) demonstrate how this has created a vulnerable, "often weak state regulatory regime," susceptible to regulatory capture and tending to serve the interests of the industry while stymieing local government efforts at developing more stringent regulations for UOG production in their community. Davis and Hoffer (2012) too find that there is a push from the natural gas industry to maintain state-level regulation of UOG production. The industry's success at creating a strong state-level "subgovernment," consisting of trade associations, industry officials, state legislatures and regulatory agencies, has led to state-level focus on the promotion of the oil and gas industry and the economy as opposed to regulating the industry to address public and environmental health concerns (Eisner et al. 2006). This has created tensions between state and local governing bodies, particularly in places like Colorado and Pennsylvania where states take a firm stance on their preemption over local land use authority (Davis 2014; Duffy 2014). The controversy has become more prominent as the practice has entered urban, suburban, and peri-urban areas across states

like Colorado and Texas (Fry et al. 2015; Fry et al. 2017; Kroepsch 2018; Malin et al. 2018; Zilliox and Smith 2017).

As such, policy research has turned to parsing out various state-local conflicts, the processes for regulating UOG production, and the regulatory strategies of local governments constrained by state preemption. One common local government approach that has emerged is the Memorandum of Understanding (MOU). MOUs are voluntary contracts local governments forge with industry operators to encourage operators to agree to more stringent regulations, while avoiding state preemption lawsuits. Research on MOUs in Colorado is mixed. While Denning et al. (2018) finds MOUs largely ineffectual and Ryder (2017) sees them as diminishing opportunities for public participation, other researchers have found that with engaged and transparent local leadership, MOUs can be effective and enhance community engagement in the process (Shaffer et al. 2016; Zilliox and Smith 2016; Zilliox and Smith 2017). These latter studies suggest that perhaps MOU processes are opening up more space for community members to have meaningful involvement, or procedural equity, in UOG production decisions—an area worth further inquiry.

Rinfret et al. (2014:89) examine stakeholder influence over policy in state-level rulemaking processes for UOG production in Colorado, New York, and Ohio. They find that the sooner actors are able to participate in the process, the more influence they have over the process. More importantly, they demonstrate that stakeholders' abilities to influence related processes are subject to the "role of gatekeepers such as the governor, agency staff, and in some cases, the legislature." They call on future research to explore the role of gatekeepers in the rulemaking processes. North et al. (2014:8394) found that public participation in shale gas development across governance levels has typically been limited to "public meetings and notice

and comment rule-making, with very little following analytic-deliberative formats." They call for more open and meaningful decision-making processes for UOG production.

Cotton (2017) frames shale gas development explicitly as an EJ issue (see also Clough 2018; Clough and Bell 2016; Malin et al. 2018; Meng 2018). He highlights issues of both distributive and procedural justice, finding that initial protective policies were replaced by legislation focused on industry and the economy, which "curtailed community empowerment" and centralized government powers, creating injustices in how drilling benefits were managed within the community. In Colorado, Kroepsch (2018) notes that horizontal drilling (a technique used in UOG production) has exacerbated procedural inequity in well siting decisions due to "piecemeal participation," where the public and industry operators have differential opportunities to influence decision-making at different scales. Malin et al. (2018) also explore procedural justice in Colorado, finding that impacted or potentially impacted residents felt that there were virtually no meaningful avenues for them to influence UOG production policy decisions across select city, county, and state processes. Finally, Cook (2015a; 2015b) highlights the industry's power and influence over a single decision-making process, the Colorado Oil and Gas Conservation Commission's (COGCC) Statewide Groundwater Baseline Sampling and Monitoring Rule. He found that the oil and gas industry wielded more power to influence the process via agenda control and framing—though the latter was also tied to the industry's access, resources, and "relationships to agency personnel" (Cook 2015:279).

I build on this research by examining issues of procedural justice within the context of another processual space—the more comprehensive, state-level process of the 2014 Colorado Oil and Gas Task Force (described below). This temporary institution was formed by Colorado's then-Governor Hickenlooper to examine the state of regulations for UOG production in Colorado

and to offer recommendations for improving those regulations. In exploring the opportunities (or lack thereof) for different stakeholders to authentically participate in and meaningfully influence the 2014 Colorado Oil and Gas Task Force recommendations process, I contribute to the literature on procedural justice by interrogating the internal dynamics of institutional processes designed to meet people's demands for more local control over industry activities and regulations. Much like the contributions of Cook (2015a; 2015b), I explore actors' differential capabilities to exercise power and influence over this institutional space and related processes. My work examines this in a broader context, however, by examining the operations of a Task Force charged with reviewing and making recommendations on all regulations on UOG production in the state. Given that the Task Force was appointed by the Governor, they had more power and influence over a wider swath of state policies than previous decision-making bodies.

Regulatory Conflicts and the Formation of Colorado's Oil and Gas Task Force

When UOG production gained ground in Colorado in the early 2000s, tensions initially arose on the Western Slope. Split estate conflicts, coupled with concerns for public health, the environment, and wildlife, brought UOG production's impacts to regulators' attention (Davis 2012). Following a shift in state political power to Democrats, the first sweeping set of regulations were proposed under the 2007 Oil and Gas Commission Reform Act, enacted by the COGCC in 2008 (Davis 2012). Substantively, this legislation altered the composition of the COGCC; changed the commission's mission to better address human, environmental, and wildlife health and safety; called for the inventorying of chemicals used in the process; restricted operations near sources of drinking water; and enhanced emissions tracking near homes, schools, and other buildings (COGCC 2019).

The urbanization of UOG production along the Front Range has brought additional challenges, chief among them vibrant debates over zoning and regulatory authority. In Colorado, a home rule state, municipalities can opt out of some state decisions. As such, some residents and local officials in many Front Range communities felt and feel that they should have the authority to determine where UOG production can occur within their jurisdiction, and, whether or not it can occur at all (Malin et al. 2018; Ryder 2017). Importantly, in Colorado (and elsewhere), state preemption overrides city and county authority on oil and gas regulatory decisions, such as the siting of wellpads. As such, the practice is not subject to local zoning laws, which has resulted in drilling sites being proposed and permitted in suburban residential areas and near high occupancy buildings with vulnerable populations, such as elementary schools (Shaffer et al. 2016; Silvy 2018). In fact, one regulatory agency—the COGCC—is responsible for all permitting and regulatory activity for UOG production in Colorado. The urbanization of UOG production has further increased concerns about air quality, water quality and quantity, public health, well siting and setback distances, and quality of life issues such as truck traffic, road destruction, and noise and light pollution as the practice encroaches on communities in Colorado (Malin et al. 2018; Shaffer et al. 2016).

In response, some cities and counties have adopted MOU processes described above. Other local governments along the Front Range have taken a more aggressive approach. Fort Collins, Longmont, Erie, Lafayette, and unincorporated Boulder County passed long-term moratoria or bans on the practice of hydraulic fracturing between 2012 and 2013 (Fitch 2013, Ryder 2017). These were put in place either by local elected officials, or as a result of ballot measures organized by concerned community groups such as Citizens for a Healthy Fort Collins or Our Longmont. State preemption lawsuits were filed against Fort Collins and Longmont and

ultimately the Colorado Supreme Court struck these local efforts down in 2016. The Court ruled that local attempts to limit UOG production were illegal 'takings' from mineral owners who wanted to develop their assets—squashing county, municipal, and neighborhood governance efforts.

Community groups have also been active at proposing regulatory ballot initiatives at the state level. In fact, it was competing state-level ballot measures in 2014 that ultimately led to the formation of the Oil and Gas Task Force. That year, four ballot initiatives were moved forward—two from community groups (who garnered support from then-Representative Jared Polis) and two from the industry. The first ballot initiative put forth by community organizations would have prohibited drilling within 2,000 feet of homes and schools—amounting to a de facto ban on the practice across most of the state. The second would have created a Colorado environmental bill of rights (Handy 2014). The industry initiatives would have prohibited local governments with bans from receiving any tax revenue from UOG production and required all oil and gas statutes to include a fiscal impact consideration (Handy 2014).

Then-Governor Hickenlooper asked all parties to drop the 2014 state ballot initiatives. He also requested that the COGCC stand down on a preemption lawsuit against Longmont, and that the Commission begin to enforce a 1,000-foot setback from buildings (Handy 2014). In exchange, Hickenlooper partnered with Polis to establish the Task Force, which would study the issues and make recommendations for harmonizing conflicts over governance authority. Hence, the formation of the Task Force was an effort at achieving compromise and reducing tensions over governance between the industry, the state government, local governments, and Front Range residents.

On September 8, 2014, then-Governor Hickenlooper announced the formation of the Colorado Oil and Gas Task Force and unveiled the 21 members via two executive orders. Broadly, the orders outlined the directive of the Task Force—to balance the role of the COGCC in fostering UOG production with local governments' responsibilities to (1) protect the health and welfare of their residents and (2) address their needs and concerns within their geographic boundaries. Then-Representative Polis lauded this effort, suggesting that "citizens will be on equal footing with the oil and gas industry" (Handy 2014, Accessed April 1, 2019).

Despite this early enthusiasm, my findings suggest that the appointment of the Task Force and its subsequent process and outcomes neither increased opportunities for participation nor enhanced procedural equity for Front Range governments or for residents seeking more control over zoning and regulating UOG production in their communities. My findings suggest that industry stakeholder's differential access to the Task Force's process and its members, coupled with the composition of the Task Force and the rule structures for the process, diminished opportunities for public participation for the very people most likely to be impacted by Northern Colorado's UOG production and regulatory changes. This simultaneously expanded industry operators' influence over the process and subsequent recommendations. In finding a lack of procedural justice and an inability for members of the public to meaningfully change regulations for UOG production, my findings align with previous work that demonstrates the political and economic advantages afforded to dominant industries in state politics, which can often hinder efforts at regulatory advancements and challenging the status quo (Davis 2012, Hayes 2001). Furthermore, my analysis of the composition of the Task Force and the differential access to participation also supports previous literature on the 'revolving door' of politics, suggesting that there is a real need in these processes to consider how to incorporate

intersectional inclusivity and procedural justice concerns into forming decision-making bodies. I review and analyze these findings below, but turn first to a review of my research design and methods.

Methods

Methodological Framing

To study processes for UOG production in the institutional context of the Colorado Oil and Gas Task Force, I engage in a multi-sited ethnography and critical policy analysis. This involved the triangulation of two primary methods: semi-structured interviews and document analysis. Multi-sited analyses allow researchers to capture processes that are contextually embedded in space and time and to compare these across and between other scales (Kaijser 2014). While the focus of this paper is on one policy process and institution at the state level, the Task Force process was contextually embedded in and intersected with several other multiscalar regulatory processes in Colorado and federally (see Dissertation Article 2).

Task Force Process as Multiple Research Sites

In the Executive Order establishing the Task Force, then-Governor Hickenlooper acknowledged that the urbanization of drilling in Colorado was a primary driver in the state-local jurisdictional conflicts that necessitated the Task Force. The executive order reads "The increased oil and gas activity that is occurring in new areas of Colorado's Front Range and that involves new technology such as horizontal drilling combined with hydraulic fracturing has caused a number of local jurisdictions to revisit the adequacy of their own regulations." Intended to ameliorate the subsequent state preemption legal conflicts that have ensued, the Task Force's purpose was to "harmonize state and local regulatory structures" for oil and gas operations, with the following particular objectives (see Colorado Oil and Gas Task Force Final Report, Appendix A1):

1. The benefit of oil and gas development on the state's economy;
2. Protecting public health, water resources, the environment and wildlife;
3. Avoiding duplication and conflict between state and local regulations of oil and gas activities; and
4. Fostering a climate that encourages responsible oil and gas development

The Task Force met seven times between September 2014 and February 2015, spanning the 2014 election period (see Appendix B, Table 2). All meetings were subject to Colorado's open meetings laws, so meeting minutes and summaries are publicly available in the final report. While the organizational structure differed from meeting to meeting, in general they included time for Task Force discussion, guest speaker presentations, and public comment divided into 3-minute segments for individuals. Following voting at the final meeting on February 24, 2015 the Task Force issued a final report to the Governor on February 27, 2015. With 56 initial recommendations considered, the Task Force ultimately approved 9 recommendations with a required two-thirds supermajority vote. Broadly, the recommendations encouraged the state to: address tensions in planning and regulating oil and gas development; increase state staffing; establish a health complaint line; develop human health risk assessment; reduce truck traffic; create an information clearinghouse on oil and gas; and address issues of monitoring and compliance, particularly in terms of air quality. Upon receiving the recommendations, Governor Hickenlooper gave the COGCC the directive to adopt the recommendations. Of the nine recommendations, the COGCC had unanimously adopted seven recommendations by January 2016.

This process represents a multi-sited research site as engagement spans both time (6 months) and space (five locations), with related outcomes also having implications for communities across Colorado for the forseeable future. Further, those who participated in the Task Force process as members, guest speakers, or other avenues were not confined to any

particular geographic boundary within Colorado, as the process and recommendations have implications for a variety of local jurisdictions around the state. In fact, meeting locations and the underrepresentation of Colorado residents from the Front Range speak to how multi-sited processes and their structure can create or enhance procedural justice.

