Contentious coalitions, movement divisions, and strategic action fields: factors motivating an unlikely alliance of environmental organizations and gas companies

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Contentious coalitions, movement divisions, and strategic action fields: factors motivating an unlikely alliance of environmental organizations and gas companies

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My dissertation explores the factors motivating the formation of a contentious alliance of environmental movement organizations and major gas corporations. Utilizing Fligstein and McAdam's (2012) theoretical framework of strategic action fields, I argue that a field-level analysis helps to contextualize the strategic decision-making environmental organizations engaged in as they surveyed broader societal and political conditions for deciding whether to support or oppose the coalition for advancing their goals. Additionally, I engage aspects of Whittier's (2018) typology of frenemy relationship structures to link the interaction of environmental actors with the dynamics of contention that occurred within the field as a result of the collaboration.

By situating organizational factors, such as resource mobilization and the framing processes of individual groups, in a wider network of potential alliance and conflict systems (Klandermans 1997) and proximate fields (Fligstein and McAdam 2012), my analysis shows that, as new collective action frames, identities, and practices emerged within the environmental field, uncertainty seeped into the shared understanding of the cultural processes and mission upon which the environmental field had been built. Additionally, my analysis also reveals that participating organizations valued the coalition as an important addition to their tactical repertoire and a necessary strategy to advance the movement's goals in a politically constrained environment and globalizing world.

Through this project, I seek to contribute to the emerging body of work focused on the intersection of social movement, organizational theory and field level analyses. My research also contributes to the literature on social movement coalitions. Despite the scholarly attention to the formation of coalitions among social movement organizations (Van Dyke and McCammon 2010), little work examines factors that influence organizations to pursue extra-movement, and in some cases, contentious, alliances (Whittier 2018). Finally, my study corroborates key aspects of Whittier's (2018) frenemy typology. Understanding the coalition as an adversarial collaborative relationship among ideologically opposed actors helps to contextualize the alliance structure as a phenomenon distinct from social movement coalitions.

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Preface

This dissertation is the culmination of a decade's worth of focus, albeit with a few year detour in the middle of the project to immerse myself in an emerging industry and contentious policy environment where, on a daily basis, I have the opportunity to engage in strategic decision-making and alliance building for my organization and navigate the dynamic public + private arena. I may never have completed this project if it weren't for the unwavering support of my advisor, Suzanne Staggenborg. Suzanne not only engaged me in important foundational research that supplied key ideas for this project, but also stuck by me as my life detoured and kept me coming and going in academia. Thank you, Suzanne, for always believing in me and providing me with just the right amount of space and encouragement to bring my project to completion. I also owe tremendous thanks to the rest of my committee, John Markoff, Lisa Brush and Kevin Kearns. Thank you for your ongoing commitment and support to seeing this project through with me.

There are many others that have helped me get to this point. Thank you, Silvia Borzutzky, for being the foundation of it all. The searing summer day you stopped me on Murray Avenue to ask if I would be your teaching assistant changed the course of my life. Thank you for being my mentor and friend, and for helping me stay focused and keep my head clear. Thank you, Sarah Nokes-Malach, for being my rock and respite through the ups and downs in life and with this project. And thank you for showing me by example the necessity of immersion to complete this project with satisfaction. I am so grateful to share the stars with you. Thank you to my friends and colleagues Jane Walsh, Carolyn Zook, Mehr Latif and Netty Bourdeau-Ott. Without your guidance and motivation, I wouldn't have known where to begin and when to finish! Thank you to my parents, sister, brother, and in-laws for always checking-in on me and cheering me along the way.

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1.0 Introduction

Coalition work is a key strategy of social movement organizations. The formation of alliances between organizations enables groups with similar objectives to pool their limited resources and expand their capacity for pursuing broader goals (Staggenborg 1986). Scholarship on movement coalitions emphasizes the importance of compatible organizational ideologies and preexisting social ties as central factors that facilitate organizational collaboration. Additionally, this scholarship demonstrates that the presence of political threats, as well as political opportunities, tend to engender social movement coalitions (Van Dyke and McCammon 2010).

Coalition building in the environmental movement is subject to the ebb and flow of "issue attention cycles" that either motivate or discourage opportunities for collective action (Downs 1972; Dalton 2015; Ogrodnik and Staggenborg 2016). Environmental problems are particularly challenging social issues to resolve, not only because of their inherent complexity, but also because they tend to create competing perceptions about their relative risks to society. Generating sufficient attention to environmental issues requires the formation of strategic alliances that overcome classic problems of collective action. When environmental issues arise in society, typically actors with similar goals and overlapping networks coalesce for specific campaigns to address environmental problems (Della Porta and Rucht 2002; see also Dalton 2003). Occasionally, however, there are issues that arise with sufficient scale and intensity to motivate collective action across a variety of sectors in society.

In the early 2010's, technological advancements in hydraulic fracturing for shale gas development was such an issue. With the invention of new extraction methods, shale gas development had the potential to generate $30 billion in economic activity for the country, while

threatening the contamination of environmental systems in the regions where the development was occurring (Burwen and Flegal 2013). No consensus emerged at the national level on how to balance economic opportunities with environmental protection, and states were left largely on their own to develop regulatory programs to oversee the development. Pennsylvania and other states in the Appalachian Basin held vast reserves of shale gas, galvanizing significant attention from both the gas industry and the environmental movement to the development occurring in the region.

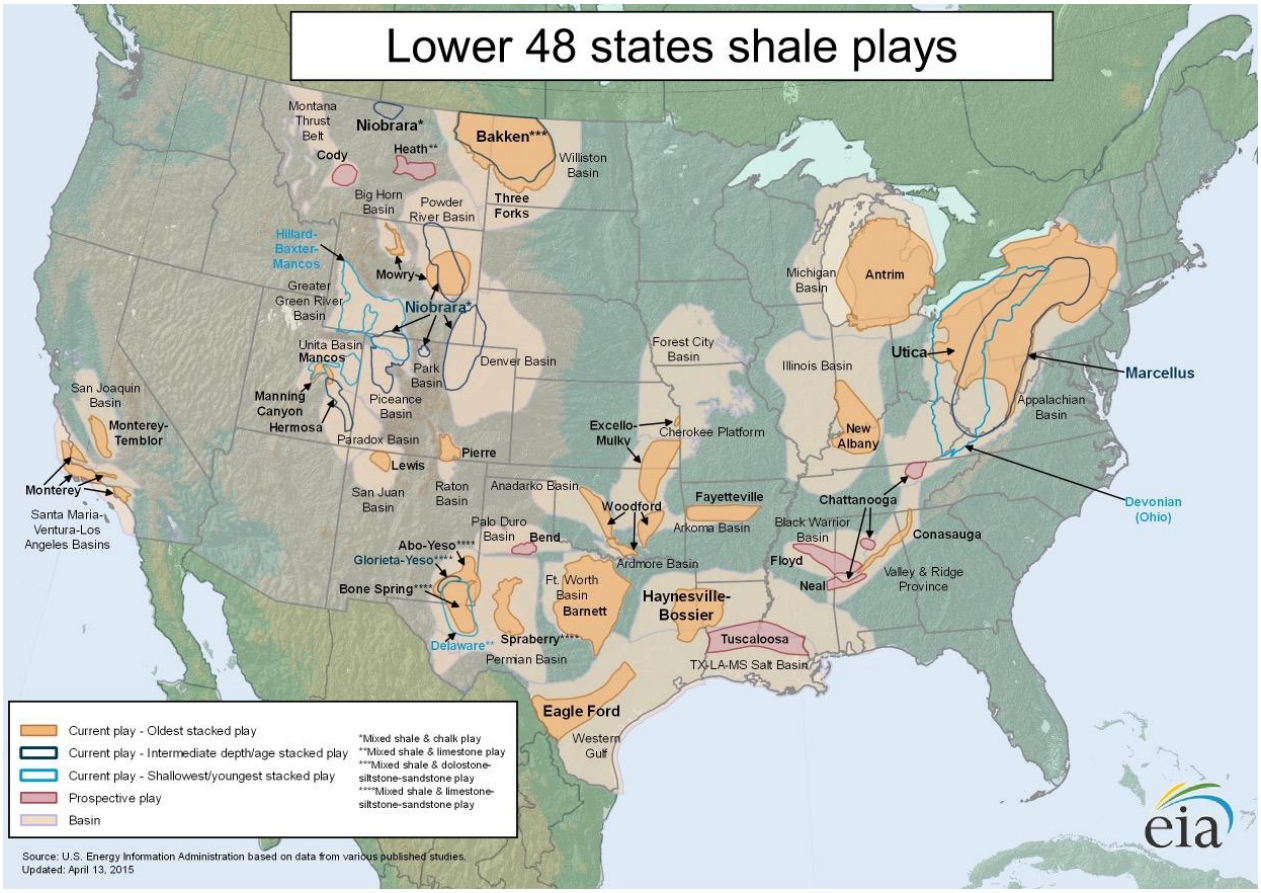

Figure 1. Shale Plays in the United States Lower 48

With most states adopting lax regulatory frameworks to facilitate the development, the environmental movement sprang into action to address its environmental impacts. While the

majority of environmental organizations pursued their expected patterns for action and new activist groups emerged, the formation of an unlikely alliance between several environmental organizations and major gas companies generated significant contention within the environmental movement. The coalition, called the Center for Sustainable Shale Development, was formed for the purpose of creating environmental performance standards for the gas industry to voluntarily implement during the development. Though some viewed the coalition to be a positive step forward in a constrained political environment on shale gas development, many perceived the coalition to be a public relations gimmick aimed at providing green cover to dangerous industry practices.

Recent scholarship in social movement studies has sought to direct attention to the complementary literatures of social movement analysis and organization theory for enhancing an appreciation of extra-movement factors that may influence the formation of social movement alliances (Davis et al. 2005; Fligstein and McAdam 2012). This scholarship emphasizes that each tradition's central ideas are complementary and, when used in combination, can provide a comprehensive framework for examining periods of conflict and change within a social movement or organizational field to better explain the formation of movement coalitions (Davis et al. 2005; Fligstein and McAdam 2012; McAdam and Scott 2005). For example, McAdam and Scott (2005) suggest that the focus in the social movement literature on process and challenging groups links with organization theory's preoccupation with structure and formal organizations to enable a thorough investigation of episodes of contention or periods of relative stability among organizations within a movement. Additionally, Bert Klandermans (1992, 1997) underscores the idea that social movement organizations are embedded within "multiorganizational fields" (Zurcher and Kirkpatrick 1976; Curtis and Zurcher 1973) influenced by both potential alliance and

conflict systems in those fields, and that organizations can strategically exploit shifting boundaries of those systems for their benefit and action. Further, in their seminal essay in organization studies, DiMaggio and Powell (1983: 148) conclude that the "activities of a diverse set of organizations" can generate a "recognized area of institutional life." They contend that the value of this perspective is that it directs attention not only to competition and cooperation among networks of organizations, but also to "the totality of relevant actors" and the impact that these actors have on the formation of alliances within an organizational field (DiMaggio and Powell 1983: 148).

Fligstein and McAdam (2011; 2012) seek to merge these parallel ideas in social movement and organizational theory in their concept of "strategic action fields." Urging scholars to move beyond the analytical categories of social movements and organizations, they aim to shift attention to the primary phenomena of interest that underlie both fields of study: collective strategic action and the arenas in which it occurs. While perspectives in organizational studies underscore the tendency of fields to gravitate toward stability (Dimaggio and Powell 1983), and social movement studies highlight episodes of conflict and change (McAdam and Scott 2005), Fligstein and McAdam (2012) seek to combine both perspectives in arguing that while fields may generally reflect stability, that stability is a fragile balance constantly negotiated among organizations in the field.

I situate my dissertation research on a contentious coalition of environmental movement organizations and major gas corporations within these overlapping literatures of social movement analysis and organizational theory, utilizing Fligstein and McAdam's concept of a strategic action field as my analytical framework. My research shows that although a movement-centered approach to analyzing the coalition's formation and its associated contention might narrowly emphasize the ideological differences and divergent strategies of environmental movement organizations (Bosso

2005; Ogrodnik and Staggenborg 2016), a field-level analysis offers a more nuanced and comprehensive examination of both organizational and macro-level factors to explain the motivations for joining or opposing the coalition and the contention in the movement that ensued as a result.

Furthermore, I engage aspects of Whittier's (2018) framework to help define key dimensions that inform the development of social movement alliances across ideological boundaries. According to Whittier (2018:5-6), studying the formation of contentious collaborations requires that analysts "move beyond the concept of a coalition" to appreciate the unique tensions activists must navigate when participating in uneasy alliances. She (2018: 7) argues that while "most coalitions grow from compatible ideology or shared collective identity," fraught collaboration between otherwise opposed actors is based on more narrowly defined goals than is typical for social movement coalitions. Defining alliances of this nature as 'frenemy' relationships, Whittier (2018) claims that a new typology for analysis is required in which the congruence of ideology/identity and collaborative interaction are separated. Her typology is described below:

	Congruent	**Neither congruent nor opposed**	**Opposed**
Interaction toward shared goal	Coalition	Pragmatic coalition	Frenemies
No direct interaction	Spillover	Disengaged	Detente
Opposition	Niche competitors	Pragmatic opponents	Opposing movements

Figure 2. Frenemy Typology

When ideologically opposed actors interact toward a shared goal, frenemies must navigate the reputational risks, disputes over co-optation from outside actors, and movement factionalism that tend to surface in the face of such alliances (Whittier 2018). Moreover, to understand the motivations for the emergence of these relationships, a wide range of social movement dimensions such as organizations, leaders, grassroots participation, and collective action frames must be considered (Whittier 2018). Such factors will be examined in the analysis of my case.

1.1 Description of my case

Technological advancements in natural gas drilling and lax regulatory environments facilitated the rapid development of shale gas ("fracking") in various regions of the country during the early 2000's. Parts of Appalachia in particular, with its vast reserves of natural gas, witnessed an explosion of development in a span of just a few years (Burwen and Flegal 2013). The state of Pennsylvania has been at the epicenter of this development, not only because of extensive shale deposits and "exponential growth" in gas drilling that has occurred across the state, but also because of its prominence as a "first mover" in enacting statewide legislation to encourage development of the industry (Rabe and Borick 2013). By the time environmental activists mobilized in opposition to the development and its impacts in the early 2010's, fracking was already an established part of Pennsylvania and the surrounding region's energy and economic portfolios (Mazur 2016). Such factors contributed to a division in goals among organizations in the environmental movement active in the Appalachian region, with some groups calling for stronger regulations to monitor the process and others insisting on a moratorium on any further development.

1.1.1 Political climate in Pennsylvania around shale gas development

Given the traditional dependence of environmental organizations on the state for enacting policies to minimize environmental damage and enforce protections (Dalton et al. 2003), a brief overview of the recent history of Pennsylvania shale gas regulation contextualizes the political climate that environmental organizations had to contend with to advance their goals. For starters, shale gas extraction creates the familiar conundrum of energy development in that it has the "capacity to generate substantial localized economic benefits" but it also presents "a sprawling range of environmental concerns that involve every environmental medium (air, land, and water)" (Rabe and Borick 2013: 322). With little statutory direction from the federal government, shale gas regulation has largely been left to the states, with Pennsylvania being one of the first to adopt statewide legislation to encourage the development. With Marcellus Shale deposits covering over two thirds of the geographical area of Pennsylvania, it was estimated the state would provide over half of the nation's natural gas reserves (Burwen and Flegal 2013). After the first successful extraction of shale gas in Pennsylvania in 2005, a "gas rush" ensued over the course of the following several years with 7,000 wells drilled before 2013, and no consensus emerging among political leaders in the state for how to balance economic development with environmental concerns (Wilber 2012).

Divisions in goals for fracking were exacerbated by opposing viewpoints among Democrats and Republicans within the Pennsylvania legislature on the extent and necessity of environmental protections needed for the development. Governor Rendell, a Democrat elected in 2003, was unsuccessful in moving much shale gas legislation forward due to a divided state legislature; however, he managed to support some incremental regulatory reforms through the Pennsylvania Department of Environmental Protection. Governor Corbett, Rendell's Republican

successor, was elected to office in 2010 on a campaign that expressed aggressive support for shale gas development and minimal governmental interference in the process. Accepting more than $1 million from the oil and gas industry for his campaign, his largest source of funding, Corbett closely aligned with the industry, promising a favorable regulatory environment to encourage widespread development (Rabe and Borick 2013).

In February of 2012, Corbett signed the Pennsylvania Unconventional Gas Well Impact Fee, also known as Act 13, into law. Some of the main provisions in the law include the lowest "impact fee" for the industry as compared to any other state in the country, which also came to be used as a "state-level mechanism to deter any local government from taking environmental precautions beyond those set forth in the legislation, through the threat of withdrawing revenues in the event of 'noncompliance'" (Rabe and Borick 2013: 330). The law also took steps to curtail local control over land-use decisions, including well siting and set-back distances from property lines and bodies of water, in addition to prohibiting any municipality from challenging state regulations regarding shale gas well permits. Further, the law included minimal requirements for industry disclosure of chemicals used during drilling and supported the creation of a commission of gubernatorial appointees as the lead implementers to provisions of the law. In short, Act 13 under the Corbett administration was "seemingly designed to minimize any threats to rapid resource development" across the state (Rabe and Borick 2013: 332), leading to an exponential increase in the number of wells drilled during Corbett's time in office (www.fractracker.org) and little concern for the development's environmental impacts.

While Corbett sought to appease burgeoning environmental concerns about fracking by forming a 30-member Marcellus Shale Advisory Commission, the group included only four representatives from environmental groups and was dominated by industry representatives. This

industry-leaning Commission contributed to the development-friendly legislative package put forward in Act 13, Pennsylvania's overarching oil and gas legislation (Rabe and Borick 2013: 328). Such factors galvanized the environmental community, inspiring most well-established environmental organizations active in the region to create advocacy programs and lobby the state for greater protections, as well as prompting the formation of citizen groups who sought to protest the development. Some concerned citizens pursued additional strategies, namely the formation of an environmental-industry alliance, to try to address the development.

1.1.2 Origins of the environmental-industry coalition

As former president of the Pennsylvania-based environmental group, PennFuture, John Hanger stepped into the role of Secretary of the Pennsylvania Department of Environmental Protection (PADEP) in September 2008, just as the gas drilling boom was accelerating in the region. During his time as Secretary of the PADEP under Governor Rendell, Hanger initiated stronger regulations for the protection of water and environmental resources during gas development operations. After Rendell's successor, Governor Corbett, took office, John Hanger stepped down as Secretary of the PADEP. Once out of office and with eyes on a future gubernatorial race, Hanger sought to act on recommendations put forth in a federal shale gas committee report and create regional centers of 'standards and excellence' to provide oversight to the development occurring in the region (Interview, October 9, 2015).

Given his former roles as Secretary of the PADEP and president of PennFuture, John Hanger had occupied positions in both the environmental and state fields and had worked closely with industry in his regulatory role. Hanger's prior experiences had helped him build extensive networks, as well as engendered his legitimacy as a trusted actor in each of the environmental,

industry, and state fields. Because of his ambitions in the upcoming Pennsylvania gubernatorial race, he sought to highlight the Corbett administration's cozy relationship with the gas industry and take initiative to create an alternative mechanism for implementing environmental protections to address the gas development occurring within the region. To this end, Hanger approached a select few foundations, several environmental organizations, a handful of major gas companies, and professional allies to form a coalition with the purpose of creating environmental performance standards for the gas industry to voluntarily implement in the region during development. According to an industry coalition participant:

> My understanding was that John Hanger came away from his time as Secretary of PA DEP thinking that the polarization (about fracking) had become very damaging. That the chance of finding reasonable ground on risk, how to tackle the issues of risk and production were difficult to get to in the environment in which we had sunk. So, he brought what I thought was the right group of people, which was essential, figuring out who was willing to reach out, to compromise (Interview, August 26, 2014).

Under the coalition's original name, the Institute for Gas Drilling Excellence, two foundations – the Heinz Endowments and William Penn Foundation, five gas companies – Chevron, CONSOL Energy, EQT Corporation, Royal Dutch Shell, and Range Resources, and five environmental organizations – Citizens for Pennsylvania's Future (PennFuture), Clean Air Task Force (CATF), Environmental Defense Fund (EDF), Group Against Smog and Pollution (GASP), and Pennsylvania Environmental Council (PEC), all joined the alliance. Several of the environmental organizations that joined, in particular PennFuture, GASP and PEC, had been supported by the Heinz Endowments at one time or another, and thus were extended the invitation to join the coalition. Additionally, EDF and CATF were organizations that possessed technical

expertise in shale gas drilling, as well as maintained an openness to dialoguing with industry in other forums, and therefore were asked to participate in the alliance.

Between March of 2011 and March of 2013, organizations within the coalition negotiated fifteen environmental performance standards for the industry to voluntarily implement during gas development operations across the region. Part way through the negotiations, coalition participants changed the name of the Institute to the Center for Sustainable Shale Development (CSSD).

Participants in the coalition recognized the uniqueness of such a collaboration, as evidenced by the following statements on the CSSD's website:

> The Center for Sustainable Shale Development (CSSD) is an unprecedented, collaborative effort of environmental organizations, philanthropic foundations, energy companies and other stakeholders committed to safe, environmentally responsible shale resource development.
>
> Based in Pittsburgh, Pennsylvania, the CSSD is an independent 501(c)(3) nonprofit organization whose mission is to support continuous improvement and innovative practices through performance standards and third-party certification. Focused on shale development in the Appalachian Basin, the Center provides a forum for a diverse group of stakeholders to share expertise with the common objective of developing solutions and serving as a center of excellence for shale gas development (www.sustainableshale.org).

Implementation of the performance standards is supported by a third-party auditing program to certify gas industry participants who are in compliance with the standards. Fifteen initial performance standards were developed to focus on the protection of air, climate and water resources. According to the coalition's website, the standards "represent consensus on what is achievable and protective of human health and the environment" from coalition participants

(www.sustainableshale.org). The following are key conditions that the performance standards seek to address:

Air & Climate Performance Standards

- Limitations on the flaring of methane gas at well sites
- Use of Green Completions to clear debris out of wells & limit methane loss
- Reduced engine emissions for vehicles serving sites
- Emissions controls on the release of volatile organic chemicals in storage tanks

Surface & Ground Water Performance Standards

- Maximize water recycling to reduce demand of fresh water
- Develop groundwater protection plan to treat wastewater created during development
- Implement closed loop drilling to eliminate surface wastewater storage pits
- Improve well casing design to mitigate risks of rupture in deep wells
- Establish groundwater monitoring to detect potential contamination
- Regulate wastewater disposal practices
- Improve the impoundment integrity of surface wastewater pits to mitigate leaching
- Reduce the toxicity of fracturing fluids

Participants indicated that the areas identified were chosen because of the potential degree of harm certain development practices could have on human and environmental health, and the lack of sufficient regulation to address these practices. See **Appendix A** for a detailed list of the Performance Standards. Indeed, participating companies have all implemented these practices and become certified by the CSSD; however, the overall environmental impacts of the CSSD will not

be evaluated in this thesis. While some environmental organizations viewed the coalition as a positive step forward in providing oversight to an industry that had few constraints in the current political environment, other environmental actors were outraged by the alliance. An evaluation of the factors underlying this contention within the environmental movement is the focus of my dissertation project.

1.2 My research focus

Writing almost 30 years ago, Christopher Bosso (1991: 151) suggested that the environmental movement had come to reflect such a multiplicity of groups and approaches that "calling it a movement obscures the real vibrancy and diversity that lies within it." More recently, other scholars argue that attempting to evaluate the activities of environmental organizations through a "movement-centric" lens can undermine attention to the range of cultural orientations and logics that constitute environmental ideology and activism (Yearly 2005).