Data Collection and Analysis

IBPA-informed Semi-structured Interviews

This research is part of a larger dissertation project wherein I used a critical policy ethnography to explore issues of power and procedural justice in multiscalar governance processes. In the broader study, I conducted 57 semi-structured interviews between September 2016 and October 2018 and engaged in participant observation and policy analysis. Given the Task Force process ended in 2014, participant observation was not possible for this aspect of the research endeavor. For this aspect of the project, I adapted an intersectionality-based policy analysis (IBPA) interview guide focused on the Task Force process (see Appendix A). Semi-structured interviews are an imperative methodology for understanding the nuances of the policy process (Marshall and Rossman 2011).

In total, I interviewed ten members of the Task Force as well as one industry lawyer who had a client on the Task Force and attended the Task Force meetings. Despite emailing all members of the task force, outside of the industry lawyer who was not a member of the Task Force, there were no members of the Task Force representing the industry that I was able to interview for this research. As such, all interviewees represented the local government, conservation, or 'variety of interests' perspective.

In my initial interview with a Task Force member, I was provided a contact list for the remaining Task Force members and contacted them directly to request interviews. In the adapted

IPBA interview guide, I asked interviewees specific questions focused on the Task Force process, its formation, its failures and successes, and its spaces for meaningful and equitable participation from other stakeholders and the broader public. The questions were designed to get at issues of power, inequality, procedural and distributional justice, and whose narratives dominated the decision-making process.

Interviews lasted between fifteen minutes and two hours and were conducted in interviewees' offices (4), coffee shops (3), or remotely over an audio platform (4). Generally, these interviews were shorter than those conducted in the broader study, as these individuals tended to have very limited time in their schedule to participate in the study. While in-person interviews are ideal, in order to accommodate some members' schedules it became necessary to conduct interviews over the phone on three separate occasions. For several of these interviews, not only were the interviewee's limited schedule an indication of their professional prestige, but so was the location of the interviews. Often interviews at participant's offices took place in over-sized, state of the art rooms in high-value buildings or residences, usually with an unobstructed mountain view, further hinting at their socioeconomic status. Interview locations in these cases were not confined to the county research sites in the broader dissertation research (see Dissertation Introduction and Article 2). As Task Force members were drawn from around the state, I traveled to conduct these interviews at locations convenient for the participants—primarily downtown Denver and the Denver metropolitan area.

All interviews were audio recorded and I took field notes taken during and after the interviews. The audio interview files were transcribed verbatim. I then coded the transcripts in NVivo (Drisko 2013). I identified key patterns in the data by analyzing interviews and developing initial codes. Themes and analytical codes that emerged through continued analysis

of the interview transcriptions included procedural injustice as exclusion from participation, procedural injustice as a lack of space for meaningful participation, and unequal industry influence over the decision-making process. Through thematic coding based in an understanding of procedural justice, I was able to draw out both just and unjust aspects of the regulatory process (see Rubin and Rubin 2012).

Critical Document Analysis

To conduct a multi-sited critical analysis of the Task Force's decision-making process, I also performed a critical document analysis of the Task Force final report, which includes the descriptions and rules of the process, the meeting minutes and summaries, a summation of the recommendations considered, and voting outcomes. Document analysis "is a systemic procedure for reviewing or evaluating documents" and "requires that data can be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge (Bowen 2009:27, see also Corbin and Strauss 2008). Through document analysis, I read and interpreted the final report through a critical lens—identifying important contexts of the Task Force process and corroborating evidence from the semi-structured interviews (Bowen 2009). Using a critical lens, a researcher can expose unequal power relationships as agents engage in the policy construction processes, highlighting the "social, economic symbolic, and political domination at work in the policy process" (Dubois 2015:463). With this critical lens, I read through the report several times, while simultaneously corroborating the report with claims made by interviewees. In particular, I performed a close critical reading where the document laid out the rules governing the process, recognizing that while at a surface level the governance rules are a bit mundane, that a critical review can uncover how these seeming mundane rules might work to create the conditions for procedural injustices within the process. Furthermore, I paid close

attention to the areas of the report that contained (1) instructions from the Governor (2) meeting minutes and (3) the list of invited speakers to look for evidence that supported or refuted interviewee claims about issues of equity and justice in the decision-making process.

Finally, I supplemented this analysis by reviewing news articles on the Task Force. While I did not formally analyze these documents, these too added to my ability to fill in gaps and questions that remained from the interviews and the final report, and also offered outsider perspectives on the Task Force to supplement the data I had collected from those internal to the process. Together, this allowed me to better connect policy texts to various state and local institutions actions and stakeholders' struggles to influence the Task Force's decision-making processes. In addition, data were further triangulated through semi-structured interviews with Task Force Members, described above. Combined, I use these methods to corroborate participant perceptions and experiences of the process, and to analyze how the structure of the Task Force process generated procedural justices. In particular, this triangulation is useful as it provides multiple ways to tease out internal and external perspectives from the Task Force, and to highlight how the composition, rules, and structures of the Task Force contributed to keeping non-industry stakeholders who are historically, multiply marginalized in the context of decision-making processes for oil and gas development (i.e. residents and community organizers) further marginalized in this process.

Connecting Procedural and Distributive Justice Findings: Underrepresented in Process, Overrepresented in Risk

Issues of procedural injustice in the context of Task Force process and structure emerged in three critical ways. First, there is the issue of the process for how the Task Force was formed—that is, *who became a member of the Task Force and how* become critical foci. In this thematic context, I examine how intersectionally inclusive—that is, inclusive in a way that considers those who

have been multiply marginalized in this context—and representational the composition of the Task Force was. A second important finding related to procedural justice encompasses the ability of Task Force members to influence decision-making processes *internally*. In this context, I examine the structure of the Task Force and important aspects of its organizational operations and power dynamics. Third, barriers to public participation emerged as a final key aspect of procedural inequity in this study. To establish this, I interrogate the extent to which members of the public had the capacity to meaningfully participate in and influence the outcomes of the Task Force, especially its final recommendations.

Within these emergent categories, I explore sub-themes related to each emergent aspect of procedural inequity, drawing out how inequity emerged through the structure of participation in the Task Force as well as the rules governing its process. This includes a discussion of the formation and composition of the Task Force, the opportunities for public and stakeholder influence on the decision-making process, the Task Force's supermajority voting requirement and the Task Force's adherence to the Colorado Open Records Act (particularly the Colorado Sunshine Laws). Each of these aspects of the process led to concerns about procedural injustices and inequity because while the Task Force focused on issues primarily impacting Colorado residents along the Front Range, the voices of these residents, community organizers, and local governments were underrepresented in the Task Force process relative to politically powerful individuals and industry actors.

As with findings in the second dissertation article above, this research demonstrates that the industry's extension of metapower across multiscalar governance processes not only enhances their power and creates regulatory decision-making conditions that benefit them, but in so doing, they disempower non-industry actors who are disadvantaged relative to industry actors

within these processes. Furthermore, an intersectional approach highlights how within-group differences exist for non-industry stakeholders who are historically disempowered in these processes relative to industry stakeholders matter—that is, some actors and organizations are at a disadvantage relative to the industry in these processes, while other actors and organizations aren't even able to get to a point where they can participate in the processes at all. As such, non-industry actors such as state officials, county officials, city officials, national environmental non-profits, localized community organizations, and residents experience differential degrees of disempowerment relative to oil and gas actors— and to each other—in regulatory decision-making processes. Further, even within these smaller subgroups organizational and individual capacity to influence decision-making processes differ, where historical oppression as rooted in identity-based discrimination such as class, race, and gender also come into play.

Structure of Participation in the Task Force Process

Opportunities to participate in the Task Force process can be categorized in three ways: (1) being appointed as a member to the Task Force; (2) being invited to be a guest speaker on a topic or issue related to UOG production and regulation; and (3) additional public and stakeholder opportunities to engage with Task Force members. Below, I analyze each of these aspects of participation in the Task Force decision-making process, demonstrating how stakeholders most likely to be impacted by the Task Force's recommendations and outcomes repeatedly have the least space for meaningful influence over these processes. Furthermore, I highlight how this imbalance tends to enhance the industry's meta-power over regulatory policy, via its ability to influence the Task Force's decisions and subsequent outcomes, thereby diminishing the influence of public participation.

Formation and Composition of the Task Force

When Governor Hickenlooper appointed two co-chairs and 19 additional members to serve on the Task Force, the 19 members were categorized into three different stakeholder groups. The oil and gas, agriculture, and homebuilding industries group had six members, as did the faction representing local government and conservation. Seven additional members constituted "a variety of interests" (Keystone Center 2015:4). (The members and their primary affiliation are listed in Appendix B, Table 3). On the surface, this appears like a reasonable effort to create a balanced Task Force that represents differing stakeholders equitably. In fact, this initially swayed one Task Force member to join. She explained: *"[Name removed] really sold me on this idea that it's going to be a balanced commission. There's gonna be an equal number of local government and environmental group representatives with industry representatives with neutral people."*

However, my interviewees emphasized how, in practice, representation on the Task Force heavily favored the oil and gas industry. Of the six members categorized as representing oil and gas, agriculture, and homebuilders, five represented the oil and gas industry. So did one of the Task Force co-chairs. The lone representative from the homebuilding industry was actually designated a seat as part of the "variety of interests" faction, giving an additional favorable voice to the industry at the expense of other potential stakeholders. One member pointed to this as an early indication of the imbalances in the Task Force's composition and resultant power imbalances this created when he observed: " *I think from the beginning none of us ever expected to have any power, we knew the composition of the committee, I mean saying the home builder's association is a neutral organization, that sort of thing, you know."*

Of the "local government and conservation" sector of the Task Force, two seats were held by lawyers who retain local government clients in UOG production contexts, two were held by representatives from conservation organizations, and two were held by Colorado citizens impacted by UOG production. Unlike five of the six seats held by the UOG industry, the interests of the stakeholders in this faction are less uniform. Ironically, there were no local government officials appointed to this faction of the Task Force that was meant to represent local government perspectives. However, local elected officials were represented on the Task Force by the second co-chair and two "variety of interest" seats.

No other single interest had as much representation on the Task Force as the oil and gas industry. The number of seats they occupied (coupled with the voting rules addressed below) was seen by some Task Force members I interviewed as an important barrier to achieving meaningful dialogue or negotiation, and, subsequently, to passing meaningful regulatory recommendations—creating procedural inequities. The industry's capacity to influence the process as a result of their overrepresentation on the Task Force was demonstrated by their voting bloc when the Task Force turned to approving recommendations to send on to the Governor.

Multiple Task Force members I interviewed highlighted how industry overrepresentation enhanced industry meta-power. Said one Task Force member: *"The current operational structure is in favor of operators…You put 6 operators on a Task Force, they're not inclined to do anything that would change the current status of oil and gas development... And they were unbudgeable…I don't believe they ever desired to have large good ideas become action items. The [current] playing field is tilted toward industry in Colorado*." Yet another Task Force member specified how the Task Force's composition created a power imbalance when he

observed *"Nothing could occur without the industry because it took fourteen votes to get a recommendation passed, and the industry had enough [votes] to kill anything."* Yet another Task Force member shared a similar observation that "*if you look at the proposals that didn't come from the industry, they [industry representatives] voted against every single one. And we ended up voting for some industry proposals that were meaningless…But I mean our proposals…they [members of the Task Force*] *turned down every single thing."* This constitutes procedural inequity in stakeholder capacity to influence the Task Force's decision-making process and outcomes. Overrepresentation of industry interests gave the industry powerful influence over the Task Force, diminishing space for other stakeholder views.

Despite the Task Force's mission to resolve conflicts between state preemption and local control in the Front Range, Front Range local governments and residents were underrepresented in Task Force membership. Only two of the local elected officials were from the Front Range. Of the two members serving as impacted residents, only one was a Front Range resident and a member of a community organization with concerns about drilling. Of these three folks that specifically represented localized perspectives from particular communities on the Front Range, only one of the local elected officials was from a community involved in governance conflicts with the state. Essentially, the Task Force composition does not reflect a state effort to align the goal of the Task Force with appropriate representation of impacted voices—an issue of procedural justice and a potential by-product of a regulatory process whose rules and conditions were shaped via state-backed industry metapower.

Consequently, members of the public who have historically had the most limited access to decision-making spaces and little power to meaningfully influence regulatory decisions in this context—community activist organizations—had only one seat at the table. There was no

counterbalance to the heavy industry presence and overrepresentation described above. Task Force members I interviewed noted how certain stakeholder perspectives were excluded amid industry overrepresentation on the Task Force, helping generate this power imbalance. As one Task Force member I interviewed explained:

> *Certainly one set of voices that were excluded were the sort of stronger anti-drilling voices…Whereas there were people from the oil and gas industry who were pretty radical. Some of them, not all of them. The community rights types of folks or the folks in Longmont who had run the ballot measure there, I think those groups felt like there was nobody representing their perspective on the Task Force. And I think they were right.*

As a direct consequence of the Task Force's composition and appointment process, environmental and conservation groups, as well as Front Range local governments, community groups, and residents were either greatly outnumbered by their industry counterparts, or unrepresented altogether as primary decision makers. The community organizations that have spearheaded social activism to regain some local control over drilling regulations and related decision-making processes were all but denied a seat at the table. Essentially, any power community organizations may have retained locally in their relationship with city or county government was not transferable across governance scales the way the oil and gas industry's power has been able to transcend scales (as described in Dissertation Article 2).

Given that one of the duties of the Task Force was to "harmonize state and local regulatory structures," involving representatives from community groups that pushed for local control as critical stakeholders seems crucial for achieving such a balance. Their absence constitutes a procedural injustice in that members of the public most at risk of shouldering the direct and indirect burdens and risks that accompany UOG production were not provided adequate seats at the decision-making table.