Walder (2009) argues that movement-centered analyses tend to neglect the fundamental question of how the broader social structure shapes the political orientations of social movements and the actors within them. Such an approach underappreciates the "fuller constellation of political and economic forces and actors" that may influence divergent decision-making and behavior among organizations in a social movement field, even as it obscures the role of other important actors in episodes of contention (McAdam and Boudet 2012). Additionally, Whittier's (2018: 199) focus on characteristic features of frenemy alliance structures underscores several factors atypical of social movement coalitions: the existence of reputational risks to participants, the use of hybrid frames for action, frenemy interaction based on a single issue, use of emotional narratives to justify

frenemy relationships, and the existence of incongruent collective identities, ideologies and networks. My study rests on these premises, as early attempts to understand the motivations of environmental organizations that either joined or opposed the coalition, and the contention within the movement that ensued as a result, left unanswered questions and motivated my search for a broader framework within which to evaluate my case.

1.2.1 A field-level research framework

To be sure, a movement-centric analytical lens would have led me to conclude that instrumental goals reflecting narrow organizational concerns explained the rationale for either joining or opposing the coalition. It would have also led me to conclude that the ensuing contention was primarily a result of the adversarial orientation of challenger groups to the 'mainstream' tactics of more formalized environmental organizations (McAdam and Boudet 2012). A field level perspective, however, broadened my analysis and contextualized the strategic decision-making that environmental organizations engaged in as they surveyed broader societal and political conditions that presented opportunities and constraints for advancing movement goals. This perspective also allowed me to situate organizational factors, such as resource mobilization and the framing processes of individual groups, in a wider network of potential alliance and conflict systems (Klandermans 1997) and proximate fields (Fligstein and McAdam 2012) to demonstrate that the combination of these forces influenced the formation of the coalition and shaped the contention that arose in the environmental movement as a result (Davis and Zald 2005).

1.2.2 The strategic action field of environmental organizations

Generally speaking, actors in the field of environmental organizations share the same goal of mitigating environmental pollution and problems. Taking a closer look, the field largely consists of, on the one hand, a network of national organizations that operate primarily via professionalized and conventional political channels, and, on the other hand, grassroots groups that are rooted locally and engage in more disruptive and less conventional political activities (Bosso 2005). National groups are primarily concerned with larger policy issues, so their strategies tend to revolve around "insider tactics" and conventional political activities like legislative advocacy and lobbying (Dalton 2015). Grassroots groups, on the other hand, typically engage in more disruptive strategies such as protests and sit-ins (Cable and Cable 1995; Rootes 2007). Their activities are centered on "outsider tactics" and they eschew working via conventional political channels.

Despite the distinctive ideologies and tactics of organizations within the environmental movement, there exists an understanding among environmental actors about the movement's general purpose, repertoires of action, and rules of the game for all organizations in the field to adhere to (Dalton et al. 2003). These underlying assumptions and the shared goals that exist among organizations within the environmental movement constitute their arena of activity as a strategic action field (Fligstein and McAdam 2012).

1.2.3 External actors to the environmental strategic action field

The state is a key external actor to the strategic action field of environmental organizations (Fligstein and McAdam 2011; 2012). This is because most environmental groups focus their advocacy efforts on the state, albeit through diverse methods, in pressing for regulations and laws

to better protect the environment. Organizations also tend to measure progress of the movement in terms of the quality and quantity of environmental policies enacted and enforced (Dalton et al. 2003). Industry groups represent an additional important external actor to the strategic action field of environmental organizations. Environmental organizations have historically maintained an adversarial orientation to industry groups and often lobby the state to monitor industry for advancing environmental goals. Fiorino (2006) argues that during the 1980's and 90's, political struggles at the national level between pro- and anti-regulation forces led to ongoing conflict between the government, industry and civil society over the best way to mediate environmental problems. Industry lobbied for greater flexibility in compliance to support operational innovation and efficiency in a changing global landscape, while concerned citizens demanded greater regulatory oversight over actors they mistrusted.

Geopolitical forces and supply problems in the global energy sector during the 1980's facilitated the federal government's interest in supporting the development of a domestic energy supply, and shale gas development held significant promise to fulfill this goal (Burwen and Flegal 2013). Yet rapidly changing technology in this sector undermined the ability for the government to regulate the emerging industry efficiently and helped fuel arguments that compliance with federal laws stagnated the industry's growth potential in an increasingly competitive international marketplace. Further, as the source of environmental problems became more complex and varied in a developing global economy, questions arose over the capacity of the command-and-control approach to effectively handle environmental regulation (Fiorino 2006).

It was in this political climate that the Clinton Administration announced the "Streamlining Environmental Regulation" initiative and Congress commissioned three reports detailing the shortcomings of conventional environmental regulation in the mid 1990's. By the early 2000's,

the federal government mandated the EPA to adopt a new approach to regulation, enabling greater flexibility in enforcing environmental laws and relying on the expertise of private firms to guide future rulemaking (Fiorino 2006). Indeed, while the government also extended privileges to citizen groups for engaging in public comment forums on proposed laws and regulations, most environmental decision-making processes neglected to engage public stakeholders in any substantive manner (King and Soule 2007). As a result, some organizations in the environmental movement shifted their attention away from the state and began directly targeting corporations in the private sector through boycotts and other means to advance environmental goals (Davis and Zald 2005; Gereffi et al. 2001).

1.2.4 Environmental-industry alliances

After several successful national boycott and protest campaigns aimed at Nestle, Chevron and The Home Depot in the 1990's improved the companies' environmental performance, directly targeting corporations gained legitimacy as a movement tactic. By exposing the environmentally exploitative practices of these corporations, environmental activists were successful in getting some targeted companies to adopt more responsible behaviors (Bartley and Child 2014). However, the impact of targeted campaigns that rely on the use of negative tactics is limited. While a direct target may be 'named and shamed' into adopting more sustainable practices, such a strategy has little impact on fostering change among other operators in targeted industries, or on moving the needle for regulatory oversight across an entire industry (Bartley and Child 2014). As environmental groups waged adversarial campaigns against specific companies, "it set in motion a series of battles between companies and their critics, which led to a demand for more credible and standardized systems for evaluating claims about the social or environmental impacts of

industry operations" (Bartley 2003: 441). Moreover, after the 1992 United Nations Commission on Environment and Development failed to produce a binding agreement on global environmental management, some environmental actors began exploring alternatives. Out of these efforts came a focus on more cooperative methods of direct targeting and private certification programs like the Forest Stewardship Council and the Rain Forest Alliance became a part of the environmental movement's repertoire of action (Bartley 2003).

Despite the emergence of a number of environmental certification schemes by the early 2000's, environmental-industry alliances had yet to gain traction as a legitimate tactic for the environmental movement (Cashore et al. 2004). By entering into cooperative alliances with industry, some environmental actors worry that collaborating with "the enemy" compromises the ability of the movement as a whole to challenge industry practices. Collaboration also raises some concerns about accountability problems for organizations in the environmental field who may be lured into such alliances with financial incentives in exchange for acquiescence and green cover to industry practices. Whittier (2018: 2) argues this is a common feature of frenemy relationships, such that activist critics of these alliances "often assume that 'getting in bed with the enemy' inevitably leads to defeat and cooptation."

Concerns of this nature can undermine the fragile stability of a field and create a "crisis" of collective identity and misunderstanding about the appropriate "rules" for organizational practice in a field. These factors can create factionalism within the movement (Whitter 2018), ultimately calling into question the boundaries of organizational membership to a field, and the capacity of a field to achieve its valued ends (Fligstein and McAdam 2012). When uncertainty of this scope seeps into the agreed upon rules for field membership and behavior, conflict that ensues has the potential to unravel established relationships and incite protracted conflict among field

members. These forces can eventually threaten the survival of the field as a whole. Such concerns are the focus my research.

1.3 Dissertation outline

Whittier (2018) claims that the "story of social change is a story of frenemies," thus making these alliance structures important objects of study. Moreover, the importance of environmental protection in the modern world and the environmental movement's critical role in advancing this imperative, requires that analysts pay attention to the emergence of new structures like environmental-industry alliances. My dissertation seeks to evaluate the constellation of factors – organizations, leaders, collective identity, frames and resources – that led to the formation of the environmental-industry alliance, and to consider the nature of the conflict that occurred within the environmental field as a result of the coalition.

This dissertation is organized into seven chapters. In the following chapter, I discuss the theoretical foundations that inform my research methodology and describe the data collected to support my analysis. Data for my project includes twenty-seven in-depth semi-structured interviews conducted between August 2014 and December 2015, organizational documents from environmental groups represented in my sample, and media documents from news outlets in which the coalition is discussed. Seventeen of the interviews are with key-decision makers (i.e. executive directors, regional directors, and attorneys) from nine environmental organizations active in the Pennsylvania region that either participate in, support but do not participate in, or oppose the coalition, as well as four interviews with informants from three gas companies that participate in the coalition, two interviews with board members of the coalition, one interview with the current

and one with the former director of the coalition, and two interviews with government representatives. I used a qualitative analysis software program to systematically analyze the data.

In chapter three, I offer an overview of the intersection of the social movement, organizational theory, and strategic action field literatures. In this discussion, I examine literature that highlights the idea that though the social movement and organization literatures have largely been developed independently of one another, not only are there parallel concepts in each, but the body of work in each research tradition complements that of the other tradition (Davis et al. 2005; Fligstein and McAdam 2012; McAdam and Scott 2005). In particular, I explain that perspectives in organizational studies underscore the tendency of fields to gravitate toward stability (Dimaggio and Powell 1983), and social movement studies highlight episodes of conflict and change (McAdam and Scott 2005). I argue that Fligstein and McAdam (2012) combine both perspectives in arguing that while fields may generally reflect stability, that stability is a fragile balance constantly negotiated between organizations in the field.

In the third chapter, I also present a conceptualization of the strategic action field of the environmental movement. While actors in the environmental movement all seek to address environmental pollution and problems, a closer look at the goals, ideologies, and preferred strategies of groups in the environmental movement reveals a broad field of diverse organizations, ideologies and capacities (Bosso 2005; Ogrodnik and Staggenborg 2016).

In the fourth chapter, I situate the details of my case in the literatures described in earlier chapters, analyzing the contention that ensued among environmental organizations as a result of the formation of the environmental-industry coalition. I demonstrate that the coalition disrupted rules upon which the environmental field had been settled and incited fear among some groups about their capacity to maneuver and adapt to changes occurring within their field. By choosing to

engage in coalition work with industry, the alliance created uncertainty about established field rules, violated the movement's collective identity, and threatened the viability of the environmental field as a whole to deal with the impacts of shale gas development.

In chapter five, I analyze the influence of framing processes and the perception of political opportunities and threats as motivations for supporting or opposing the coalition. While challenger groups perceived the formation of the coalition as a threat to their organizational capacity and to advancing movement goals on fracking, participating organizations welcomed it as an opportunity to fashion a "winning coalition" that could generate new repertoires of collective action (Fligstein and McAdam 2012: 107). Overall, I find that participating organizations perceive the coalition to be an important tool for advancing the environmental movement's goals by helping to create and implement environmental protections for shale gas development within a constrained political climate.

In the sixth chapter, I analyze the impact of resource mobilization and organizational learning on the motivation of environmental organizations to join or oppose the coalition. I demonstrate that, while financial support may have inspired the initial decision to participate in the coalition, organizations remained invested in the coalition even after the elimination of foundation funding. Representatives of these organizations expressed the view that cooperatively engaging with industry increases their credibility vis-a-vis the state, thus improving their ability to gain access to elite political circles to advance future campaigns. On the other hand, I illustrate how environmental-industry alliances threaten environmental groups that are resource poor relative to other organizations in their field, as these groups are reliant on larger organizations for sustaining the viability of the field, as well as their own survival on some occasions. Accordingly, when organizations in the environmental field choose to ally with industry instead of other actors

in the field, I argue that uncertainty settles in regarding the ability for resource poor groups to coalesce with other organizations to secure their own existence and advance mutual goals.