Intersectional Power, Privilege and Exclusion: Breaking Down Identity in the 'Revolving Door' of Politics

To what degree did the 2014 Oil and Gas Task Force process allow for intersectionally-inclusive participation? Unfortunately, as demonstrated above, there was little room for non-industry actors to influence the decision-making process. But beyond that, it is also important to recognize that Task Force members, both industry and non-industry actors, were multiply privileged actors—in terms of gender, race, class, and political positionality.

Of the 21-members of the Task Force, 16 seats were held by White, non-Latinx men—that is, they made up 76% of the Task Force. The remaining five seats were composed of one Latinx man, three White women, and one Black woman. As such, the Task Force decision-making process was dominated by actors operating from positions of White male privilege. A lack of racial and gender diversity contributes to a lack of diversity in thought and approaches to decision-making which may take into account issues that White men often gloss over. For example, in the context of UOG production, one major health concern is related to pregnant women and infant mortality rates—an issue that disproportionately impacts women and as such may be glossed over by men in the context of conversations related to UOG production and health concerns. Beyond issues of racial and gender disparity, the Task Force lacked diversity in terms of representation across class and political positionality. For example, of the 21 members, only two citizens were on the task force that were not either an elected official, a government employee, a lawyer, or the head of a company. Given that this was a several-month, volunteer position that required extensive travel, there were clear limitations in terms of adequate class

representation. This suggests that the interests of the wealthy were overrepresented on the Task Force, as were the politically elite, which I discuss in detail below.

When the Task Force idea was initially formulated, a call for applicants was released. Any Colorado resident interested in serving on the Task Force could apply, yet it is not clear whether these applications were only considered for the 7 seats representing a 'variety of interests' or for all seats. The final Task Force report does not provide transparency about the selection process. In addition, many interviewees knew little about this aspect of the process. What they did know about their own selection process indicated that some appointments were made at the discretion of Governor Hickenlooper and Representative Polis:

> *He [Governor Hickenlooper] said that he was putting together this task force on oil and gas and wanted me to serve on it…I don't know if I did a formal application. I'm sure I had to send a resume somewhere. I don't know what the exact process was…When I had been in the [office name removed] his chief of staff would call me with some regularity. His in-house counsel that worked for him directly, would call me a couple of times a week. So I think the governor had some sense of how I approached issues and how I dealt with them.*

Many interviewees readily reported they viewed their previous working relationships with the Governor or Representative as a contributing factor to how they ended up on the Task Force. In fact, some even used those connections to advocate for a seat on the task force, as one member mentioned: *"I lobbied because I was [title removed]…I knew Jared real well, and I knew the governor. I suspected Jared wanted me on."* Another noted that his previous work for then-Representative Polis likely contributed to his appointment:

> *Previous to the task force I have done work for Jared Polis…And so Polis and the governor when they reached the idea of a task force, Jared I believe, wanted me on the task force because he was familiar with my knowledge. And so I think I might have sent an email saying I was interested. And he said 'Yeah, no duh.'*

That is not to say that these connections were the only reason individuals were appointed to the Task Force—many members had a long track record of working on oil and gas issues in Colorado. Still, from a critical, intersectional perspective, this means that the composition of the Task Force consisted of a lot of people who already possessed multiple sets of privileges and held power in state institutions or were well known in Colorado political networks. That is, many Task Force members were individuals who already had considerable capacity to influence regulations for UOG production in other capacities and processes. These ties between the Governor and Representative and some Task Force members also impacted perceptions of the Task Force, which was already facing scrutiny for being politically motivated from outsiders. As one Task Force member notes: *"It was friends of the Governor, friends of Jared Polis and that's it. And those in-between that were friends of both…So it was a rigged process from the beginning."*

As a result of the selection process, the Task Force skewed more heavily toward positions favored by industry members. That is, more extreme pro-industry/anti-regulation voices were well represented while anti-fossil fuel/pro-regulation were not. In fact, of the 21 members, only 1 member of the task force represented a pro-regulation community group, and that group was considered more "middle of the road" in terms of community organizations active on this issue. Much of this overrepresentation was a result of the 'revolving door' between private and public sectors. This suggests that class and political positionality were important in determining who was on the Task Force.

Essentially, the Task Force was primarily comprised of White men that were already economically and politically privileged, sufficient to secure them a seat on the Task Force. These findings highlight critical concerns of importance for regulating oil and gas development as well

as environmental governance processes more broadly. The extent to which the Task Force was saturated with multiply-privileged actors presents an issue of procedural inequity and injustice as those who are least privileged and have the least ability to influence the process (and potentially the most likely to be impacted) were excluded from having a seat at the table.

Several individuals I interviewed had direct connections to the elected officials leading the Task Force effort. Furthermore, many of them have moved in and out of the same spaces—across government, conservation and environmental organizations, and the industry itself. For example, one of the lawyers appointed to the Task Force to represent local government perspectives was recently appointed by now Governor-Polis as the new head of the COGCC. At the same time, at least one of those appointed to a 'variety of interest' seats and one appointed to a 'conservation' seat were also former elected officials that were now back in the private sector. This allows for powerful industry actors, and other actors that wield political power, to continue to be in positions where they are able to shape the rules of the game—an extension of meta-power in current and future regulatory decision-making spaces for UOG production.

The mostly homogenous set of multiply-privileged, politically connected actors which composed the Task Force highlights the problem of 'revolving door' in politics, where powerful people moving between governmental and industry or lobbying organizations to influence regulations for UOG production in different capacities. This is problematic as individuals who already have considerable influence over decision-making processes become more powerful. In addition, it removes seats at the table for those who have to this point lacked procedural justice in these processes while being most likely to be impacted by UOG production in Front Range communities. Moving forward, attention to justice, fairness, and intersectional understandings of inclusivity in processes should be applied not just to the decision-making process, but to the

processes that determine who becomes the decisionmakers, and how. Beyond this disparity in the composition of the Task Force, there are also procedural justice considerations related to opportunities for these and other stakeholders to participate in the Task Force meetings, which I turn to below.

Public and Stakeholder Participation during Task Force Meetings

The primary ways individuals could engage with the Task Force during their meetings was through invited guest speaking opportunities, public comment periods, and informal discussions. Similar to the gaps in representation on the Task Force itself, the opportunities for Front Range community members to make meaningful contributions to this process were by and large absent. Here, I highlight whose voices were privileged in the guest speaker process, the challenges to meaningful participation from the structure of public input, and the differential access stakeholders had to informal conversations with the Task Force members themselves.

Task Force Guest Speakers.

The Task Force heard from a variety of speakers on several important topics, including: the current state regulatory framework, local governance authority and approaches to regulating UOG production, human health and public safety, the oversight role of the Colorado Department of Public Health and the Environment (CDPHE), perspectives from both mineral and surface rights owners, and perspectives from impacted residents (see Appendix B, Table 4). In total, the Task Force allotted 15 hours and 35 minutes for guest speakers (see Appendix B, Table 5). Given the focus of the Task Force on harmonizing state and local regulations for UOG production, the bulk of the information being presented to the Task Force was focused on local government authority. However, local governments, impacted individuals, and concerned residents from the Front Range were largely absent from this aspect of the process. Essentially,

these efforts to resolve multiscalar governance conflicts via developing regulations at the state-level contributed to multiscalar procedural injustices for Front Range residents and representatives, the former of which are often unable to participate, and the latter of which are unable to meaningfully develop or enforce regulations.

According to the meeting minutes, it was not until the second meeting that the need to include Front Range public perspectives was brought up. At that time, some Task Force members requested to hear perspectives from community organizations who proposed ballot measures for regulating or prohibiting UOG production in their communities. Instead of bringing in these individuals, however, a decision was made (presumably by the state) to invite elected officials from those communities instead. Further, a one-hour session focused on impacted residents' experiences included no residents from the Front Range. It was not until the final meeting with presentations (Meeting 5) that concerned residents from the Front Range were invited to speak to the Task Force. In the 30 minutes allotted to hearing Greeley perspectives, two members of community groups in Northern Colorado and one impacted resident from Broomfield were included in the panel. But as one Task Force member noted, those Task Force members who wanted to hear community perspectives expended great effort to include these perspectives, yet the state process allotted them less than a half hour at the very end of the process. He explained: *"They finally did get a community group in after all that pushing and they were allowed 20 minutes because they were squeezed in."*

Not only were the perspectives of Northern Colorado community organizations and impacted residents limited in terms of the amount of time they were allotted during their guest presentations, there were also far fewer of them represented. Out of 44 guest speakers, six represented local Front Range governments, two represented Front Range community

organizations, and only one individual was a Front Range resident impacted by UOG production. Paradoxically, voices from the Western slope and Southwestern Colorado—areas that tend to be viewed as more industry friendly—were overrepresented in this process. While these areas have a longer history and more experience with oil and gas than the Front Range, they do not have the same degree of challenges in terms of urbanized drilling. Given the Task Force's desire to "understand different situations faced by urban and rural communities," and the focus of the Task Force on solving issues unique to the urbanized Front Range, Front Range perspectives deserved more equitable participation in the guest speaker aspect of this process.

No panels or speakers dedicated to presenting environmental, conservation, or wildlife group concerns were arranged for the Task Force. In fact, only one stakeholder from an environmental non-profit was invited to speak—a lawyer from the Earthworks Energy Program was included in the session on surface owner rights' perspectives. Not only were environmental and conservation organizational perspectives underrepresented on the Task Force itself, they were also essentially excluded from formal engagement with the Task Force during their meetings. Their absence from providing formal input into this process is troubling, given that one of the four main directives of the Task Force included protecting the environment and wildlife.

In addition to inviting guest speakers, there were participatory educational opportunities for Task Force members—optional tours of UOG production facilities. Again, there was some degree of imbalance in terms of which organizations were allowed to meet with and arrange tours for the Task Force. The Task Force was offered at least two optional industry tours, but community groups that were hoping to also offer tours were shut out of the process. One Task Force member highlights the exclusion of community groups from the formal opportunities to work with the Task Force when he said:

> *[Community organizations] couldn't get through to the committee to do anything meaningful. We worked with them, and they sent a letter signed by 52 community organizations requesting to meet with the Task Force or to set up a bus ride to tour the different [facilities]. Finally, at the end of one of the meetings, I said, 'What happened to that letter?' Nobody's answered it yet. And at that point I was going to some of their demonstrations and the woman who was the head chief mediator she said 'Oh, we can't deal with them because they're outside organizations.' And I had no idea what that meant, outside organizations.*

In these data and representative quotations, we again see issues of procedural justice where the voices of people that could be impacted by the recommendations to come out of the Task Force process were not well represented within the process—here, in being able to formally access the decision makers who had a seat at the table. Essentially, the type of non-industry organizations and actors which historically have been disadvantaged on the legal playing field when challenging oil and gas development continue to be disadvantaged in the Task Force process. Still, these disadvantages do not manifest equally across and within different non-industry stakeholder groups, but amount to intersectional experiences of disempowerment in these processes relative to the power of oil and gas industry stakeholders.

First, some local governments and their representatives were still invited to be Task Force members and to give informative presentations to the task force. Yet for those local government officials, this participation was a part of their professional duties. This meant that there were no barriers limiting their ability to participate in terms of a need to use leisure time to attend meetings, or to have the economic resources to attend meetings. The same could be said for local branches of national or statewide conservation or environmental non-profit members who attended meetings on behalf of their organizations. Yet this is not necessarily the case for members of pro-regulation community organizations that generate little to no funds. Furthermore, the ability to be aware of and able to travel to attend meetings is still a privilege that is not necessarily afforded to residents and households that may not have access to the

internet, a reliable vehicle, or the capacity to leave work or children to attend these meetings. Nor were there systems in place to provide opportunities for meaningful participation for Colorado residents who are already marginalized as a result of identity-based oppression, such as lower income residents, residents of color, or residents with functional and access needs. For example, information about these meetings were not available to non-English speakers nor were options like providing transportation or childcare options that would make these meetings more accessible to residents interested in participating in these processes.

The exclusion from the Task Force and invited speaker portion of the Task Force meetings discussed above meant that Front Range residents, elected officials, and non-profit environmental and conservation organizations were relegated to one avenue for participating in the Task Force—public comment. Below, I explore to what extent this aspect of the process enabled or hindered authentic participation and meaningful influence over the Task Force's decision-making.

Accessing the Task Force: Opportunities for Public versus Industry Involvement.

Most members of the Task Force I interviewed agreed that the space for democratic participation existed within the Task Force process via public comment. All meetings were open to the public and five of the seven meetings allotted two hours to incorporate public comment into the process. In addition, for those who could not attend, submitting questions or comments online was possible. As such, the process for participation was viewed as inclusive by most Task Force members.

Interestingly, however, it is not clear that the process was initially designed to be inclusive of public comment. And the outcomes suggest exclusivity rather than inclusivity—especially when comparing public and industry stakeholder access to Task Force members.

While not mentioned in the Governor's initial executive orders, the inclusion of public comment is stated in the final rules the Task Force established at the end of their second meeting, on October 10, 2014. According to one Task Force member, it was only when some members advocated for it that time during the meetings became designated for public comment. As he observed, *"We had to fight for public comment…It was not [initially going to be a component]…And she [another member] had to fight to get their testimony expanded from two minutes per person to three minutes per person."* One Task Force member also suggested how the process could have allowed a more meaningful approach to be achieved if more time had been allotted for people to participate in a more meaningful way, saying *"You know, giving people three minutes to rail is not meaningful."* Essentially, an effective and procedurally just process for public participation is not one wherein the options for participating are relegated to a three-minute oral presentation which cannot develop into a dialogue with others interested in pursuing solutions.