In the final chapter, I demonstrate how a field level perspective contextualizes the strategic decision-making that environmental organizations engage in as they survey broader societal and political conditions that present opportunities and constraints for advancing movement goals, in addition to supporting the organizational imperatives of resource mobilization and maintenance. A field level framework engenders a deeper appreciation for the underlying structures that incite the contention of challenger groups, transcending the traditional focus on their contempt for institutionalized politics to an emphasis on the uncertainty these groups face when organizations in their field seemingly shift their loyalties to actors that have long been established as the movement's chief target. I also show that while participation in environmental-industry coalitions is a relatively new form of action for environmental organizations, on the whole the motivations to participate in them are not indicative of acquiescence to movement co-optation by industry groups or of narrow self-interest to secure financial resources. Rather, I argue that the motivations largely reflect a process of strategic decision-making and adaptation to societal changes over which the organizations have no control, and a decision to employ one strategy among others they believe to be effective for advancing environmental goals (Delmas and Young 2009).

1.4 Contributions to the literature

Through this project, I seek to contribute to the emerging body of work focused on the intersection of social movement and organizational theory, and on Whittier's (2018) research on frenemies. In my analysis, I demonstrate that, while a movement-centered approach to analyzing

the environmental-industry coalition might emphasize the divergence of preferred strategies and tactics between groups in the environmental movement (Bosso 2005), my research suggests that a more comprehensive examination of organizational characteristics, social movement dimensions, and field-level factors is necessary to understand the circumstances that underlie the coalition's formation and the conflict among environmental groups that followed (Davis et al. 2005; Fligstein and McAdam 2012). While directly engaging with industry is a relatively new form of action for environmental organizations, on the whole the motivations underlying this tactic are not indicative of acquiescence to movement co-optation by industry groups or of narrow self-interest to secure financial resources, but rather an effort to mutually advance field level goals and organizational imperatives. Additionally, my case offers empirical evidence to reveal how a field level framework engenders a deeper appreciation for the underlying structures that incite the reactive mobilization of challenger groups. A field-level perspective transcends the traditional focus in social movement studies on these groups' contempt for institutionalized politics to an emphasis on the uncertainty these groups face when organizations in their field seemingly shift their loyalties to actors that have long been established as chief enemies of the field.

Finally, my research contributes to the empirical literature on social movement coalitions. Despite the scholarly attention to the formation of coalitions among social movement organizations (Van Dyke and McCammon 2010), little work examines factors that influence organizations to pursue extra-movement, and in some cases, contentious, alliances. Whittier's (2018) research on frenemy alliance structures between feminist and conservative activists opposed to sexual violence is a critical contribution to this literature. My case provides another unique opportunity to study the rare phenomenon of extra-movement and contentious alliances, and to evaluate the potential impact such alliances can have on a movement's stability.

2.0 Theoretical foundations and analytical methods

2.1 Introduction

Any research project that focuses on the dynamics of social movements and the organizations that comprise them rests fundamentally on insights gleaned from the literature on collective action. Theories of collective action are germane to understanding the mobilization of groups and alliance structures, and therefore should inform the research methodologies adopted for a project of this scope. In this chapter, I provide an overview of the key works that constitute the literature on collective action, and the different analytical frameworks that support the empirical foundations of this field. Additionally, I offer a brief discussion on the merits and limitations of the various methodologies utilized in this discipline, explaining why I adopted a case study approach for my study. Finally, I describe the data collection methods and analytical framework utilized for my project.

2.2 Collective action for environmental protection

A growing body of literature within sociology and political science analyzes the complex relationship between the world's ecosystems and the diverse social systems that utilize and rely on them. Researchers within this field seek to evaluate the social and contextual factors that underlie environmental problems and the proposed solutions to address them (Janssen 2002; Berkes et al. 2003; Young et al 2008). Much of this literature highlights the importance of mobilizing social

structures that help to facilitate the processes of collective action needed to effectively solve environmental problems (Davidson-Hunt and Berkes 2003). Mobilizing structures are the "collective vehicles", such as networks and organizational structures, "through which people mobilize and engage in collective action" (McAdam et al. 1996). In other words, mobilizing structures provide the vehicles through which individual behavior is coordinated into group action. My project is broadly situated in this paradigm of scholarship as my research considers the social and political processes that inform the emergence of collective action to address environmental problems associated with natural gas development in Pennsylvania and the surrounding region (Young 2002; Young et al. 2008).

2.2.1 Social movement coalitions and collective action

From a general perspective, social movements "consist of shifting coalitions of constituents from varying backgrounds who typically form a number of different social movement organizations" (Staggenborg 1986: 374). In other words, social movements are comprised of organizations that cooperate with other groups working toward mutual goals. Interorganizational collaboration is typically motivated by the presence of external threats or opportunities that signal a need for new strategies to meet organizational objectives (Gray 1989). Brokering new relationships and pooling resources enable organizations to navigate turbulent environments or pursue more ambitious goals. But organizations are dynamic entities with competing interests and capacities (Kanter 1981), and research demonstrates that coalitions are most easily fostered among groups with similar preference structures, ideological orientations, and resource levels (Van Dyke and McCammon 2010; Zald and McCarthy 1987). These similarities help to smooth the pathways

to coalition work by engendering norms of trust and reciprocity necessary for cooperative action (Ostrom 2005).

Empirical studies on environmental coalitions indicate that a primary motivation for environmental organizations to coalesce with organizations outside of their field is to gain access to arenas from which they are normally excluded. This is for the purpose of creating transparent and participatory decision-making structures to advance environmental imperatives (Fung and Wright 2003). Advocates of this strategy argue that conflictual and adversarial approaches to solving environmental problems lead to insufficient outcomes, and that collaboration with cross-sector partners engenders deeper and more sustained progress toward environmental goals (Sabel et al. 2000).

Yet a fuller appreciation of the capacity of organizations to coalesce in an unlikely – and in this case contentious – alliance requires attention to research in the collective action field. This research highlights the critical social processes that must be present to enable diverse organizations to overcome their structural, ideological and resource-based differences to coalesce in pursuit of a common goal. Such insights are critical not only for providing a deeper understanding of the factors that motivate cooperation among unlikely partners, but also for guiding the research methodologies adopted for a project of this focus.

2.3 Foundations of the collective action research paradigm

Foundations of the collective action research paradigm can be traced to Mancur Olson's (1965) *The Logic of Collective Action* and Garrett Hardin's (1968) "The Tragedy of the Commons." Olson (1965) stressed the "free-rider" problem, the idea that social actors perceive the

costs of mobilizing for a common good to outweigh the benefits, thereby creating one of the most fundamental challenges to mobilization and collection action. Hardin (1968) furthered this theory by arguing that rational actors lack individual incentives to cooperate and therefore will use the commons to the point of its destruction. These pessimistic viewpoints established the early theoretical foundations of the collective action field.

A number of years later, Russell Hardin (1982) expanded on these foundations by arguing that collective action problems must be analyzed in the context of dynamic social relationships. He explained that in ongoing social interactions, an individual's anticipation of future interactions impacts one's present decisions, and thus, any decision to mobilize or not must take into consideration the effects of an actor's strategic decision-making processes in dynamic contexts. Axelrod (1984) sought to empirically test Hardin's (1982) premise that cooperative behavior must be understood as a socially dynamic process. By executing a series of iterative Prisoner's Dilemma games via a "computer tournament" in which individuals repeatedly "competed" over the course of time, Axelrod (1984) found that cooperative behavior tends to voluntarily emerge when individuals can expect to meet one another in future social interactions.

In her groundbreaking analysis of a community-managed water table resource, Elinor Ostrom (1990) furthered Axelrod's (1984) theory on collective action. Ostrom (1990) helped to debunk G. Hardin's (1968) theory of the tragedy of the commons by illustrating numerous case studies from around the world of successful collaborative environmental management alliances. One of her key findings is that even among actors with conflicting interests, effective collective action has the potential to take shape if the following social criteria exist: the existence of frequent and extensive communication among resource users, the development and use of specific resource management rules, and the inclusion of sanctioning mechanisms to punish non-conformers.

Ostrom and her colleagues (1994) offered further evidence through formal laboratory experiments to demonstrate that structured opportunities for communication and information sharing are critical in these instances because it enables the creation of a shared understanding and system of rules for the management of resources, as well as sets expectations for future group interactions. These insights helped pave the way for empirically based analyses of collective action.

2.3.1 Reconciling rational actors and collective action

Fundamental to research on collective action is the understanding that individual interests must be "reconciled" with collective choices to effect cooperative behavior (Lichbach 1996). This notion primarily grounds analyses of collective action in the rational actor paradigm of human behavior (Ostrom 2005; Lichbach 1996). The primary assumption underlying the rational actor approach to human behavior is that individuals act in order to maximize their personal welfare (Lichbach 2003). However, scholars of collective action have effectively demonstrated that individual behavior in cooperative situations is influenced by social interaction, and therefore, they argue that theories of rational behavior must be modified to reflect this reality.

In particular, Ostrom (1998) argues that theories on collective action and mobilization need to engage a behavioral theory of "bounded rationality" (c.f. Simon 1957). The concept of bounded rationality underscores the notion that individuals rarely (if ever) possess complete information about others' future behavior and cannot perfectly calculate the consequences of choosing alternative courses of action in social situations. Yet bounded rationality also assumes that individuals have a dynamic ability to utilize heuristics, learn norms, and craft rules to aid in decision making in social interaction. These abilities, in turn, often orient one towards agreeing to cooperative ends (Ostrom 1998). Ostrom (1998) adds that bounded rationality better explains the

tendency for individuals who interact with one another to develop trust and norms of reciprocity. It also facilitates an incentive to maintain one's reputation in social interaction. When mutual commitments increase individual returns to cooperative behavior, interest in maintaining a reputation among group members is also enhanced, thus deepening commitment to that group. Communication encourages the exchange of information among individuals and can reduce the uncertainty of future interaction (Ostrom 1998). When participants have the opportunity to communicate, they tend to discuss how to build norms to encourage compliance with more collectively beneficial arrangements and outcomes (Ostrom et al. 2007).

Overall, conclusions from both case study analysis and laboratory experiments demonstrate that dynamic social processes, and especially frequent and extensive communication, are germane to engendering opportunities for collective action and the formation of strategic alliances. Ongoing communication and interaction enable actors with competing values, interests and resource levels to exchange information, develop new perspectives and engage in deliberative processes for the creation of mutually beneficial outcomes. Additionally, evidence demonstrates that while specific contexts and histories matter for the emergence of collective action, when a coalition implements formal mechanisms that facilitate the development of trust, norms of reciprocity, and an incentive to maintain one's reputation within the alliance, cooperative outcomes have a tendency to emerge (Ostrom 2005; Poteete et al. 2010). These insights are critical for understanding how unlikely – and in this case contentious – coalitions have the capacity to form.

2.4 Merits and limitations of the primary methodological approaches

A critical step in my research process was evaluating the methodological approaches that supported theoretical advancements in the field of collective action and identifying the most promising research design for my study. Taking into consideration the uniqueness of my case, my proximity to research participants relevant to the coalition, and my focus on the meaning making that research participants afforded to their experiences related to shale gas development and the coalition, I describe below the methodology adopted for my dissertation.

2.4.1 Strengths and limitations of case studies for analyzing collective action

Case study research has been important for drawing attention to unexpected relationships between different variables of interest in collective action. In particular, Poteete et al. (2010) state that case study research has helped to reveal the different ways heterogeneity impacts outcomes for environmental protection. They claim that in-depth knowledge of the situation and related characteristics is necessary to help decipher complex processes and contingent relationships that lead to specific outcomes in particular cases (Poteete et al. 2010: 54). Furthermore, Whittier's (2018) analysis of frenemy alliance structures involving feminist and conservative movement activists highlights the importance of contextually specific factors that inform each of the three cases she analyzes. In her analysis, she presents three types of frenemy relationships: collaborative adversarial relationship, narrow neutrality, and ambivalent alliance. Because each of these types of relationships "rest on constructions of meaning," i.e., on beliefs about the effectiveness of frames, the ideological implications of relevant policies, and the capacity to trust frenemy intentions, Whittier's (2018) study demonstrates that case studies are important for providing

access to the rich data required to depict the meaning making participants ascribe to their decision-making and behavior. Thus, the case study approach plays a critical role in supporting the development of nuanced understandings of the dynamics of collective action across diverse situations.

2.4.2 Case studies for environmental coalitions

The case study approach maintains several strengths over other available methods. First, empirical field-based research is often the only available option for the analysis of coalitions that are context specific and involve complex rules and arrangements. Case study research in these instances enables researchers to utilize place and situation specific knowledge to tease out causal processes in explaining the emergence of certain outcomes in different environmental management situations (Snow and Trom 2002; Young et al. 2008).

Additionally, case study research has allowed researchers to engage in important testing of some the classic theoretical assumptions of collective action. Indeed, such research has helped to debunk some of the assumptions of Hardin's (1968) tragedy of the commons and of Olson's (1965) free-rider problem. Poteete et al. (2010) explain that case study research challenged the conventional wisdom on collective action by demonstrating that: (1) cooperation could occur in the absence of state regulatory schemes; (2) collaborative arrangements often reflected 'secure' agreements that incorporated sanctions for noncompliance; and (3) in some cases, efforts of the coalition resulted in superior environmental outcomes than did conventional state/regulatory based approaches.

2.4.3 My research design

I chose the case study approach because of the exceptionality of the case of the Center for Sustainable Shale Development, an unusual coalition of adversarial participants with competing interests and ideologies. To my knowledge, no other environmental-industry alliance exists to address the impacts of shale gas development. While Corbett's Marcellus Shale Gas Advisory Committee could be classified as a narrowly neutral collaborative effort involving industry and environmental participants, that the alliance was commissioned by the state and focused only on developing high-level recommendations for shale gas policy distinguishes it from the contentious nature of the CSSD. Further, the exceptionality of the CSSD case is reinforced by the awareness that industry and environmental actors in the state of Texas attempted to form a coalition that modeled the CSSD. Due to the participant's lack of commitment to the collaboration, the effort fizzled not long after the alliance was initiated (Interview, September 9, 2014).

Conclusions in the methods literature for studying collective action suggest that a coalition like the CSSD is a highly unusual phenomenon that requires in-depth analysis. As Maxwell (2005: 90) explains, the selection of 'extreme' cases can provide critical opportunities to test established theories in ways that representative cases cannot. Thus, identifying the CSSD as my case of choice based on its exceptionality supports my ability to test certain conclusions that have been established in the literature on collective action and interorganizational collaboration.

Furthermore, a case study approach reflects my interest in understanding the *locally* relevant aspects of my study (Maxwell 2005). Not only does this methodology enable me to develop a rich understanding of the unique contextual factors of the case, but additionally, it enhances my capacity to evaluate the complex and dynamic social processes that support its formation and associated contention. Finally, the case study method supports my ability to evaluate

the meaning-making coalition participants and opponents attribute to the alliance's formation and to the impact it has on the environmental field and the organizations within it.

2.4.4 Limitations of the case study approach

Despite the strengths of the case study method and the important role this approach has played in advancing the field of collective action, scholars point to several limitations of this methodological approach. One of the primary limitations of the case study method is the inability to generalize analytical conclusions (Snow and Trom 2002). Often case study research involves only one or a few cases. This condition lacks the statistical power necessary for making generalized assumptions and for systematically comparing and synthesizing conclusions (Ostrom 2005). However, Snow and Trom (2002) contend that while case studies lack statistical generalizability of their conclusions, what they do offer is the ability to empirically test particular theories, thus helping to do the work of theoretical development and refinement.

Additional weaknesses of the case study approach include indeterminacy and selection bias. Indeterminacy refers to an analysis in which "observations are consistent with more than one hypothesis" (Poteete et al. 2010: 36). Indeterminacy in case studies does not usually result from a lack of data, but rather "generally arises from the close correlation of conditions of interest" (Poteete et al. 2010: 36). Given the small sample size and limited degrees of freedom inherent in case study methods, analysts are unable to control for different variables in order to conclusively determine causality. Furthermore, indeterminacy poses a challenge because of the dynamic nature of social processes and of the non-linear progression of outcomes in cooperative resource management cases. Thus, while the case study approach can be a useful method for teasing out

complex social processes, making determinate conclusions of causality can be a challenge when conditions of interest may be closely correlated.

Selection bias is also a risk inherent to the case study approach. Indeed, the analysis of successful cases of collective action of unlikely partners are not only more easily identifiable than non-successful ones, but also failures of collective action can often be attributed to non-action rather than to a break-down of social processes that can undermine cooperative efforts (Poteete et al. 2010). Thus, selection bias through the case study approach can lead to the over-representation of successful occurrences of collective action and can bias analytical conclusions related to the study of general relationships in this field (McAdam and Boudet 2012).

2.4.5 Other methodological options for studying collective action

Just as case study research helped to debunk conventional theories of collective action, laboratory experiments exposed the theoretical limitations of the rational-choice model of individual behavior in these situations (Poteete et al 2010). In essence, laboratory experiments revealed that individuals pursue a variety of behaviors across different situations, and that most commonly, individuals tend to engage in bounded rationality and adopt 'conditionally cooperative' behavior in collective action situations. Laboratory experiments also helped to reveal that cooperative behavior typically arises when individuals have the opportunity to communicate with one another, and even more frequently when they have the opportunity to devise sanctioning schemes to encourage compliance (Ostrom et al. 1994). These findings ultimately engendered important theoretical extensions to the traditional rational-actor model of individual behavior and helped to foster a better understanding of what social factors most likely lead to cooperative outcomes.

There are significant limitations of the laboratory experiment approach. One of the main limitations is that laboratory experiments tend to oversimplify the complexity inherent in complex environmental management scenarios. While simplification in laboratory experiments is a necessity for enabling the control of particular variables, some analysts argue that this structure thus fails to capture important dynamics that are affected by complex resource characteristics and social relationships (Poteete et al. 2010).

A more recent methodological development in the field of collective action is the use of formal mathematical modeling and simulation techniques to evaluate the conditions under which cooperation tends to emerge. This technique is called agent-based modeling, a methodology that utilizes computational representations to evaluate how micro-level mechanisms impact the development of macro-level patterns in social situations (Poteete et al. 2010). Agent-based models are constructed from information-processing algorithms that specify various assumptions about individual behavior and patterns of social interactions. Agents are represented in the models by dynamic variables that are capable of interacting with other agents and of engaging in goal-oriented behavior (Poteete et al. 2010: 174). Given its capability of capturing dynamic processes, agent-based modeling represents a cutting-edge methodology for analyzing the relationship between individual behavior and social outcomes.

However, a primary weakness of agent-based modeling is the inability for agent-based models to test hypotheses in a rigorous way. This challenge is underscored by the "lack of widely practiced protocols for documenting work in agent-based modeling carefully so that scholars can check and build upon each-other's work" (Poteete et al. 2010: 177). Given these realities, few resources exist for analysts who use agent-based modeling and who wish to validate their models or cross-reference other's work to aid in the development of new research. Other limitations of

agent-based modeling include the inability for models to capture the complexity associated with real life situations (Janssen and Ostrom 2006). While scholars are currently attempting to develop new ways of adding levels of complexity to the models, these efforts remain in their nascency.

In sum, analysts cautiously offer that the choice of methods available for research on collective action and unlikely alliances will naturally involve tradeoffs (Poteete et al. 2010). These trade-offs include choosing between rich and contextually specific case studies and more systematic and generalizable analyses. While each method entails unique merits and limitations, scholars underscore that choosing an approach should be based on a number of factors: the availability and quality of data, the resources and timeframe accessible to the researcher, and the nature of the questions proposed for analysis (Maxwell 2005). Regardless of which method is chosen, scholars add that no single methodology should monopolize the research agenda and that each of the various methods has different and important contributions to make for advancing knowledge within the collective action field.

2.5 Methodological framework of my project

Taking into consideration the strengths and limitations of the different research methodologies described above, the methodology chosen for my project is a case study of the Center for Sustainable Shale Development (CSSD). Utilizing the case study research methodology, I evaluate from a field-level perspective the constellation of factors that facilitated the formation of the environmental-industry alliance, and the contention that ensued in the environmental movement as a result.

2.5.1 Research methods

Data collected for my project include twenty-seven in-depth semi-structured interviews conducted between August 2014 and December 2015, organizational documents from environmental groups represented in my sample, and media documents from news outlets in which the CSSD is discussed. Seventeen of the interviews are with key-decision makers (executive directors, regional directors, and attorneys) from nine environmental organizations active in the Pennsylvania region that either participate in, support but do not participate in, or oppose the CSSD, as well as four interviews with informants from three gas companies that participate in the CSSD, two interviews with board members of the CSSD, one interview with the current and one with the former director of the CSSD, and two interviews with government representatives.

2.5.2 Participant selection

Participants in my study were purposively chosen in order to develop a robust description and understanding of my case (Maxwell 2005). To evaluate the motivations behind the organizational decision to join the CSSD, the social processes that facilitated its formation, and the field and organizational level factors that engendered the contention, I identified the following informants as critical participants to the study:

1. Leaders of participating environmental organizations who possess decision-making authority over the organization's participation in the CSSD
2. Leaders of non-participating environmental organizations who possess organizational decision-making authority and oppose the CSSD
3. Representatives of gas corporations participating in the CSSD

4. Key neutral arbiters and government representatives that participate in the CSSD

Environmental informants are representatives of organizations that fall within any one of the four classifications below. When appropriate, I specify the organizational classification throughout my dissertation to provide further clarity on the field-level framework adopted for the project.

	Coalition participants	Coalition non-participants
Incumbent organizations	• Environmental Defense Fund • Pennsylvania Environmental Council • Clean Air Task Force • Citizens for Pennsylvania's Future (PennFuture)	• Western Pennsylvania Conservancy • Nature Conservancy • Sierra Club • Natural Resource Defense Council
Challenger organizations	• Group Against Smog and Pollution (GASP)	• Marcellus Protest • PennEnvironment • Clean Water Action

Figure 3. Organizational Classification

Furthermore, because a central focus of my study was on understanding the meaning-making and motivations behind the environmental organizations' decision to participate in or oppose the CSSD, engaging decision-makers of environmental organizations was critical to gaining insight into the purposeful strategies that each organization adopted.

Additionally, I attempted to address selection bias by interviewing leaders of non-participating organizations. This allowed me to systematically compare data from both types of sources to minimize the prevalence of "key informant bias" wherein my conclusions could have been skewed in the favor of the participating organizations had I only interviewed informants from those organizations (Maxwell 2005). Furthermore, by including industry representatives and neutral arbiters as participants in my study, I was also able to comparably analyze participant

depictions of the dynamic social processes that occurred among actors within the CSSD. This purposive approach to selecting participants for my study helps to increase the validity of my research conclusions.

2.5.3 Interview methods

For the study, I conducted semi-structured, open-ended and intensive interviews. This structure enabled me to evaluate how my informants make meaning out of the contextual factors of the case, and their interpretation of the broader political climate and field environment. Semi-structured and open-ended interviews also enabled me to identify and tease out the dynamic processes of social interaction that influenced the coalition's formation and the contention that followed. Questions developed for the interview were based on key insights established in the collective action literature, and on my own understanding and awareness of the case at hand.

2.5.4 Analytical methods

Interviews for my study were recorded with the informant's permission, transcribed in full, and uploaded into the qualitative analysis software program MaxQDA. Subsequently, I reviewed the material to identify patterns and anomalies in the data. Patterns that emerged in the data were categorized and established as analytical codes in the qualitative analysis software program. Codes were formulated from key theoretical concepts utilized in the social movement and organization theory literatures. The goal of coding is to "fracture" the data (Strauss 1987) so it can be arranged into categories that facilitate comparison and aid in generating explanations based on patterns that emerged in my analysis. Relationships that emerge between codes were key to informing my

analytical conclusions. The use of MaxQDA enabled me to organize and systematically compare categories of data to identify relationships and establish conclusions for the study.

2.5.5 Validation

Throughout the study, I tried to remain as aware as possible to my own inherent biases as a researcher, and how this could have impacted the validity of the results of my study. On the one hand, my position as an environmentalist with a long history in the field provided me with both easy access to key informants in the field, as well as enhanced my ability to generate rich data with minimal reliance on inference that may otherwise been a hinderance to my analysis (Maxwell 2005: 110). This long-term and intensive involvement in the field also enabled me to more deeply understand the meaning making participants generated as a result of the contextual dynamics and realities of operating within the environmental field.