Once established, there were also strict rules for public comment that limited participants' abilities to structure and articulate a meaningful, cohesive argument. For example, participants were not allowed to pool their times together to make extended points. One Task Force member discussed how this substantially limited the extent to which members of the public could meaningfully and *collectively* participate, as they were forced to limit their arguments to individual statements lasting two to three minutes. As he explained: *"A proposal was made by some of the community people saying could we work as a group, and I'll take her two minutes, and take two minutes and so that way one person might get six. No, denied. And that was flatly turned down...So that there were no groups allowed to present together."* In addition, the limitations on public comment meant that not everyone who wanted to speak could.

The time allotted for public comment did not always meet the demand, leaving some individuals who traveled to the meetings unable to participate. Observed one Task Force member, *"They kept the time for public comment quite small…Specifically in Durango, we know that sixty people were waiting to talk when they ended the meeting."*

While no one was explicitly excluded from participating, there were concerns that this type of participation did not allow for procedural equity, or meaningful input from the public. Explained yet another Task Force member when asked about opportunities for public participation: *"There were substantial opportunities for input…You know, the question is to what extent [did] that comment actually…affect the outcome of the deliberations is a very different matter."* Having to push for public comment to be included as an aspect of this process and the inability to accommodate all meeting attendees wishing to address the Task Force suggest that the process was not inclusive and did not create space for meaningful or authentic participation where the public could actually influence policy outcomes (here, recommendations of the Task Force). More importantly, perhaps, this outlet for participation was flagged by Task Force members as 'participation'—yet, it did not allow the public particularly meaningful influence over the process or outcomes.

With limitations to opportunities for collective participation, for making complex arguments, or for even speaking if time "ran out," members of the public were excluded from meaningful participation in a few distinct ways. These establish significant procedural inequities regarding the space for authentic public participation and influence over policy during *public* Task Force meetings. With this as their only opportunity to access Task Force members, many environmental and conservation organizations, Front Range local officials, community groups, and residents were unable to authentically participate in this process. Yet again, this is not to say

that their disempowerment and lack of capacity to do so manifested equally across and within these groups. For example, Weld Air and Water was essentially the only Front Range community organization which had a seat on the Task Force and an invitation (albeit a very brief and delayed opportunity) to provide a formal presentation to the Task Force, despite there being a plethora of other active community organizations pushing for regulation in this area.

On the other hand, access to Task Force members and influential participation looked different for oil and gas industry stakeholders. Beyond public comment, meetings also presented opportunities for informal interactions between Task Force members and attendees. These informal opportunities for access and interaction were key—and ended up favoring the interests of the oil and gas industry.

Industry lobbyists and lawyers with clients on the Task Force were always present at the meetings. Not only did their presence stymie negotiation efforts, they were actively involved in influencing the voting recommendations of the Task Force. One Task Force member recalled the following when asked about industry presence during Task Force meetings:

> *Literally they [industry lawyers] would be sitting right behind them [Task Force members] while we were around the table negotiating and talking about these different issues. So as a result the oil and gas industry basically just followed the COGA line. You know there was no negotiation. There was no movement. There was no meaningful decisions that came out of that process.*

Another Task Force member I interviewed recalled similar strong, palpable industry influence on members of the Task Force during their deliberations and meetings. She observed: *"We're voting on recommendations…the industry lobbyists are literally sitting next to, move their chairs next to the neutral members of the Task Force and encouraged, told them how to vote on each of the recommendations."* As such, industry influence was clearly not limited to state actors, suggesting that in positions of power, supposedly "neutral" non-state actors may also be

influenced by the oil and gas industry in decision-making processes, further disempowering other concerned non-industry actors who were denied those potential seats at the table.

The industry's privileged access to the Task Force members directly influenced negotiation in their decision-making and voting, including the voting on final recommendations. Given that the Governor's initial executive order highlighted that it was the "increased oil and gas activity in new areas of Colorado's Front Range" that was creating jurisdictional conflicts, it is especially important that people living in the Front Range have adequate seats at the table in these decision-making processes. Yet, when comparing the industry's strong influence to the brief, tightly controlled, and individualized spaces for public participation allotted to members of the public, it becomes clear how much more opportunities and spaces for influence industry representatives had over the decision-making process. Further, when combined with my data above that the Task Force composition also favored industry, we can see the multiplicative ways in which industry power and access were enhanced, even as public power and access were diminished—clear procedural injustices. As such, public lack of representation on the Task Force and the lack of space for members of the public to meaningfully access Task Force members are definitive procedural justice concerns.

Rules of the Task Force Process

These power imbalances were exacerbated by the rules governing the Task Force process, which, members suggested created barriers to procedural justice in their decision-making process. Interviewees brought up concerns about the degree to which the state strictly controlled meetings and other processes though a variety of horizontal governance avenues—the Attorney General's office, the Governor's office, the Department of Natural Resources, and through the hiring of the Keystone Policy Center.

Through these avenues, interviewees suggested that the state tightly controlled the rules and structure, and as such, the recommendation process, serving to further the interests of the oil and gas industry and serving as an indirect avenue for enacting the industry's meta-power. Several Task Force members I interviewed suggested that these organizational dynamics facilitated the systematic influence of the oil and gas industry and allowed the recommendation process to align with their desired outcomes. A Task Force member I interviewed asserted the following when asked about the processes and structure of the group: *"The Task Force was so flawed in how it was designed and our rules…I would suspect virtually anyone on the Task Force to agree that it was biased toward the industry."* Another Task Force member echoed these observations about the tight controls on the Task Force and its deliberations when he observed that *"The agenda and discussion and information were very much driven by the state and the facilitators. I've been on a variety of panels and Task Forces and commissions over the years…and I'd say this one felt much more like a controlled process."*

Particularly, two major rules created barriers to the full participation of each Task Force member and influenced the final outcome—the Task Force's recommendations—in favor of the industry. These were: (1) the requirement of a supermajority vote to pass any recommendations and (2) the body being subjected to the Colorado Sunshine Law. Below, I analyze how these rules structured the Task Force process to benefit the oil and gas industry.

Supermajority Rules

Recall that the primary role of the Task Force was to make policy recommendations to better integrate state and local regulatory structures for governing UOG production. To do so, the Governor's initial executive order stated that a supermajority threshold would be necessary for any Task Force recommendations that addressed "new or amended legislation." This became a

point of contention as some Task Force members read this to mean that recommendations for submission to the primary regulatory body for UOG production —the COGCC—would require only a simple majority vote. To address this, a later reinterpretation was issued wherein the Governor communicated that a supermajority would be required "regardless of whether the implementation tool is legislation, regulation, policy or allocation of human or other resources" (see Colorado Oil and Gas Task Force Appendix B). With the ambiguity surrounding the voting rules, some Task Force members had spent their time working together focused on developing recommendations that could receive a simple majority support.

The Governor's declaration made a significant change mid-way through the process—a 2/3 majority of the Task Force was definitively required to approve and advance any Task Force recommendation no matter what governance body the recommendations would be going to. Had all Task Force members been clearly informed of the correct structure for the voting process from the beginning, it could have created the space for more meaningful dialogue and strategies for negotiating and passing more recommendations. Given the imbalance in the composition of the Task Force, the reinterpretation of the voting rules governing the Task Force in the middle of the process left some members feeling they had lost any negotiating power in the voting process. Members also observed that, subsequently, this rule change negatively impacted the group's ability to produce any outcomes for the people of Colorado that they considered *meaningful*.

They observed how these procedural inequities led to meaningless outcomes. Thus, the supermajority voting requirements prevented more substantive recommendations from moving forward. Remarked one Task Force member I interviewed: *"I think that [reinterpretation] was fatal to the Task Force or to progress that I think could have been made among members of the*

Task Force…As soon as that happened, it was clear that the oil and gas industry knew they had the votes to kill whatever they wanted to kill. And that substantially changed the conversation."

Another Task Force member described how the change to supermajority requirements fundamentally disempowered the smaller cadre of Task Force members that represented environmental, community, or other non-industry views. He stated*:*

> *You just don't have enough votes. You're starting with six votes that are going to be no…it was hard to get to a supermajority for a good idea that was meaningful. So we ended up with supermajorities for lukewarm good ideas, as opposed to supermajorities for good ideas that would have had a great deal of meaning…So there were a lot of nothing burgers that were adopted.*

Another Task Force member, who had aligned with the non-industry members of the Task Force, echoed these observations when he asserted the following:

> *Anything that would have actually made any difference in addressing the concerns were being brought forward was killed by that two thirds requirement. So people had avenues to bring their concerns, but there was no avenue to actually get a recommendation out of that Task Force to address any of those concerns.*

Ultimately, the 2/3 supermajority voting threshold and the lack of clarity surrounding it led to procedural inequities because even when meaningful negotiation was taking place between Task Force members from different interest groups, the oil and gas industry representatives were able to block proposed recommendations without even having to negotiate. As such, procedural inequity in this process was not just about whose voices were heard during public deliberations, but also what stakeholders controlled the processes and outcomes—even without having to fully exercise their voice or participate in the process. One Task Force member said the following when I asked him to describe the Task Force negotiations: *"Industry people spoke very little. They almost never said anything. I mean because they owned that committee, they didn't need to respond to criticism or anything."*

These quotations represent a frequent observation made by non-industry members of the Task Force. For instance, another Task Force member echoed these sentiments and detailed how power imbalances emerged on the Task Force to favor industry preferences when he said:

> *[The supermajority] allowed…one interest to basically veto action. From the environmental community side, you were trying to change things; whereas from the oil and gas industry side they were trying to keep the status quo. When you set up a structure that allows one side to veto things, it basically empowers them. And so just structurally the way it was set up it favored the oil and gas industry and their desired outcomes.*

Overall, the initial lack of clarity and subsequent reinterpretation of the voting requirements stymied efforts by non-industry Task Force members, as their collaborative strategies were aimed at developing recommendations for the COGCC that reached a simple majority threshold. Task Force members saw the abrupt shift to a requirement for supermajority support as a significant barrier to developing any meaningful recommendations for environmental, public health, safety, or other protective measures within their process. Essentially, the structure of the voting system—much like the inequities in the Task Force's composition—was the result of state decisions which created systems and structures in this process that led to more favorable outcomes for drilling operators than for Front Range residents living amid those industrial processes.

If the Task Force more equitably represented the variety of public and private stakeholders and interests, the supermajority threshold may not have created such important inequities in process and outcome. If the composition of the Task Force was the same but a simple majority vote was the threshold for passing recommendations, this too could have led to more equitable processes and balanced outcomes. Thus, these state decisions created layered barriers to meaningful public participation that, in turn, structured procedural inequity in the Task Force process. Essentially, the state's rules and structures enabled the oil and gas industry

to retain control over the process and subsequent outcome, that is, the state's rules and structures acted as an avenue through which the industry could indirectly exert meta-power over the regulatory development process. This is similar to the way the industry exerts meta-power in other regulatory processes for UOG production at the city, county and state level, resulting too, in multiscalar, intersectional disempowerment for non-industry stakeholders.

Open Meetings Laws

The Task Force received direction from the Governor and the Attorney General that their recommending body would be subject to the Colorado Open Records Act (CORA) and the Colorado Sunshine Law, which governs public meeting conduct. This required public notice for all meetings between two or more individuals on the Task Force, and disallowed private meetings among members to discuss Task Force issues. While certainly CORA and the Colorado Sunshine Law are well-intentioned, even meant to enhance procedural equity, Task Force members felt it was inappropriately applied to them as a recommending body. The Task Force members I interviewed instead saw its application in this context as a driver of procedural inequity, specifically noting how this diminished spaces for collaboration and negotiation in their decision-making processes. For instance, one Task Force member observed that *"It foreclosed the ability to talk with your compatriots on the Task Force about good ideas…So, that process or procedure hamstrung the ability to discuss with your compatriot Task Force members privately what might be a good idea that we can sell to everybody."*

Interviewees suggested that being subjected to the Colorado Sunshine Law intensified procedural inequities in the Task Force process because it limited the space for discussion and meant that all decision-making had to happen during their formal meetings—the structure of which some Task Force members believed favored the oil and gas industry. In this context, this

inability to meet with each other or discuss issues in a more private setting ended up enhancing industry influence over the process and outcome. Explained one Task Force member:

> *What it came down to is that each of us were siloed by this process and couldn't even talk to one another. And we're working in our little vacuums, putting forward these proposals. And then trying to build support. Only while you're at those meetings, it's really hard to do. Then, honestly, what ended up happening is that two of the supposed moderates just were coopted by the oil and gas industry.*

The participatory void CORA left in the decision-making process was also filled by industry lawyers and lobbyists who were able to attend the open meetings. Their influence was achieved by their capacity to attend every meeting and access their clients and other members of the Task Force informally. For instance, one Task Force member I interviewed who represented the local government/conservation faction recalled the industry's unmistakable presence and influence, and the resultant procedural inequity:

> *One thing that was always there were 30 to 40 industry lawyers sitting there staring at the Task Force, making sure that no industry Task Force member was straying from their allowed talking points…I mean, it was very striking, the body language if you would see if anybody began to stray from the company line, then at the next break they were surrounded and given a talking-to, and they would come back and be contrite. And you know, it might have been possible to negotiate something outside of that environment, but there was no way it was happening in that environment.*

As a result of their disproportionate access, industry lawyers and lobbyists arguably had a more influential role in the Task Force process than even some the Task Force members themselves.