While my long-standing position in the field may have improved my credibility among environmental informants, this history may have hampered my credibility with industry informants. To minimize perceptions that I was an adversarial researcher, I did express my general positive perception of the coalition to most informants. While this may have impacted how some informants expressed their views, I attempted to minimize my reactivity to all informant responses and made a concerted effort to react neutrally to the communication, whether I agreed or not with what was being offered (Maxwell 2005).

2.6 Conclusion

Considering the merits and limitations of each methodology for the study of collective action and unlikely coalitions, in addition to the availability of contextually rich data that my case offers, this chapter describes the reasons I chose to adopt a case study approach for my project. By utilizing this methodology, I am able to evaluate specific contextual factors of my case to tease out causal processes in explaining the emergence of the CSSD and contention within the environmental field that surrounded its formation (Poteete et al. 2010; Young et al. 2008). While a case-study approach may limit the generalizability of my conclusions, this study is ultimately most relevant for explaining the nuanced dynamics of the particular case at hand, and for testing specific conclusions established in the collective action, social movements and organization theory literatures. Analyses that consider exceptional cases like the CSSD are critical for revealing what factors are key to engendering cooperative action to better address environmental problems in a world where resource management and environmental protection is a complex process rife with competing interests, limited resources, and a diversity of actors (Young et al. 2008).

3.0 Conceptual framework: strategic action fields

3.1 Introduction

Fligstein and McAdam (2012) argue that central to understanding collection action is the need to conceptualize a meso-level social order that links individual interests with coordinated group behavior. To this end, they claim that fields are the 'basic building blocks' of modern political and organizational life that serve to coordinate individual behavior into (relatively) ordered arenas of social action (2012: 3). Within these arenas, motivations to seek and maintain order in a given field rest on material interests and power, as well as, according to Fligstein and McAdam, existential concerns.

In the field of sociology, and social movement studies in particular, a key preoccupation of analysis is evaluating the factors that incite mobilization during periods of instability and uncertainty in previously settled social arenas. Taking this preoccupation one step further, a core question that Fligstein and McAdam seek to address with their theory of fields is: *What makes actors cooperate with one another, even when conflict is prevalent?* While sociologists would typically focus their analysis on the conditions in which actors resist certain structures and 'create alternative worlds', organizational theorists usually pay attention to the emergence of formal organizations that engender stability and to the rules and conventions formed to resolve the contention (Fligstein and McAdam 2012: 5-6). Fligstein and McAdam's (2012) theoretical framework seeks to draw on key insights from both literatures to provide a comprehensive analysis.

3.2 A theory of fields

Fligstein and McAdam's theory of fields delineates a framework for analysis that draws on the central tenants of each of the sociological and organizational literatures. They claim that a robust analysis of collective action and social life must consider the influence of contextual forces occurring at both the micro and macro levels, as well as the interdependence of agency and structure. From a field perspective, social life is best understood by evaluating the complex web of relationships that shape organized groups and how these groups define and transform their social arenas (Fligstein and McAdam 2012). Accordingly, field analysts must first specify elements of the field of interest (structure) in addition to the social processes that engender collective action (agency) to gain a comprehensive picture of social life, especially during episodes of contention. They state:

> Strategic action fields are the fundamental units of collective action in society. A strategic action field is a constructed mesolevel social order in which actors (who can be individual or collective) are attuned to and interact with one another on the basis of a shared (which is not to say consensual) understandings about the purposes of the field, relationships to others in the field (including who has power and why), and the rules governing legitimate action in the field (Fligstein and McAdam 2012: 9).

Subfields are embedded within broader strategic action fields, similar to how social movement scholars define social movement organizations as existing as a part of a social movement community or industry (i.e. environmental organizations are fields unto themselves embedded within the broader field of the environmental movement), or the way organizational scholars would identify a private college as a field in and of itself embedded in the larger field of higher education. Fligstein and McAdam (2012: 10) see strategic action fields as "socially

constructed arenas within which actors with varying resource endowments vie for strategic advantage." The key takeaway is that the dynamics of field relationships are the primary drivers of stability, contention and change within social life (Fligstein and McAdam 2012).

3.2.1 The social construction of strategic action fields

Fligstein and McAdam (2012) contend that strategic action fields are socially constructed by three important processes. The first is that membership within a field is based more on subjective interpretation than on objective criteria. The second is that the boundaries of strategic action fields are malleable and can shift depending on the issue at hand and actors involved. Finally, fields are delineated by the shared meanings that field actors create over time to define field membership. The shared meanings among field members reflect an awareness of the field as a legitimate space for coordinated social action, an understanding of who the more and less powerful actors are in the field, and an appreciation for the general rules of appropriate behavior within the field.

However, Fligstein and McAdam (2012) clearly point out that groups within a field may not necessarily possess consensus on universal standards of behavior for all field actors, but rather hold loose interpretive frames for defining appropriate action based on more self-reinforcing parameters. Additionally, they contend that chronic and mild contention is always present among more and less powerful field actors (Fligstein and McAdam 2012). Less powerful actors are consistently looking for opportunities to improve their position within the field, and more powerful actors to maintain the status quo.

3.2.2 Actors within strategic action fields

A strategic action field is comprised of three classes of actors that operate within the field - incumbents, challengers, and external actors (Fligstein and McAdam 2012). Incumbent actors (referred to as "dominant" actors in McAdam and Scott 2005; see also Gamson 1975) are the groups and organizations that wield the greatest influence over activities that occur within the field and whose interests the field order generally benefits. Their perspectives tend to be the dominant viewpoints held within the field - to be sure, they are often the very actors whose actions led to the original formation of the field - and the shared meanings of field membership and purpose tend to legitimate their superior position within the field. Challengers, on the other hand, are groups that "usually articulate an alternative vision of the field and their position in it" and at times attempt to disrupt the position of incumbent actors in the field to bolster their own standing (Fligstein and McAdam 2012: 13). While challengers typically are aware of and adhere to the dominant logic upheld by incumbents within the field, they are quick to capitalize on any opportunity to question the prevailing order and mold the field to their own logics.

Additionally, strategic action fields are embedded in a wider context that contains external actors and fields that, while not central to the field of study, can influence the course of action of organizations within the field of interest. A significant external actor that influences activity in most fields is the state, reflected in the extent to which a strategic action field and the organizations within it are dependent on state action for carrying out their activities (Fligstein and McAdam 2012: 19). The degree of interdependency between fields determines whether the field is a 'proximate' or 'distant' field to the field of interest. For instance, both the state and fossil fuel industry are proximate fields to the environmental field, while the professional sports industry would be classified as a distant field to the environmental field.

3.3 The field of environmental organizations

While actors in the environmental movement all seek to address environmental pollution and problems, a closer look at the goals, ideologies, and preferred strategies of groups in the environmental movement reveals a broad field of diverse groups and organizations. A common way this diversity is categorized is to describe the movement as consisting of, on the one hand, a network of national environmental organizations that operate primarily via professionalized and conventional political channels, and, on the other hand, grassroots groups that are rooted locally and engage in more disruptive and less conventional political activities (Bosso 2005; Ogrodnik and Staggenborg 2016). While this distinction reflects an overgeneralization of the actors and organizations that constitute the movement, it nonetheless serves as an apt way to categorize the incumbents and challengers within the strategic action field of environmental organizations.

3.3.1 Incumbent actors in the environmental field

As mentioned earlier, incumbents in a strategic action field are those organizations typically endowed with the greatest level of resources relative to other actors in the field, and around which the status quo of the field generally benefits. In conceptualizing the strategic action field of environmental organizations, national environmental organizations like the Clean Air Task Force, Environmental Defense Fund, as well as PennFuture and the Pennsylvania Environmental Council, represent the incumbents of the regional environmental field, with their formalized structures, large resource base, and access to political circles (Bosso 2005). These organizations are hierarchal in nature and possess a professional staff of scientists, lawyers, and administrators. Their professional structure not only enables them to function like interest groups in lobbying for

national policy issues and develop extensive political networks, but it also maintains their "good" standing with foundations willing to provide funds for their ongoing activity and advocacy (Bosso 2005; Rudel et al. 2011).

3.3.2 Challenger groups in the environmental field

Grassroots environmental groups, with their decentralized structures and limited access to financial resources and decision-makers (Schlosberg 1999), represent the challengers in the strategic action field of environmental organizations. Regional examples of challenger groups include Group Against Smog and Pollution (GASP), PennEnvironment, Marcellus Protest and Clean Water Action. Grassroots groups are typically characterized by a diffuse network of community members and activists bound by common experience and geographical location. Because their access to funding is limited, they are usually supported by volunteers and few paid staff (Gottlieb 2005; Rootes 2007). Their challenger orientation is manifest in their outspoken criticism of national groups, condemning them for being "too institutionalized" and concerned with organizational maintenance to be effective, and too willing to compromise on environmental issues and policies (Bosso 2005; Dowie 1995). Indeed, some have argued that the success of grassroots groups rests on their "uncompromising" stance on issues and ability to mobilize mass numbers of constituents (Dowie 1995; Rootes 2007). While grassroots groups will sometimes ally with national organizations for specific campaigns (Della Porta and Rucht 2002), e.g. GASP choosing to join the CSSD, many still question the intentions and accountability of national groups, often accusing them of undermining local struggles in pursuit of their own narrow interests (Dowie 1995).

3.3.3 Field rules and internal governance units

Many strategic action fields are held together by a system of rules and expectations for behavior. These governance units refer to localized arrangements that manage "compliance with field rules" and facilitate "the overall smooth functioning and reproduction of the system" even if they do not inherently resolve the ongoing tension among field actors (Fligstein and McAdam 2012: 13-14). Field stability is usually attained by either the imposition of a coercive order established by a dominant field actor or by the reluctant willingness of a number of field members who coalesce for a larger purpose. The most stable field structure is one built on alliances between field actors, especially among those with different resource endowments – this structure helps to mitigate coercive tendencies of more powerful field actors.

Indeed, it could be argued that given the acceptance of challengers of a hierarchical field order, and of incumbents for the inevitable and ongoing contention with their field counterparts, field orders reflect many of the same characteristics as political coalitions (Fligstein and McAdam 2012). Both incumbent and challenger groups within a field must be willing to overlook their irritations with one another and strategically cooperate to deliver mutually valued ends to their members. Often, cooperation is based on the recognition of shared goals that inform a broader collective identity, even if there is underlying tension among cooperating actors. Cooperation also helps to provide both material resources and existential rewards to field members which – in turn – help to structure and bring order to a field.

Coalitions at the field level, however, may over time evolve into recalcitrant arrangements wherein incumbents continue adapting field rules to reinforce their power. Not only does this limit the availability of material resources to challengers for organizational survival, but it also undermines the collective identity of field members for inspiring broad and coordinated efforts. In

this light, one can understand the threat less powerful field actors are faced with when their more powerful counterparts exploit field rules for their benefit.

3.3.4 Internal governance unit of the environmental field

The internal governance unit of the environmental field is informed by the understanding (not withstanding criticism) between national/incumbent and grassroots/challenger groups of the strategies and tactics each are expected to pursue and engage in to meet collective goals. National groups are primarily concerned with larger policy issues, so their strategies tend to revolve around "insider tactics" and conventional political activities like legislative advocacy and lobbying (Dalton 2015). Additionally, because they staff legal expertise and are often endowed with sufficient financial resources, national/incumbent organizations often rely on litigation for advancing environmental goals. Grassroots/challenger groups, on the other hand, typically engage in more disruptive tactics such as protests and sit-ins (Cable and Cable 1995; Rootes 2007). Their activities are centered on "outsider tactics" in that they eschew working via conventional political channels given that negotiation and compromise often characterize such strategies. Some challenger environmental groups aim to advance goals by utilizing more radical tactics such as illegal direct action and other attention-grabbing strategies (Gottlieb 2005).

While much literature suggests that the distinctive strategies of national and grassroots groups causes fragmentation within the movement and undermines its collective power (Dowie 1995; Shabecoff 2003; Gottlieb 2005), others argue that it is precisely the diversity of approaches and practices among the organizations that gives the environmental movement its remarkable staying power and capacity for mobilization (Bosso 2005; Della Porta and Rucht 2002; Ogrodnik and Staggenborg 2016). Despite differing perspectives on the impact of this diversity on movement

outcomes, an understanding of the different strategies and logics of the groups that constitute the movement nonetheless sheds light on the organizational practices and routines that govern the order of the field of environmental organizations.