This structural advantage for the industry members on the Task Force was further amplified because their lawyers were not subjected to the Task Force rules, allowing them to legally meet with each other and discuss Task Force issues. One member of the Task Force unpacked the logical outcome of this in terms of industry power and influence as well as the industry's starkly disproportionate access to resources, wealth, and information when he said:

> *Two members of the industry couldn't talk together theoretically—but the attorneys were talking continuously…The industry was able to work continuously together. Likewise the industry had a staff that was working together continuously…If we had attorneys representing us, working with the oil and gas attorneys representing them, there was a chance you could come up with stuff that was meaningful. But the fact that we had no staff, the fact that we weren't allowed to talk to each other, it was a sham. I don't know what the other people felt, but there was no chance of the citizen's side of coming up with something for the industry to accept.*

This created an important issue of procedural inequity in terms of influence over the decision-making process. The UOG production lawyers' and staffs' ability to collectively meet and discuss the proposed recommendations gave them the power to collaboratively negotiate industry positions on each recommendation. Further, they were empowered to hold these negotiations privately with each other and with their clients or colleagues on the Task Force. The ability to develop stances and strategies and build voting coalitions or garner support for a particular recommendation outside of the formal Task Force meetings was not possible for Task Force members that were not aligned with industry interests, creating an imbalance that favored key actors in the oil and gas industry.

Closed Spaces Create Procedural Inequity for the Public

What did these multiple forms of procedural inequity ultimately mean for the Task Force's ability to pass meaningful recommendations for regulating UOG production? And for the public's influence on those processes and recommendations? Simply put, the industry's dominant influence successfully prevented any substantial or meaningful regulatory change from moving forward.

Instead, the industry was able to systematically shape the outcomes and recommendations of the Task Force, holding power and influence unmatched by members of the public and other non-industry stakeholders. As such, non-industry stakeholders, whether Task Force members or

not, were marginalized in this process. For instance, as one Task Force member observed, *"I think the oil and gas industry agreed to participate because they knew it would take the ballot question off the ballot. And that was…a tactic in their efforts to derail further regulation on oil and gas. And they were able to sway the governor in a way that allowed the rules to be set up to their advantage."* Echoed another: *"Because of the combination of the way it was structured, and the industry [being] locked down, there was nothing that came out of the Task Force that made any meaningful difference in the way that oil and gas siting or operating rules that took place."* Finally, yet another Task Force member observed how this fundamentally challenged procedural equity: *"I mean if you're interested in process, this process was really set up that way and enforced to make sure nothing would happen. A complete waste of time in the end. I mean you just felt…well, I mean, I just felt so used."*

When examining issues of procedural (in)justice, the structure of the process, how it is designed, who designs it, and who it benefits are all critical points of analysis. In the case of the 2014 Colorado Oil and Gas Task Force, the state's structuring of the rules functioned to limit opportunities for meaningful public participation and instead served the interests of the oil and gas industry—who already have substantial power and favor in the existing spaces for influencing regulations for UOG production at the state-level, such as at the state legislature, in the state court system, and via the COGCC (see Dissertation Article 2). Below, I discuss the implications of these procedural injustices, situating them in other policy processes and suggesting avenues for achieving more procedurally just processes for regulating UOG production in Colorado.

Discussion and Conclusion

The purpose of this paper is to analyze the process of the 2014 Colorado Oil and Gas Task Force and identify issues of procedural justice and inclusion. In particular, I sought to understand the extent to which the process provided meaningful opportunities for public participation that were inclusive, open, and equitable for all potentially interested stakeholders. This especially included stakeholders most likely to be influenced by the decisions made in this process. My analysis addressed three research questions related to power and procedural justice in the Colorado Oil and Gas Task Force's process for developing recommendations for regulating UOG production in Colorado. I ask: To what extent was the Task Force's decision-making process inclusive, open, and equitable, in terms of providing opportunities for Coloradans impacted by UOG development to participate in the decision-making process? To what extent did these opportunities allow for meaningful participation in and influence over the decision-making process? How did power imbalances create opportunities for some stakeholders and barriers for others in influencing the Task Force process and outcomes?

As I demonstrate above, valid concerns about procedural justice issues abound. Thematically, issues of procedural injustice emerged in three critical ways, including: (1) Composition and membership of the Task Force, influenced directly by Governor Hickenlooper, Representative Polis, and the Department of Natural Resources (2) The differential ways in which some Task Force members influenced the decision-making process internally, with industry perspectives especially well-represented; and (3) The limitations to various opportunities for the public to influence the decision-making process, which diminished public input. Importantly issues of procedural justice emerge both in terms of exclusion from participating, such as lacking representation on the Task Force, and in terms of the influence and

authenticity of participation, where the mechanisms for public involvement (such as public comment) were made meaningless by their limited scope, purpose, or content.

I suggest that industry stakeholder's differential access to the Task Force's process and its members, coupled with rule structures for the process that favored the industry, differentially diminished opportunities for public participation for the very people most likely to be impacted by northern Colorado's UOG production and potential regulatory changes. At the same time, this also expanded operators' influence over the Task Force decision-making process and subsequent recommendation outcomes. Unlike then-Representative Polis' hopes, the structure of participation and the rules of the Task Force process did not serve its intended purpose of balancing the playing field between the industry, the state, local governments, and concerned residents. Instead, it advantaged multiply privileged stakeholders who already possess some degree of political power in UOG production decision-making processes. Given advantage and power exist as relational, this privileged positionality for oil and gas operators results in intersectionally-disadvantaged positions for actors across and within groups of non-industry stakeholders.

The Task Force process ultimately demonstrates how through the structuring of processes the state can control regulatory outcomes. In this case, the state chose to structure these decision-making processes to advantage already powerful interests, the oil and gas industry, at the expense of other stakeholders. These actions helped maintain and reinforce the regulatory status quo and subsequent procedural injustices and inequities that have persisted in the Colorado UOG production context over the last ten years. Much like Ryder and Hall (2017) and Malin et al. (2018), this suggests that the industry wields enormous power to structure and create the

conditions of UOG production—that is, meta-power—particularly relative to non-industry actors and Colorado residents more broadly.

This parallels existing research on the state-level governance of UOG production, namely that it serves industry interests, which is why the industry continues to lobby for regulation to remain at the state-level (Davis and Hoffer 2012, Warner and Shapiro 2013). My findings also align with broader research that examines state-industry relationships. Hayes (2001), for example, suggests that industries hold privileged spaces in state processes and as such can block efforts at challenging the regulatory status quo. Cobb and Ross suggest (1997) that in these instances, if change does occur it is likely to be minor, economical, and designed to appease those who are advocating for change, what they refer to as 'symbolic placating strategies.' As a critical EJ scholar, Pellow (2001, 2018) suggests, it is imperative that EJ researchers problematize the state's role in creating, maintaining, and perpetuating issues of EJ and holding them accountable for how their governance processes reproduce power, injustice, and inequality in environmental contexts. In the case of the Task Force, the mere nine recommendations that were moved forward were described by many members and non-members I interviewed as nothing substantial or meaningful. As one interviewee described them above, they were essentially "nothing burgers." These recommendations, and the Task Force process itself, may be understood as symbolic placating strategies, enabled by an industry-influenced state government.

In order to achieve procedural justice and just outcomes from regulatory processes moving forward, it will be necessary to more critically and directly challenge the relationship between the state and the oil and gas industry across multiple scales. This includes challenging the state's 'business as usual' process for establishing what decision-making and governance processes look like, and who is given a seat at the decision-making table and why. Yet it also

includes challenging the relationship between the oil and gas industry and governing bodies across more macro (the global and national levels) and micro governance scales (i.e. the county and city). Further, it would be useful to challenge the industry's ability to engage meta-power to construct and maintain decision-making processes at governance scales that work in their own favor. Instead, it is possible to push for establishing regulations for UOG production at governance scales which might best favor democratic processes for residents who are likely to be most impacted by development—such as Homeowner Associations, neighborhoods, or school districts. In the case of the Task Force, new regulations have mandated that the COGCC work more closely with local governments and require operators to develop comprehensive drilling plans to share with local governments—chipping away ever so slightly at the regulatory imbalances between the state and cities and counties. Still, some of these efforts do not directly challenge the industry's influence in regulatory processes. Interviewees had suggestions for improving both the Task Force and other regulatory processes—essentially allowing for more active participation from stakeholders outside of decision-making bodies. This included a restructuring of decision-making process rules with an emphasis on equity and democratic decision-making, changing who constitutes the decisionmakers at the table, and restructuring the rules for decision-making process to emphasize the incorporation of feedback as an interactive process and avenues which encourage active participation such as soliciting calls for proposals from a variety of stakeholders in the public.

As this research demonstrates, achieving procedural justice is not only about allowing for inclusiveness in terms of who has a seat at the table. When the voices of the impacted are missing across multiple governance processes, powerful stakeholders benefit from the spaces not afforded to others, exacerbating procedural injustice. In the midst of a changing climate, we can

no longer afford to ignore these issues of injustice and the degree to which state processes reinforce the status quo and favor the interests of the fossil fuel industry at large. As such, this is an important area for procedural justice to explore in more depth moving forward.

CONCLUSION

Introduction

UOG production has significantly changed the U.S.'s energy portfolio in the 21st century. The U.S. is now the number one producer of hydrocarbons in the world (EIA 2017). Projections from the U.S. Energy Information Agency suggest that shale gas production will continue to grow as a share of oil and natural gas production in the U.S. (EIA 2018). This shift in domestic energy production has contributed to the nation's economy, positively impacted import and export balances, and is seen by some as a "cleaner" potential bridge fuel for transitioning to renewables (see Argetsinger 2011; Bilgili et al. 2016; Yergin 2014). However, the rapid expansion of UOG production has also led to a variety of risk concerns, such as impacts to the environment and public health (i.e. see Adgate et al. 2014, Finkel 2015, Ladd 2018), and the degree to which methane emissions from UOG production continue to contribute to the issue of climate change (Tollefson 2012, 2013).

Importantly, there has been much debate about what governing authority has the right to regulate various aspects of UOG production. Governance conflicts stem from state preemption of local governments' zoning authority in a regulatory context absent of federal oversight, leading to procedural justice concerns about impacted residents having space to influence UOG production decision-making processes (see Malin et al. 2018, Ryder 2017; Warner and Shapiro 2013). The 2005 Energy Policy Act exempted oil and gas operations from 7/15 major federal environmental regulations, including aspects of the Safe Drinking Water Act and the Clean Water Act. Deregulation like this meant that individual states like Colorado had to quickly determine how to regulate UOG production. Typically, this allowed quick permitting for industry operators in heavily drilled states (Mayer and Malin 2019; Malin et al. 2017), but it also left states with rampant conflicts about what to regulate and appropriate scales of governance. Thus,

efforts to regulate and/or slow UOG development manifested across multiple scales in Colorado: city council and county commissioner meetings, local and state ballot measures, local and state elections, the state legislature, the Governor's office, the COGCC, the Colorado court system, community meetings and organization activities, and on-site protests. These processes connect, overlap, and at times contradict each other. Further, these processes are powered and contested.

In Colorado, lands that were once rural have become more urbanized and state preemption has allowed drilling to occur in close proximity to housing developments and other high occupancy buildings like schools (Malin et al. 2018; Ryder and Hall 2017; Toan 2015). Yet, the issue is relevant beyond just Colorado. Goho (2012) highlights UOG production's encroachment on lands with no history of energy development all across the U.S., and Fry and Braanstrom (2017) demonstrate the need for developing policies that address UOG production in urban spaces in the Dallas-Fort Worth metropolis. Given the above, UOG production and its regulation has implications across multiple governance scales, from the macro (global, federal) to the meso (state, county, city) and the micro (neighborhood, household, the body).

The purpose of this dissertation is to better understand what differential capacities stakeholders—such as members of the public, land owners, oil and gas operators, and industry interest groups—have to participate in and influence policy-making and decisions related to regulations for UOG production across local and state government processes in Colorado. That is, what power imbalances exist among these stakeholders, and how then do power imbalances impact people's abilities to realize procedural equity? I conducted a critical policy ethnography to investigate the differential opportunities that actors and organizations have had to participate in and have influence over regulatory decisions for UOG production at local and state levels of governance and analysis. I engaged in participant observation; semi-structured interviews with

members of the public affected by UOG production, activists, and local and state policymakers in Colorado; and analyses of policies/regulations, legal documents, and meeting notes from local and state legislative meetings. Using these approaches, I identified opportunities for enhancing and enriching the space available for meaningful, democratic public participation and for more equitable distribution of decision-making power within regulatory policy processes for UOG production.

More broadly, I aimed to uncover the role of power—which I define as the possession of, access to, and deployment of mechanisms to influence decision-making processes (see Ryder 2017a)—in multiscalar energy decision-making processes. Power dynamics constitute vital aspects of procedural justice across environmental, energy, and climate justice literatures. As such, this research interrogates particular processes that are relevant for these literatures more broadly. Namely: Who makes energy and climate decisions? Who has the power to create and maintain the status quo for energy and climate change decision-making processes? Who benefits? Who is burdened?

I work to advance the study of procedural justice in UOG production contexts by engaging in a multi-sited critical policy ethnography that examines the nuances of power across multiscalar regulatory governance efforts and conflicts in the context of UOG production. This work is driven by an interpretivist and constructionist approach to knowledge, where power dynamics shape, privilege, and disadvantage different knowledge sets within decision-making processes. My reliance primarily on qualitative methods and utilization of a critical policy ethnography for this research stems directly from this orientation.

Chapter Overviews and Findings

I delved into the use of a critical policy ethnography in my first dissertation article, where I advanced a methodological approach for studying power and procedural justice in energy and climate justice research. I focused particularly on discussing appropriate tools for studying multiscalar power (that is, power exerted over different levels of policy decision-making processes) viewed through an intersectional lens. I examined how intersectionality can be used theoretically and methodologically to understand the nuances of power at work within and across groups that are historically privileged or marginalized in energy decision-making processes, such as differential power across industry operators and differential marginalization across community and environmental organizations. This suggests that not all actors within each of these camps have equal influence over regulatory decision-making processes and outcomes.

In that article, I made a methodological contribution to the field by highlighting current intersectionally-informed methods that could be used in energy and climate justice contexts, including life story narratives, everyday life as points of departure, figurations, document analysis and semi-structured interviews. Further, I demonstrated how my adaptation of a multi-sited critical policy ethnography that incorporates qualitative interviews, an IBPA interview guide, participant observations, and document analysis, allowed me to intersectionally observe and interrogate nuances of privilege, power, and disadvantage within stakeholder groups. This new tool for environmental policy analysis can also help researchers evaluate the degree to which decision-making processes are intersectionally-inclusive and procedurally just across scales.

Returning to the conflicts and multiscalar tensions of governing and regulating UOG production state-by-state (Davis 2012; Malin et al. 2018), I then turned to empirical

examinations of UOG production's outcomes on the ground, at multiple scales. In my second dissertation article, I applied the methodological approach outlined above to develop an understanding of nuanced, multiscalar power and procedural justice outcomes related to regulatory and policy realms for UOG production. Here, I asked more specific research questions about procedural justice in the context of Colorado's UOG production across multiple scales. Specifically, I asked: What opportunities do members of the public have for inclusive and meaningful participation in multiscalar conflicts, particularly decision-making processes for UOG development in Colorado? Across organizations and scales, what power imbalances and barriers to participation exist and why?

In interrogating power dynamics at multiple governance scales I found procedural injustices emerged in three ways in these contexts: (1) Existing policies and regulatory structures that have historically and currently favored the industry; (2) The industry's exertion of multiscalar meta-power in current regulatory decision-making; and (3) The industry's capacity to influence the appointment and election of industry-friendly decision makers in both state and local processes, ensuring their ability to maintain power in future regulatory contexts. I demonstrated how the industry has developed significant power and influence across scales, both historically and currently, allowing the oil and gas industry to enact multiscalar meta-power across time, space and scale. Their long-term economic power has allowed them to historically shape—and continue to shape—regulatory decision-making processes in a way that advantages the industry's influence while diminishing the influence of other stakeholders affected by drilling.

Through multiscalar meta-power, the industry was able to maintain differential access to knowledge, policy processes and policymakers, while also successfully reinforcing laws that

serve their interests and creating exceptions for ones that don't—particularly at the state level. I suggested that the state bodies for regulating UOG production are captured by the industry, which in turn has hamstrung local government processes related to permitting and production. Furthermore, I demonstrated how industry-friendly elected officials across the city, county, and state levels are often coopted by the industry—hindering Northern Colorado Front Range residents' efforts at meaningful participation across multiscalar decision-making processes.

The exercising of industry power had direct implications for other stakeholders and their ability to influence regulations for UOG production, with one state legislator suggesting anyone opposing the industry has to operate "like an insurgency." As such, community organizations (and occasionally environmental and conservation organizations) reported experiencing multiscalar procedural injustices in the form of disengagement from lawmakers, disempowerment, and a lack of procedural justice as they lobbied for regulations across these multiscalar and muti-branch processes. Yet this disempowerment was not experienced equally by all non-industry stakeholders, as local governments, environmental and conservation organizations, community organizations, and non-affiliated individual residents possessed varying capabilities to influence regulatory decision-making processes, which varied at different governance scales. For example, while state level environmental and community organizations are more able to influence state legislative processes via lobbying, they may hold less sway then community organizations and residents at the local level. Still. the industry's capacity to influence the process and outcomes of nearly every regulatory effort meant that at every turn, community members' efforts to gain some power and influence—or just a few important seats at the table—were consistently thwarted. Ultimately, this helped generate multiscalar disempowerment of local governments and members of the public in Northern Colorado.

These findings support previous research on the state-level governance of UOG production, particularly that it serves industry interests and encourages the industry to lobby for continued state-level regulation (Davis and Hoffer 2012, Warner and Shapiro 2013). My findings also align with broader research that examines state-industry relationships. Hayes, for example (2001) suggests that industries hold privileged spaces in state processes and as such can block efforts at challenging the regulatory status quo. The procedural injustices I identified indicate that regulatory policies and related processes for UOG production are designed to serve the 'usual suspects'—that is, historically powerful oil and gas industry actors—at the expense of Colorado residents. This aligns with previous research on the concerns of Colorado residents impacted by UOG production who have felt ignored or neglected by the COGCC's enforcement practices (Opsal and Shelley 2014) or who experienced procedural inequity in other processes, such as lease-signing (Malin et al. 2019).

In my third dissertation article, I moved beyond the breadth of accounting for multiple processes and scales for regulating UOG production in Colorado and focused on an in-depth examination of power and procedural justice in one of these processes—the 2014 Colorado Oil and Gas Task Force. This Task Force served as a particularly important temporary body nested in the governance processes explored in the second dissertation article, above. Here, my analysis addressed three research questions related to power and procedural justice in the Colorado Oil and Gas Task Force's process for developing recommendations for regulating UOG production in Colorado. I asked: To what extent was the Task Force's decision-making process intersectionally-inclusive, open, and equitable, in terms of providing opportunities for Coloradans impacted by UOG production to participate in the decision-making process? To what extent did these opportunities allow for meaningful participation in and influence over the

decision-making process? How did power imbalances create opportunities for some stakeholders and barriers for others in influencing the Task Force process and outcomes?

As I demonstrated above, valid concerns about procedural justice issues were prevalent. Thematically, issues of procedural injustice emerged in three critical ways, including: (1) composition and membership of the Task Force, influenced directly by Governor Hickenlooper, Representative Polis, and the Department of Natural Resources (2) the differential ways in which some Task Force members influenced the decision-making process internally, with industry perspectives especially well-represented; and (3) the limitations to various opportunities for the public to influence the decision-making process, which diminished public input. Importantly these issues of procedural justice emerged both in terms of exclusion from participating, such as lacking representation on the Task Force, and in terms of the influence and authenticity of participation, when those mechanisms were made meaningless by their limited scope, purpose, or content.

I suggest that industry stakeholder's differential access to the Task Force's process and its members, coupled with rule structures for the process that favored the industry, diminished opportunities for public participation for the very people most likely to be impacted by northern Colorado's UOG production and regulatory changes. This expanded industry operators' influence over the Task Force decision-making process and the subsequent outcomes. I found evidence for a lack of procedural justice in the context of the Task Force—particularly an inability for Northern Colorado residents to meaningfully change regulations for UOG production. My findings align with previous work that demonstrates the political and economic advantages afforded to dominant industries in state politics, which can often hinder efforts at regulatory advancements and challenging the status quo (Davis 2012, Hayes 2001).

The Task Force process ultimately demonstrates how the state has controlled regulatory outcomes and specifically highlights how, in this case, the state chose to structure this decision-making process to the advantage of already powerful interests—here, the oil and gas industry—at the expense of other stakeholders. These actions helped maintain and reinforce the regulatory status quo and subsequent procedural injustices and inequities that have persisted in the Colorado UOG production context over the last ten years. Much like Ryder and Hall (2017) and Malin et al. (2018), this suggests that the industry wields enormous power to structure and create the conditions of UOG production—that is, meta-power—particularly when compared to the influence of members of the public. Furthermore, the exercise of industry meta-power differentially disempowers non-industry stakeholders such as government actors, environmental non-profits, local community organizations, and organizationally unaffiliated residents. This includes institutional and individual actors who have been historically disempowered in these processes, such as the Sierra Club or the Community Action Network, as well as institutional and individual actors within organizations and communities that have been further burdened by identity-based oppression rooted in race, class, gender, or legal status.

Taken together, these articles advance our understanding of how power operates across space, time, scale, and process in the context of regulating UOG production. Each article illuminates how historical policies and decisions, shaped by industry influence, continue to shape the current rules of the policy game. While these processes may seem innocuous, they have great influence over the differential power held by various contemporary stakeholders hoping to shape regulatory processes and determine regulatory outcomes for UOG production near their homes and communities. It also highlights how well-intentioned rules, such as the Colorado Sunshine

Act, can lead to unintended consequences that perpetuate power imbalances in decision-making processes.

In interrogating power dynamics at multiple scales, I demonstrated how three structural aspects of multiscalar decision-making processes for regulating UOG production in Colorado enhanced inequity and diminished procedural injustice—empowering industry at the expense of impacted or potentially impacted Colorado residents. These structural aspects include: (1) existing policies and precedents that favor the oil and gas industry; (2) established rules that set the conditions for how decision-making processes actually function; and (3) the composition of various governing bodies, which often favored industry perspectives. Together, these structures affected internal power imbalances among members *within* governing bodies I examine; power imbalances *across* these governing bodies; and power imbalances in the public's (in)abilities to access these governing spaces and institutions to influence policy and decision-making processes therein.

My findings highlight the relevance of both intersectionality and meta-power in how power operates in the context of UOG production. In all the processes I examined, the operations of power indicate that the state and the industry co-create and reproduce inequitable conditions for regulating UOG production. In turn, these dynamics help create and re-produce imbalanced power dynamics and procedural injustices across scales and governing bodies, wherein industry influence consistently outweighs that of other stakeholders, especially the public. As such, procedural justice issues manifested for Colorado residents and community organizations in similar ways across multiple governance scales and processes for establishing regulations for UOG production—with the affected public experiencing disengagement from lawmakers,

disempowerment, and a lack of procedural justice as they lobbied for regulations across these multiscalar processes.

Advances to the Literature

My findings support previous research on the state-level governance of UOG production, particularly that it serves industry interests and that the industry lobbies for regulation to remain at the state-level (Davis and Hoffer 2012, Warner and Shapiro 2013). My findings also align with broader research that examines state-industry relationships. Hayes, for example (2001) notes that industries hold privileged spaces in state processes and as such can block efforts at challenging the regulatory status quo. Cobb and Ross (1997) suggest that in these instances, if change does occur, it is likely to be minor, economical, and designed to appease those who are advocating for change, what they refer to as 'symbolic placating strategies.'

These findings also align with and advance EJ and procedural justice studies. Pellow (2017) suggests that critical EJ literature must continue to frame the role of the state in perpetuating environmental injustices as 'state-sanctioned violence.' As government entities create and maintain these processes, it is essential to hold them accountable for their roles in simultaneously creating and maintaining existing power imbalances—particularly between the industry and the public. My research advances critical EJ literature by centering the role of the state in perpetuating the oil and gas industry's multiscalar exercise of meta-power. My findings also advance research on procedural justice by interrogating the internal dynamics of institutional processes designed to meet people's demands for more local control over industry activities and regulations. Through these examinations, I show how those institutional processes meant to enable more influential public participation can actually erect serious barriers to public empowerment.

When examining issues of procedural (in)justice, the structure of decision-making processes, how they are designed, who designs them, and who these processes benefit are all critical points of analysis. As Ingram et al. (2007:100) note, policy designs tend to primarily benefit the same, already powerful groups of people while generally punishing others. They note that policy designs "affect participation through rules of participation, messages conveyed to individuals, resources such as money and time, and actual experiences with policy...Messages convey who belongs, whose interests are important, what kind of 'game' politics is, and whether one has a place at the table." The procedural injustices I identified indicate that regulatory policies and related processes for UOG production are designed to serve the 'usual suspects'—that is, historically powerful oil and gas industry actors—at the expense of Colorado residents. This aligns with previous research on Colorado residents impacted by UOG production who have felt ignored or neglected by the COGCC's enforcement practices (Opsal and Shelley 2014) or who experienced procedural inequity in other processes, such as lease-signing (Malin et al. 2019).

Advancing the Interrogation of Power and the Powerful in Procedural Justice Research

Often studies of power, justice, and inequality focus on the disadvantaged, which renders invisible those who benefit from inequality and injustice. Furthermore, it elides the role of the powerful—whether intentional or unintentional—in maintaining these imbalances. Essentially, to understand disempowerment, inequality, and injustice in these processes, we must identify the actors and institutions that benefit from power imbalances in these systems. Importantly, oil and gas industry operators were regularly able to wield power and influence over various multiscalar decision-making processes and spaces, often at the expense of other stakeholders, in order to further their substantial economic interests.

In this dissertation, I examine power as it operates across space, time, and scale, and highlight the degree to which power imbalances that influence regulatory decisions for UOG production can manifest both *across* different groups of actors, organizations, institutions, and alliances, and *within* them. As such, I incorporate two complementary ways of conceptualizing and enacting power—via the exertion of meta-power and intersectionally.