3.4 Field stability and change

Despite low-level contention that is prevalent in all fields, more serious disruptions have the potential to upset the balance of relationships within a field and threaten its established order and viability. Central to analyses of strategic action fields is a concern for conditions that engender stability, incremental change, or transformation of a field. While the perspective in organizational studies underscores the tendency of fields to gravitate toward stability (Dimaggio and Powell 1983), and social movement studies highlight episodes of conflict and change (McAdam and Scott 2005), Fligstein and McAdam (2012) seek to combine both perspectives in arguing that while fields may generally reflect stability, that stability is a fragile balance constantly negotiated between organizations in the field.

While field dynamics can be understood to be settled along a continuum, with more settled fields exhibiting less contention and less settled fields exhibiting more, Fligstein and McAdam (2012: 13) offer: "The stress on the essential contentious character of fields and the constancy of change pressures within strategic action fields is one of the distinctive new elements that we bring to this theoretical project." What is at stake when the contention increases to heightened levels is the meaning actors' attribute to field membership, leading to questions about the ultimate purpose of the field, rules of the game, and what position everyone in the field holds. Indeed, these are important considerations of my project.

3.4.1 Episodes of contention

While internal field processes can disrupt the balance of dynamics within a field and escalate tension among field actors, a far more common culprit of field contention is the result of actions involving other proximate fields. In the modern world, the state is ubiquitously tied to most other fields given its authority to govern the activities of society. Proximate nonstate fields can also directly affect the dynamics and stability of a field. In Fligstein and McAdam's words (2012: 19), "The stability of any given field is largely a function of its relations to other fields. While fields can devolve into conflict as a result of internal processes, it is far more common for an 'episode of contention' to develop as a result of change pressures emanating from proximate and/or nonstate fields." An episode of contention refers to conflict generated among social actors as a result of an event that is disruptive to field dynamics (see also McAdam, Tarrow and Tilly 2001).

The degree to which an episode of contention escalates conflict among field actors is largely dependent on how the episode may or may not affect the balance of power within a field. The impacts of these types of events are, by default, large enough to disturb the fragile balance established within a field to introduce uncertainty about expectations for behavior and overall field purpose. Field members will either coalesce to settle an episode of contention and revert back to the status quo or refine ways of operating within the original scope of field's purpose. On the other hand, members may form alternative alliances to reorganize the field or reorient its ultimate purpose. As Fligstein and McAdam (2012) point out, in evaluating the impact of an episode of contention within a field, it is important to consider not only the perceived threats to a field's structure, but also to the deeper existential concerns that the event may cause within the hearts and minds of the field's members.

3.4.2 External fields to the environmental field

The state is a key external actor to the strategic action field of environmental organizations, as most environmental organizations direct their grievances and advocacy efforts toward the state in pressing for regulations and laws (Bosso 2005; Dalton et al. 2003; Kraft 2011). To be sure, progress of the movement is typically gauged in terms of the quality and quantity of environmental policies enacted and enforced. In an analysis of the activities of organizations within the environmental movement, Dalton et al. (2003) show that a majority of groups cite activities that are oriented towards government officials as one of their primary strategies. These include meeting with government representatives, contacting local officials, and working with government commissions.

The link between the strategic action field of environmental organizations and the state has long been established, as federal laws passed in the late 1960s and early 1970s encouraged, and in some instances mandated, public participation in legislative hearings (Ogrodnik and Staggenborg 2016). Environmental policies proliferated throughout this time, with the creation of federal statutes "for the regulation of environmental pollutants, action-forcing provisions to compel the use of particular technologies by specified deadlines, and tough sanctions for noncompliance" (Kraft 2011: 95). Many national environmental organizations emerged during this "era of heightened legislative activity" (Carmin 1999: 125), capitalizing on political opportunities to recruit members, raise funds, and fill various policy niches (Bosso 2005). These organizations have remained active in this arena and continue to "engage in the full range of activities common to interest groups active in the policy process" such as collecting and disseminating information on policy proposals, lobbying members of Congress, and participating in administrative processes of government agencies (Kraft 2011: 99).

Grassroots groups also proliferated during the late 1960s and early 1970s, not only in response to political opportunities created by the new laws, but also in reaction to several high-profile events such the Three Mile Island nuclear disaster and the Love Canal toxic waste site, demanding recourse from state actors to deal with such events and prevent future threats (Ogrodnik and Staggenborg 2016; Szasz 1994). Recent issues such as natural gas drilling and Keystone XL Pipeline have motivated grassroots groups to press for laws protecting local communities from the impacts of such processes. While grassroots groups typically do not have the structure or resources to formally participate in the policy process like their national counterparts, they frequently engage with local officials to press their claims and mobilize mass demonstrations to protest against polluters and advocate for environmental laws (Dalton et al. 2003). Thus, because of the dependence of both incumbent and challenger environmental organizations on the state for advancing and "certifying" their claims and goals, the state represents a "proximate" field to the environmental field. Organizations within the environmental strategic action field have "recurring ties to" and are "routinely" affected by the actions of the state (Fligstein and McAdam 2012: 18).

3.4.3 Industry groups, direct targeting and changing field ties

Industry also represents a key external field relevant to the strategic action field of environmental organizations. To the extent that environmental organizations are dependent on the state to monitor and enforce environmental compliance with industry actors, industry is considered a proximate field to the environmental field (Fligstein and McAdam 2012: 18). While the nature of the relationship between environmental and industry strategic action fields has historically been indirect, this orientation has been transforming to some degree with environmental groups choosing with increasing frequency to engage in the practice of "direct targeting" industry as a

strategy (Sasser et al. 2006). Direct targeting involves the use of activist pressure on specific companies to leverage market forces for influencing behavior change and improved environmental performance among targeted companies.

The rise of direct targeting as a strategy of the environmental movement is understood to have come about for a variety of reasons. First, globalization and the prominence of multinational corporations have undermined the efficacy of traditional state focused efforts for addressing environmental problems (Gereffi et al. 2001). Davis and Zald (2005: 339-40) explain, "the growth of a global economic system has shifted the poles of power - and thus to some extent the objects of contention - from nation-states to transnational corporations" leading some activists to "treat corporations as analogous to states, and thus as appropriate objects of contention."

Related to this is the entrenchment of the neoliberal economic paradigm and increasing reliance on industry self-regulation for monitoring environmental performance at both domestic and global levels (Bartley 2007; Fiorino 2006). The combined effect of these factors has encouraged some environmentalists to "co-evolve with changes in states and markets" and strategically exploit the reputational capital of private companies by "naming and shaming" them into adopting more socially and environmentally acceptable practices in their production processes and supply chains (Bartley and Child 2014). The trend in use of direct targeting as a political strategy has shifted the strategic action field of industry groups to a more proximate field such that environmental organizations maintain explicit ties to and can directly affect and are affected by the actions of industry groups in this context.

3.4.4 Reactive mobilization

In the occurrence of a significant shock or destabilizing event to a field, the "reactive mobilization" that occurs among field actors determines whether and to what extent conflict and contention will ensue within the field (McAdam and Scott 2005). The process of reactive mobilization is shaped by three mechanisms. The first is the degree to which organizations interpret the event as a threat to or opportunity for their larger collective interests and goals (Fligstein and McAdam 2012). The second is the capacity for organizations perceiving the threat or opportunity to galvanize resources, such as financial resources or organizational networks, to sustain activity and promote their position or logic as the dominant one in the field. The final mechanism is the extent to which organizations in the field deviate from established practices and engage in innovative or unconventional forms of collective action (Fligstein and McAdam 2012). If new strategies, tactics, or frames are employed, the ensuing uncertainty regarding the nature of previously taken-for-granted rules and routines in the field create ongoing conflict, or an episode of contention, until a new settlement among organizations within the field emerges (Fligstein and McAdam 2012).

At times, a renegotiated settlement can engender the creation of an emergent field, "a social space where rules do not yet exist" and where new identities and practices are introduced and contested among organizations with dependent interests in the field (Fligstein and McAdam 2011: 11). Thus, the purpose of field level analysis is to "understand better where such orders come from and how they are continuously contested and constantly oscillating between greater or lesser stability and order" (Fligstein and McAdam 2012: 12). This focus offers the ability to gain a deeper understanding of which changes occurring in a field are incremental and typical, and which ones present greater risk to the existing social structure.

Whittier (2018) provides a typology that illustrates the relative degrees of conflict that different frenemy relationships can generate within a field. She argues there are three types of frenemy relationships: collaborative adversarial relationship, narrow neutrality, and ambivalent alliance.

Type of Frenemy Relationship	**Structure**	**Characteristics of Relationship**	**Relative Risk of Field Contention**
Collaborative Adversarial	CSSD	Ideological opponents, covert and partial interaction, overt opposition	High
Narrow Neutrality	Marcellus Shale Advisory Commission	Ideologically diverse participants under neutral umbrella	Moderate
Ambivalent Alliance		Coalition with state; disengaged movements outside of the state	Low

Figure 4. Frenemy Relationship & Field Contention

Alliances that fall within the collaborative adversarial and narrow neutrality categories tend to generate the most conflict among actors in a field or movement. Frenemy interactions in these structures are typically based off unstable relationships in which one side has greater access to elite circles, and generally more leverage and power than their alliance counterparts. In particular, participants in collaborative adversarial interactions are ideologically opposed, and the overt tension among actors in these structures must constantly be navigated. Disputes among activists over frenemy relationships center around concerns over movement co-optation and the idea that "any achievements [are] more likely to serve the interests of the powerful and to discourage ongoing movement mobilization" (Whittier 2018: 147). Indeed, these concerns were explicitly expressed in my interviews with informants in the environmental field who opposed the CSSD and will be discussed in the following chapters. These tensions are moderated in narrow neutrality

relationships since the neutral umbrella under which actors coalesce usually guides participants toward cross-ideological consensus on narrow goals. The third classification poses the least risk to field stability since these types of interactions are often mediated by actors' relationships with the state and the 'routinized' engagement participants have with one another over specific legislative goals.

3.5 Shifting coalitions in the environmental field

Especially relevant to illustrating the shift in the relationship between the environmental and industry strategic action fields is the decision among some environmental organizations to collaborate with, rather than challenge, private companies. Such a strategy is evident, in particular, in the increasing prevalence of private certification schemes like the Forest Stewardship Council and Marine Stewardship Council wherein environmental organizations directly negotiate with and certify companies who agree to adopt environmentally superior performance standards negotiated by environmental groups and industry organizations.

Cooperative direct targeting efforts are viewed as an aberration from the usual repertoire of environmental activities given the collaborative orientation towards traditional movement adversaries that such a strategy requires, in addition to the absence of state action for enforcing compliance (Cashore et al. 2004). Environmental groups that oppose cooperative direct targeting with industry worry that collaborating with "the enemy" compromises the ability of other environmental organizations to challenge industry and make sustained progress towards environmental goals. Opposing groups also perceive such strategies as undermining the accountability of environmental organizations, suggesting that groups are lured into alliances with

industry organizations with financial incentives in exchange for activist acquiescence and green cover to industry practices.

Disagreements among organizations in the environmental field over this tactic reflect not just the underlying power dynamics of the field order negotiated between national/incumbent and grassroots/challenger groups, but also suggest a "crisis" of collective identity and understanding surrounding appropriate "rules" for organizational practice in the environmental strategic action field. As Fligstein and McAdam (2012: 110) explain, strategic action fields are created "not so much of shared interests as of a creative cultural process that binds field members together through a constructed narrative account of the…collective identity that unites them and the shared mission that is at the heart of the field." Thus, they argue it is critical that analysts pay more attention to "the issues of meaning, membership, and identity that shape fields" in addition to "conventional accounts stressing only the narrow analytic concepts of power and interests" (Fligstein and McAdam 2012: 139). In other words, it is important to examine not only the instrumental motivations that underlie the activities of environmental organizations in the strategic action field, but also the ideological and "existential" factors, as well. Analysis of this scope will help shed light on the contention within the environmental field that the coalition created and risks to the field order that it created.