Meta-power refers to the capacity for actors to structure the rules of the game over time and from a distance. Importantly, meta-power is more than fleeting; it allows empowered entities to structure rules and/or create institutions that shape processes and outcomes for long durations of time and across geographic boundaries. Meta-power can be clearly seen in the context of oil and gas production in Colorado over time, especially in the way that historical and contemporary actors in the oil and gas industry have been able to align with and influence state processes across time, essentially creating a state-industry regime. The industry's long-term meta-power has facilitated the oil and gas industry's ubiquitous dominance in influencing regulatory decision-making processes and subsequent policy outcomes.

An intersectional approach to studying procedural justice in energy and climate decision-making processes also challenges various assumptions and actions that maintain and normalize the dominance of the fossil fuel industry in U.S. domestic energy policy. An intersectional lens enhances the application of meta-power by highlighting how intersecting oppressive systems can impact who has a seat at the table and an opportunity to meaningfully influence decisions being made there, across scales and institutions. Without the application of intersectional analyses, the full extent of environmental risks, types of oppression, and vulnerabilities experienced by marginalized communities can be minimized or masked (Ryder 2017b). Further, intersectionally-

privileged populations and the ways they benefit from the socio-environmental status quo remain obscure (Ryder 2017b).

Here, my multi-sited critical policy ethnography, rooted in these approaches to power, allows for a more nuanced and relational approach to understanding the "production, politics, organization and technology" of energy decisions (Goodman and Marshall 2016; Ryder 2018); the roles of power, privilege, oppression, and access to participate in energy decision-making processes; and the subsequent socio-environmental consequences, both localized (i.e. waste and pollution) and diffuse (climate change) across multiple socio-political scales. Furthermore, it allows for a more expansive scope for studying how relevant events, actors, processes, and underlying social factors create and reproduce inequity and injustice across time, space, and scale, influencing broader energy and climate decision-making processes and outcomes.

Multiscalar Power and Procedural Justice in Energy & Climate Change Research

In Colorado, activists, environmentalists, and concerned members of the public have attempted to influence decision-making processes in multiple ways—by placing their bodies strategically in peaceful protest, by voting in local and state elections, by introducing local initiatives that ban or more stringently regulate UOG production, by petitioning for state ballot initiatives, and by filing lawsuits against the state. Industry operators, too, have operated across multiple sites and scales, investing money in city, county, and state elections, investing money to keep local and state regulations from advancing, and by suing individuals and cities that challenge their legal rights to access mineral resources. While both community residents and the oil and gas industry operated at multiple scales, the industry's multiscalar meta-power allows for industry actors to shape the rules of the game at each scale. While the public and other stakeholders may have been present, their influence was consistently diminished by the

multiscalar power of the oil and gas industry in Colorado. In the end, the strong influence of the oil and gas industry created significant barriers to democratic, public participation for Colorado residents. What are the broader implications of the multiscalar power and procedural justice issues present in this context?

Energy policies and systems are comprised of socio-political processes that have historically benefitted some actors at the expense of others, such as those in the Global North at the expense of the Global South (Sovacool et al. 2016). Studying power and procedural justice in incremental decision-making processes is critical, since it is through these processes that broader macro-level energy and climate policy outcomes are informed and established. Imperative questions in analyzing procedural energy and climate justice, put forth by Sovacool et al. (2016:5) include: "Who gets to decide and set rules and laws, and which parties and interests are recognized in decision-making? By what process do they make such decisions? How impartial or fair are the institutions, instruments, and objectives involved?" Furthermore, Vanderheiden (2008:xxi) suggests that "effectively addressing the problem of anthropogenic climate change...requires a commitment to fairness." Yet energy and climate change research must also account for the multiscalar impacts of energy policies, or, how energy policies impact spatially categorized groups of people in a society—globally, regionally, nationally, locally, communally, and even bodies themselves (Moore 2008; Soja 2005; Williamson 2015). My research acts as a guide for developing approaches that undertake energy and climate policy studies while also accounting for multiscalar governance processes—which is largely absent in research focused on studies of inclusive and meaningful participation in energy and climate decision-making governance research.

By focusing on multiscalar power structures, systems, and hierarchies, I contribute to a growing body of research that can help transform our energy and climate systems into more equitable and accountable assortments of policies, procedures, and institutions. In the face of impending global climate change, this sort of equitable approach will improve necessary mitigation and adaptation strategies. Otherwise, our research could help perpetuate a normative research field where social actors and organizations remain decoupled from their roles and responsibilities in the construction of and participation in these energy systems; where the embeddedness of a system is taken for granted, remains unscrutinized and unchallenged, and acts as a path-dependent barrier to the envisioning and building of an alternative energy and climate future. This is particularly important as unconventional energy sources are increasingly relied upon in the global energy landscape, in a world where the youth who stand to live in a world altered by climate change are leading the efforts for a societal paradigmatic shift on energy and climate (Carrington 2019).

Limitations and Future Research

Despite the contributions this research makes to several important areas of research, it is not without its limitations. Developing research that accounts for the historical and spatial embeddedness, as well as the degree to which processes are nested across multiple scales presents challenges for balancing depth and breadth. As such, it was impossible to provide a detailed analysis of the federal and national contexts that the state, county, and city processes analyzed here were embedded in. Similarly, it was difficult to incorporate more micro-scale considerations—such as neighborhoods, houses, and the body into these articles. In addition, intersectional analyses proves challenging when stakeholders with the most power in these

processes do not volunteer to participate in research, and those potential stakeholders with the least amount of power cannot or do not enter into the decision-making process arena.

However, in future articles I will use this data to discuss additional aspects of both scale and intersectional power—evaluating how interviewees constructed alternative scales for action (i.e. HOAs) and how they make multiscalar connections between UOG production and climate change. I will also explore the degree to which intersectional aspects play out within community organizations and environmental and conservation groups working to advance regulations for UOG production across multiple governance scales. Finally, I will develop articles that examine COGCC and Colorado General Assembly processes in depth—similarly to the approach I adopted to study the 2014 Oil and Gas Task Force in the third article of this dissertation.

Conclusion: Shifting Winds of Procedural Justice?

While there have been limited opportunities for just participation in these processes, there have been some efforts that have successfully challenged the industry's power in small ways. At the local government level, some cities and counties have implemented their own Task Forces, and oil and gas advisory or citizen review boards. In addition, several candidates have run successful campaigns after leading community organizations opposed to drilling. Local governments have also hired additional staff with expertise in UOG production, and local government designees have pushed for harmonization between comprehensive development plans and newly-required operator comprehensive drilling plans. Still, some of these efforts do not directly challenge industry influence in regulatory processes.

Interviewees broadly called for the expansion of regulatory scales for decision-making (drilling sites, neighborhoods, basin-level geographic areas), transparency in terms of data and process, and the re-structuring of regulatory decision-making processes to promote active

participation in processes over efficiency in reaching decisions. Further, they see balancing the composition of governing bodies to include non-industry voices who value and encourage resident's active participation in these processes. For many interviewees, this is only achievable by addressing the role of industry money in campaigns and elections.

Currently, we see what may be the most promising effort yet to try and establish a balance of power between the state, the oil and gas industry, local governments and residents. In 2018, Democratic Candidate Jared Polis—who had supported state-level citizen-initiated ballots for more stringent oil and gas regulations and spearheaded the 2014 Colorado Oil and Gas Task Force—was elected Governor of Colorado. In addition, Democrats regained power at the state Senate and now control both bodies of the Colorado General Assembly. As most interviews took place prior to the election, there were assertions by many interviewees that if this was the outcome of the election, we were likely to see the state's approach to regulating UOG production change. In fact, it has. Senate Bill 181was passed and signed into law on April 16, 2019 by Governor Jared Polis. The bill addresses several critical components highlighted in this dissertation as giving leverage to the industry—it changes the requirements for the makeup of the COGCC, reducing industry positions, and it changes the mandate for the COGCC who no longer will be responsible for "fostering" development, but simply "regulating" it (see Finley 2019). In addition, it grants local governments the ability to create their own rules, including establishing greater well setback distances.

Still, the embeddedness of industry power in these policy arenas will not disappear overnight. The industry vehemently opposed this legislation but were able to negotiate amendments that may still act as barriers for producing regulatory change. For example, any new regulatory rules are required to be shown as "reasonable and necessary," which, may open up

legal challenges from the industry aimed at preventing rules they can argue are unreasonable or unnecessary. Moving forward, studying the implementation of this new legislation and its implications for procedural justice in regulating UOG production in Colorado will be imperative for identifying strategies for successfully challenging dominant industry meta-power in the context of energy development and beyond.

As a Colorado Front Range and Larimer County resident for the last nine years, observing the evolution of UOG production and subsequent resistance to it as a participant-observer has meant that I cannot remove myself or those I know as individuals who could be directly or indirectly impacted by these regulatory decisions. In fact, my interest in this area developed initially as the 'fracking' boom began to take off both in my new community in Colorado and in my rural Pennsylvanian hometown. Since the early days of conducting informal focus groups with family friends in Pennsylvania, to being involved tangentially in assisting with the development of regulations during my time working for the City Manager in Loveland, to the culmination of this research project, much has changed as a result of UOG production in Colorado. The visual differences participants describe when driving down county roads or even the interstate are differences I too have noticed. Just like many of my interviewees, I too had the opportunity to vote on a ballot measure for a long-term moratorium on drilling in my city.

The issue has made its way in and out of the news each time new regulations or ballot measures are proposed, as well as when serious industry accidents like fires or explosions occur. Yet, some of the most committed community organizers and activists have remained steadfastedly committed to their efforts whether there is a flood of media attention or a media drought. Some of these leaders have transformed the narrative outside of actually enacting regulation, through national media outlets—such as the New York Times or The Daily Show—

and by running for office in their own communities. Each interviewee's perspective has added to my nuanced understanding of the practice of UOG production and efforts for regulating the practice.

In many ways, the battles over UOG production represent larger shifts and tensions in the state of Colorado. With a long history of agriculture and resource extraction, the historically dominant identity of the typical Coloradan as a rural, conservative, farmer or rancher is being challenged by a wave of both domestic and international migration, where the state's Front Range is increasingly urbanized, liberal, and environmentalist. You can observe this tension visually, via the "Colorado Native" bumper stickers and "Pioneer" vanity license plates. But there is often no attempt to hide the disdain for newcomers, particularly Californians who Coloradans complain drive up prices. Even interviewees in this research project who tended to favor UOG production would attribute the current conflict in their communities to the influx of new residents who they saw as lacking an understanding of the oil and gas industry's operations here and being uneducated about industry safety. Essentially, the battle over UOG production is a battle for the heart and future identity of the state of Colorado, and the balance of power may be shifting. What does this mean for how the state can successfully move forward, and how other places facing conflict over UOG production might be able to learn from the experiences here?

A variety of potential efforts for enhancing spaces for procedural justice in regulatory decision-making processes for UOG production are discussed throughout this dissertation. Overall, while certainly no panacea, perhaps the most important overarching takeaway from this research is that to create a balanced set of regulations for UOG production, it is necessary to push for a level playing field within the decision-making process. Essentially, that means diverting some efforts from a focus on the immediate cause to a focus on working with decision-makers to

change the processes through which regulatory decisions are made, whose voices are included, and to what degree. This would likely require better alignment across different non-industry stakeholder organizations such as different community level organizations and larger state and federal level environmental non-profits. While their goals and strategies may not be completely aligned, they do tend to share some similar overarching values. Further, there must be improved outreach efforts to ensure that the most vulnerable populations facing drilling impacts are located, informed, and able to easily opt in to decision-making processes. Industry actors, governmental actors, and those running both environmental and community organizations that challenge drilling could all improve their outreach efforts to be more intersectionally-inclusive.

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APPENDIX A: INTERVIEW GUIDES

Initial Interview Guide for Residents and Community Organizations

1. Please provide a little background on yourself, your family, and your daily life in Colorado?
    a. How long have you lived here?
    b. Are you a Colorado native?
    c. What is your age? Occupation?
2. How did you get involved in community action related to unconventional oil and gas development? Or interested in the issue more generally?
    a. Do you have a history of activism?
    b. What issues motivated you to get involved?
3. There has been a surge in unconventional shale drilling – specifically hydraulic fracturing – in this area of northern Colorado and across the state –
    a. What are your thoughts on the practice?
    b. What are your thoughts on its pace and scale?
4. What are your thoughts on regulations related to unconventional oil and gas production?
    a. on state-by-state regulations?
    b. on local versus state control of zoning?
    c. Enough? Or too much?
5. Do you trust local officials to do adequately enforce these regulations?
    State?
    Federal?
6. What environmental, health, and safety risks do you feel accompany hydraulic fracturing?
    a. Do you feel these are the same or different at other phases of production?
7. What have impacts of unconventional drilling been on your daily life?
8. How do you define quality of life?
9. Has yours been impacted by unconventional oil and gas production?
    a. What phases/aspects?
    b. In what ways do you experience those changes?
10. Have your stress levels increased? Please describe.
11. Have you noticed increased tensions or other changes in your neighborhood as a result of drilling?
    a. In your community?
    b. Has this changed your community?
12. Do you have any other thoughts on unconventional oil production?

Initial Interview Guide For Government Officials/Corp officers/Planners/CO Regulators

1. Please provide a little background on yourself, your family, and your daily life in Colorado?
    a. How long have you lived here?
    b. Are you a Colorado native?
    c. What is your age? Occupation?
2. What is your position here with the [city/company/commission/COGCC]
    a. How long have you had this position?
    b. What sort of responsibilities do you have in this position?
3. Can you walk me through a timeline of events of when the city started working on this issue?
4. What has been your organizational strategy for developing [city/corporate/org] policies regarding natural gas drilling and hydraulic fracturing?
    a. What other organizations or individuals have you seen as instrumental in shaping fracking policies and regulations in your community?
5. Who do you see as key stakeholders in this process? As being EXCLUDED from the process?
6. What environmental, health, and safety risks – if any - do you feel accompany hydraulic fracturing?
    a. Do you feel these are the same or different at other phases of production?
7. What impacts of unconventional drilling, if any, have you witnessed in people's daily lives?
    a. (if relevant) Your own daily life/job?
8. What positive impacts do you see to people's quality of life?
    Negative impacts?
9. Do you hear reports of increased stress from your constituents [other relevant parties]?
    a. In your own life/job?
10. Have you noticed increased tensions or other changes in your neighborhood as a result of drilling?
    a. In your community?
    b. Has this changed your community?
11. What sort of power dynamics do you see across these actors and organizations
12. Do you have any other thoughts on unconventional oil production?

Intersectionally-Informed Interview Guide Questions for Task Force Members (Adapted from Hankivsky et al. 2014)

1. Please provide a little bit of background about yourself and your life here in Colorado.
2. What was your role on the task force? What knowledge, values, expertise and experiences did you bring to the Task Force process?
3. Can you walk me through a timeline of events regarding the Task Force's main tasks, public meetings, and major decisions?
    a. What coalitions, if any, formed internally?
    b. In what ways did this impact decisions and recommendations made by the TF as a whole?
4. What were the 2 or 3 most significant successes/accomplishments of the TF?
    a. What are 2 or 3 decisions/outcomes/dynamics you wish could have been different?
5. What spaces existed for different stakeholders to participate in the Tas Force's decision-making process?
    a. What key stakeholders were included in this process? Excluded?
    b. Where and how can we enhance spaces for different stakeholders to participate?
    c. What sort of power dynamics do you see across these actors and organizations?
6. What are the main issues related to policy development for regulating oil and gas development?
7. What are your primary concerns, or what are the primary concerns that you hear from residents/constituents?
8. How have these issues been represented by different stakeholders?
9. How are different groups of people impacted by these issues?
10. What inequalities exist in the process of developing regulations for unconventional oil and gas development?
11. Describe the current policies in place to address the issues you mentioned.
12. What benefits or risks do you feel accompany unconventional oil and gas development?
13. How are these distributed across different groups of people?
14. What sort of policies are currently being proposed? How might they reduce inequities in terms of ability to participate in policy development for regulation oil and gas development or minimizing potential risks and impacts of UOG production?
15. A large portion of the legislation moving through the Colorado Congress the last six years has related to the balancing of rights between state and local governments to regulate unconventional oil and gas development. What do you think is the appropriate way their roles should be balanced in decisions related to unconventional oil and gas development, particularly as it relates to land use planning?

Intersectionally-Informed Interview Guide Questions (Adapted from Hankivsky et al. 2014)

1. What knowledge, values, and experiences do you bring to policy development related to oil and gas?
2. What are the main issues related to policy development for regulating oil and gas development?
    a. What are your primary concerns, or what are the primary concerns that you hear from residents/constituents?
    b. How have these issues been represented by different stakeholders?
3. How are different groups of people impacted by these issues?
    a. What inequalities exist in the process of developing regulations for unconventional oil and gas development?
4. Describe the current policies in place to address the issues you mentioned.
5. Where and how can interventions be made to improve these issues?
6. What spaces exist for different stakeholders to participate in the decision-making process?
    a. What key stakeholders were included in this process? Excluded?
    b. Where and how can we enhance spaces for different stakeholders to participate?
    c. What sort of power dynamics do you see across these actors and organizations?
7. What benefits or risks do you feel accompany unconventional oil and gas development?
    a. How are these distributed across different groups of people?
8. What sort of policies are currently being proposed? How might they reduce inequities in terms of ability to participate in policy development for regulation oil and gas development or minimizing potential risks and impacts of UOG production?
9. A large portion of the legislation moving through the Colorado Congress the last six years has related to the balancing of rights between state and local governments to regulate unconventional oil and gas development. What do you think is the appropriate way their roles should be balanced in decisions related to unconventional oil and gas development, particularly as it relates to land use planning?

Appendix B: TABLES

Table 1: Interviewee Demographics

Interview #	Gender	Age	Race/Ethnicity	Occupation	Sector
1	Male	33	White, Latino	State legislator	Government
2	Female	56	White	County Commissioner	Government
3	Female	71	White	County Commissioner, former State Legislator	Government
4	Male	57	White	City Attorney	Government
5	Male	67	White	City Council member	Government
6	Male	50	White	Lawyer	Task Force Member
7	Male	48	White	Registered Nurse	Community Organization
8	Male	56	White	Program Director, Energy Efficiency Organization	Task Force Member
9	Female	54	White	County Commissioner	Government
10	Male	66	White	Oil and Gas Industry Accountant, Former elected official	Task Force Member
11	Female	57	White	City Council member	Government
12	Female	71	White	Retired Educator and Consultant	Community Organization
13	Male	68	White	Lawyer	Task Force Member
14	Female	61	Black	Denver Health Official	Task Force Member
15	Female	26	White, Latina	Energy and Transportation Advocate	Environmental Non-Profit
16	Male	59	White	Lawyer, Department of Natural Resources	Government
17	Male	63	White	Lawyer, Oil and Gas Industry	Task Force Member Lawyer
18	Male	53	White	President, Resource Advocacy Group	Task Force Member
19	Female	55	White	County Commissioner	Task Force Member
20	Male	79	White	Retired Professor, Rancher	Task Force Member
21	Female	83	White	Retired Public Health Nurse, Rancher	Resident
22	Male	62	White	Lawyer	Task Force Member
23	Male	79	White	Town Board member, retired principal	Government
24	Female	26	White	Teacher	Community Organization
25	Female	70	White	Retired Educator, PhD	Resident
26	Male	22	White	College student	Community Organization

27	Male	63	White	State legislator	Government
28	Female	70	White	Retired	Resident
29	Female	N/A	White	Retired, Public Health Administration	Resident
30	Female	N/A	White	Retired, Air Quality	Resident
31	Male	N/A	White	Retired, Educator	Resident
32	Male	68	White	Retired, Ecology	Resident
33	Female	38	White	Professor, PhD	Environmental Non-Profit
34	Female	40	White	Teacher	Resident
35	Male	50	White	Lawyer, Planning Commission Member	Government
36	Female	60	White	Educator	Resident
37	Female	20	White	College student	Resident
38	Female	25	White	College student	Community Organization
39	Male	50	White	Director, Community Development	Government
40	Female	67	White	Educator	Resident
41	Female	28	White, Latina	Finance Manager	Community Organization
42	Female	27	White, Latina	City Council member	Government
43	Female	71	White	City Council member, community organizer	Government/Community Organization
44	Female	N/A	White	Chief of Staff, educational non-profit	Community Organization
45	Female	39	White	Speech-Language Pathologist	Community Organization
46	Male	51	White, Latino	City council member	Government
47	Male	44	White	State legislator	Government
48	Male	38	White	State legislator	Government
49	Female	69	White	Retired Registered Nurse	Community Organization
50	Female	36	White	Lawyer	Community Organization
51	Female	64	White	State legislator, PhD	Government
52	Female	32	White	Public Health	Community Organization
53	Male	55	White, Latino	County Commissioner	Task Force Member/Government
54	Female	N/A	White	Retired, Accounting	Resident
55	Female	58	White	County Commissioner	Government
56	Male	59	White	County Attorney	Government
57	Female	45	White	City Council member, community organizer	Government/Community Organization

Table 2: Task Force Meeting Location and Schedule

Meeting Date(s)	Meeting Location
September 25, 2014	Denver, CO
October 9-10, 2014	Durango, CO
November 20-12, 2014	Larimer County, CO
December 10-11, 2014	Rifle, CO
January 15-16, 2015	Greeley, CO
February 2-3, 2015	Denver, CO
February 24, 2015	Denver, CO

Table 3: Task Force Members and Affiliation

(Blue = Industry/Agriculture/Homebuilders; Pink = Local government/conservation Purple = Variety of Interests)

Name	Title
Randy Cleveland (co-chair)	President, XTO Energy
Gwen Lachelt (co-chair)	La Plata County Commissioner
Sara Barwinski	Weld Air and Water
Bernie Buescher	Former Secretary of State
Peter Dea	President & CEO, Cirque Resources LP
Jim Fitzgerald	Rancher
Russ George	President, Colorado Northwestern Community College
Jon-Goldin-Dubois	President, Western Resource Advocates
Brad Holly	VP of Operations, Rocky Mountain Region, Anadarko Petroleum Company
Dan Kelly	VP of Wattenberg Business Unit, Noble Energy, Inc
Rebecca Kourlis,	Executive Director, Institute for the Advancement of the American Legal System
Steve Moreno	Weld County Commissioner
Perry Pearce	Manager, State Government Affairs, Rocky Mountain Region, Conoco Phillips
Kent Peppler	President, Rocky Mountain Farmers Union
Pat Quinn	Former Mayor of Broomfield, Colorado
Bruce Rau	Vice Chairman & Treasurer, Colorado Association of Home Builders
Jeff Robbins	Attorney, Goldman, Robbins & Nicholson, P.C.
Matt Sura	Attorney, Law Office of Matthew Sura LLC
Will Toor	Director of Transportation Programs, Southwest Energy Efficiency Project
Elbra Wedgeworth	Chief Government and Community Relations, Denver Health
Scot Woodall	President & CEO, Bill Barrett Corporation

Table 4: Guest Speakers, Topics, and Time Allotted

Topic Overview & Time Allotted	Guest Speaker(s)
Current state legal and regulatory framework, with focus on the Oil and Gas Conservation Commission (45 min)	Matt Lepore, Director of COGCC
Overview of current local level approaches and practices (45 min)	Paula Swenson, Gunnison County Commissioner and Geoff Wilson, General Counsel, Colorado Municipal League
Review of Colorado Supreme Court decisions informing local government authority (45 min)	Attorneys David Little, Bjork Lindley and Little, John Sullivan, Sullivan Green and Seavy, and John Dugan, Dugan and Associates
Review of Colorado Department of Public Health and Environment (CDPHE) regulatory oversight (30 min)	Dr. Larry Wolk, Executive Director of CDPHE
Panel on Southwestern Colorado oil and gas development case study (2 hours)	BP, Kinder Morgan, Todd Weaver of La Plata County, COGCC, CDPHE
Other perspectives on regulatory collaboration, Southern Ute Tribe (15 min)	Bob Zahradnik, Southern Ute Tribe
Presentation and discussion on local government perspectives (2 hours 30 min)	Commissioner Barbara Kirkmeyer, Weld County, Commissioner Elise Jones, Boulder County, Council Member Hugh McKean, City of Loveland, Mayor Christine Berg, Lafayette, Mayor Dennis Coombs, Longmont and Eugene Mei, Longmont City Attorney
Surface owner rights perspectives and Task Force discussion (1 hour 30 min)	Ken Wonstolen, Attorney, Bill Barrett Corporation; Bruce Baizel, Director, Earthworks Energy Program; Randy Feuerstein, Attorney, Dufford & Brown
Perspectives from the Piceance Basin and surrounding areas (1 hour 20 min)	Commissioner John Martin, Garfield County; Bruce Bertram, Delta County local government designee; Commissioner Rose Pugliese, Mesa County; Commissioner Timothy Corrigan, Routt County; Commissioner Shawn Bolton, Rio Blanco County; Commissioner Chuck Grobe, Moffat County
Perspectives from affected community members (1 hour)	Carrie Couey, Rancher (Rifle); Dave Devanney, Battlement Concerned Citizens (Grand Valley Citizens Alliance); Amy Williams, Citizens Supporting Property Rights (Routt County); Douglas Saxton, Garfield County resident; Joyce Wizer, Garfield County resident
Mineral Owners and Takings Issues (1 hour)	Wayne Forman, Brownstein Hyatt Farber Schreck; Kevin Lynch, University of Denver Sturm College of Law; Roy Savage, National Association of Royalty Owners-Colorado; Mary Ellen Denomy, Ken Pro Institute
Review of questions about current regulatory framework and process (1 hour)	Matt Lepore, Director of COGCC
Panel discussion on human health and public safety (1 hour 45 min)	Dr. Larry Wolk, CDPHE; Dr. John Adgate, Colorado School of Public Health; Dr. Gabrielle Petron, NOAA and CIRES – University of Colorado at Boulder; Dollis Wright, Quality Environmental Professional Associates
Local perspectives from Greeley region (30 min)	Therese Gilbert, Weld Air and Water; Trish Golding, Frontier Parent Group; Gene Moore, impacted resident Craig Rasmuson, Synergy Energy; Eric Berglund, Upstate Colorado Economic Development

Table 5: Presentation Topics and Allotted Time

Topic of Discussion	Allotted Time
Local government authority	4 hours
South and Western Colorado perspectives	3 hours 20 minutes
Public Health	2 hours 15 minutes
COGCC and state framework	1 hour 45 minutes
Surface ownership	1 hour 30 minutes
Mineral ownership and takings	1 hour
Affected community members	1 hour
Greeley perspectives	30 minutes
"Other" perspectives (Southern Ute Tribe)	15 minutes
Total	15 hours 35 minutes