3.5.1 Roadmap for my project

To help guide analysis, Fligstein and McAdam (2012) offer key questions for researching contentious collective action at the field level:

1. What are the factors and processes that precipitate the episode of contention or crisis?
2. Who are the actors and events that shape the contention over time?

3. What are the interactive dynamics that bring the contention/crisis to a close?
4. What mix of exogenous shocks and internal processes precipitate the field contention/crisis?
5. What specific social processes mediate between the destabilizing events and the actual mobilization of challengers?
6. With what forms of action and collective action frames do incumbents and challengers respond to the developing crisis? How do these change over the life of the episode?
7. What role do key external actors and fields play in precipitating the episode, shaping its trajectory?
8. What are the terms of the new settlement? And to what extent does it alter the prior power structure of the field of interest?
9. How do the contention/crisis and new settlement affect proximate fields?

These questions will be addressed in the pages that follow as I analyze the contention that ensued within the environmental field upon formation of the Center for Sustainable Shale Development.

3.6 Conclusion

Fligstein and McAdam (2012) argue that fields are the 'basic building blocks' of modern political and organizational life that serve to coordinate individual behavior into (relatively) ordered arenas of social action. Within these arenas, the motivations of incumbent and challenger groups to seek and maintain order within their field rest on material interests and power, as well as existential concerns. Often, the fragile balance established within a field can be destabilized by

events that occur in external fields. Of significance is the degree to which these disruptions impact the meaning-making field members ascribe to their collective identity and to the mutually agreed upon routines and logics for operating within the field. If conflict persists, emergent field crises can spawn new social arenas in which contentious alliances take shape. This outcome can undermine the boundaries and internal structure of the field order, threatening not only the survival of challenger groups in that field, but also jeopardizing the field as a whole.

Adopting a field level analysis for my project allows me to analyze the source and degree of contention occurring within the environmental movement as a result of the environmental-industry alliance. This framework also enables me to consider larger forces at work like globalization and lax regulatory environments related to shale gas development, as well as the orientations and preferred tactics of incumbent environmental organizations and challenger groups to gain a comprehensive understanding of the dynamics of the case at hand.

4.0 Field rules and organizational survival

4.1 Introduction

In this chapter, I situate the details of my case in the literatures described in Chapters Two and Three and analyze the contention among organizations in the environmental movement as a result of the environmental-industry alliance. I demonstrate that, generally speaking, while the emergence of fracking inspired divergent goals among organizations in the environmental movement, with some groups calling for stronger regulations to monitor the process and others insisting on a moratorium on any further development, these divisions were an accepted part of the dynamics of the environmental field.

I further illustrate that the formation of the environmental-industry coalition disrupted rules upon which the environmental field had been settled, as well as undermined the capacity of grassroots/challenger groups to coalesce with national/incumbent organizations for advancing their goals. I show that these outcomes have the effect of creating uncertainty about the rules upon which the environmental field had been settled, threatening the viability of challenger groups who are resource poor relative to their incumbent counterparts, and ultimately may undermine the ability for the environmental movement as a whole to effectively address the impacts of natural gas development.

4.2 Fracking and the pennsylvania environmental movement

A common theme expressed in my interviews with key-decision makers from environmental organizations active in the region is that shale gas development in Pennsylvania happened so rapidly and one-sidedly that they were blindsided by its arrival. As one leader of a long established and well-respected environmental organization explained:

> When the shale gas industry first started to move in Pennsylvania no one knew – I didn't even know how to spell the word. I remember looking it up and looking geographically where it occurred, etcetera, and it was here. And then we were all trying to catch up on, what is it? How do they do it? And what the heck is fracking? (Interview, September 30, 2015).

This sentiment highlights the awareness among environmental activists of the need to act quickly to mobilize information and resources to mount an effective response. It also underscores the defensive position even leading environmental organizations were forced into as a result of the development's rapid and widespread onset in the region. While Corbett sought to appease burgeoning environmental concerns about fracking by forming a 30-member Marcellus Shale Advisory Commission, the group included only four representatives from environmental groups and was dominated by industry representatives. This industry-leaning Commission contributed to the development-friendly legislative package put forward in Act 13, Pennsylvania's overarching oil and gas legislation (Rabe and Borick 2013: 328).

Such factors galvanized the environmental community, inspiring most well-established environmental organizations active in the region to create advocacy and educational programs surrounding natural gas issues, as well as prompting the formation of new citizen groups who sought to protest the development. As the advocacy and activism on fracking grew in response to

the development, divergent goals and frames for action among organizations in the movement became increasingly salient. Incumbent and challenger groups tended to fall into their expected patterns for action, utilizing frames and strategies that supported their respective roles in the field. On the one hand, incumbent groups – dominant actors within the field that tend to engage in 'insider' tactics – such as Pennsylvania Environmental Council and Citizens for Pennsylvania's Future (PennFuture) – generally called for stronger regulations and governmental oversight without outright opposing the development. On the other hand, challenger groups – grassroots organizations within the field that usually rely on disruptive tactics – such as Clean Water Action and PennEnvironment – pressed for a full moratorium on any further drilling.

Groups also tended to engage in their usual repertoire of strategies, with incumbents focusing on lobbying congress for stricter laws, commenting on proposed regulations, and litigating cases on permits granted to industry for development; and challengers on mobilizing constituents, organizing demonstrations, and actively protesting the development. Despite the differing frames and strategies employed, the environmental strategic action field remained in its stable state, as incumbents and challengers generally followed the implicit "rules" of the field, tacitly sharing an understanding that each set of organizations was employing "appropriate" logics and practices common to the negotiated order of the field (Fligstein and McAdam 2012: 12). As one challenger acknowledged:

> We are not a unified group of environmental activists. We have different approaches…so one is very black and white – we want a moratorium tomorrow, if not yesterday. We want to stop everything now. And there are others who are saying we can use our energies better if we be this back up regulator type of thing…[we] recognized that [difference] (Interview, August 6, 2014).

Similarly, in addressing challenger groups, an incumbent stated:

> I think they are entitled to their views. I understand why they have those views. And in some places of the country like New York state, and in some countries like Germany and France, their view has been adopted, and in some municipalities in places as diverse as Texas and Colorado. And there are places that I would agree shouldn't be drilled from a scientific standpoint where the aquifer is too close to the resource. I would also agree that communities and even states should have the ability to say no. I agree that municipalities should have the ability to have a full moratorium. I think that sort of ability to say yes or no is a great incentive for companies to develop the resource in a much more careful way than what has happened. So, I respect the views of those that call for a moratorium (Interview, October 14, 2015).

Throughout my interviews, most informants from challenger and incumbent groups expressed the general sentiment that no organization was necessarily acting outside of their "fixed" roles in responding to the development, and that all were adhering to the mutually accepted rules of the field that had been tacitly negotiated between grassroots and national organizations (Fligstein and McAdam 2012: 90). In this sense, the environmental strategic action field remained stable with national organizations pursuing more institutional routes for their activities and grassroots groups engaging in more confrontational tactics to protest the development. Despite these divergent approaches, both sets of actors in the environmental field depended on the other to execute on their objectives and deliver mutually valued ends to address impacts of the rapid development.

4.3 Crisis in the environmental field

It was not until the actions of an "institutional entrepreneur" (DiMaggio 1988) that the environmental field experienced crisis. Institutional entrepreneurs are actors "who invent new cultural conceptions" in order to "fashion a political coalition under a new banner that unites disparate groups" (Fligstein and McAdam 2012: 109-110). Fligstein and McAdam (2012: 46) refer to these entrepreneurs as "skilled social actors" who can "relate to the situations of other people, and, in doing so, are able to provide those people with reasons to cooperate." The intentions of skilled social actors include both instrumental motivations such that they may attempt to induce cooperation among actors either in a field or between fields to advance their own group's goals or position in a field, and for meaning making purposes to create and "affirm" new collective identities (Fligstein and McAdam 2012: 47). While the actions of skilled social actors are often aimed at reestablishing stability within a field, occasionally their undertakings are the very things that induce crisis in a field. Such was the case in the environmental field in Pennsylvania, as a socially skilled actor, John Hanger, initiated the formation of the Center for Sustainable Shale Development, disrupting the fragile stability that had been maintained in the regional environmental field.

4.3.1 The Center for Sustainable Shale Development

The Center for Sustainable Shale Development was not publicly announced until two years after its formation, based on fear of backlash from both the environmental community and industry trade group headquartered in Pittsburgh, the same city in which the coalition operated. Indeed, Whittier (2018) argues that one of the key factors that distinguishes collaborative adversarial

frenemy relationships from movement coalitions is the reputational risk participants are faced with by coalescing with unsavory allies. This concern often leads participants to keep the collaboration covert from other activists and field actors in an attempt to avoid stoking contention. Informants from both environmental organizations and industry groups in the coalition suggested that the ability to negotiate with industry without external scrutiny and criticism from environmental allies in the field helped to generate a difficult-to-achieve sense of trust among coalition participants. According to one participant from an industry group:

> So, when you sort of put honesty on the table which is not typically something that is done in that kind of environment because it comes with a healthy skepticism. I think that was where things started to build trust. We had continuity of people. We had the understanding that what was spoken in the room stayed in the room, so you could say, 'well, this is my problem with that' or 'this is why I can't do that' or 'this is what I would like to do.' Then people could begin to understand that you were there in good faith. And that took a lot of sweat equity and a lot of commitment by each of the participants. And so, it really did build a unique level of trust that nobody was shining anybody on, nobody was trying to push anybody. The roles are always kind of expected, right? One's gonna push and one's gonna resist (Interview, September 4, 2014).

Another industry participant stated:

> That is the value of CSSD…we can say things that we usually can't say in Harrisburg, or DC, or Columbus, and we know we can trust. I have had conversations with [a participating environmental organization] that if I didn't fully trust this would stay within the conversation, then it's very difficult to be absolutely all eyes open and exposed (Interview, August 26, 2014).

This sense of trust offered assurance that sensitive information shared during the negotiations would not be used for political or organizational gains outside of coalition purposes. By operating under the radar, coalition participants could hash out the performance standards without outside pressure and come up with a comprehensive and detailed plan for implementation.

That the alliance and performance standards were created in secrecy, however, raised questions about the coalition's credibility. Adding fuel to fire was the fact that at some point during those two years of under wraps negotiations, the name of the coalition changed from the Institute for Gas Drilling Excellence to the Center for Sustainable Shale Development (CSSD). This generated outcry within the environmental community because the word "sustainable" was used to describe processes of fossil fuel extraction, an inherently unsustainable process. One environmental challenger stated:

> [Members of our organization] believe that climate disruption is the overarching issue globally and throughout the U.S., and so gas drilling and unconventional wells contributes to that because of fugitive methane emissions that are occurring and not being regulated in our state, and by the EPA adequately at this point. So, when it comes to the biggest single issue globally and nationally, it's climate disruption. And what's happening in PA is not improving things because we have such a serious problem with methane emissions being released as a result of natural gas production…and methane is 20 times more potent that carbon dioxide in the short term as a greenhouse gas (Interview, September 18, 2014).

An informant from a participating environmental group corroborated this sentiment by stating:

> I can understand the position of environmental groups who say, you know, 'this legitimates the act' in some ways…One of my regrets is that we didn't insist on a different name for

> the organization because sustainability ‘a’ doesn’t really mean anything; and ‘b’ to the extent it means anything, it sort of means, it implies some kind of absolute standard. And obviously, nothing is risk free. So, the original name probably would have been a lot better, which was The Center for Gas Drilling Excellence, which is a must more honest name in some ways. But, anyway, that’s an issue that we, that’s gonna be very hard for us to reverse course right now until there is decent time to do it. Um, so I take the criticism on board. I understand where people are coming from (Interview, September 8, 2014).

Moreover, the reactive mobilization of challenger groups is also borne of the fear of shifting ties occurring within the environmental field between industry and environmental actors. The following principles are stated on the Center’s website which reflect a commitment to these shifting alliance structures (www.responsibleshaledevelopment.org):

- The best interests of society are advanced by collaboration and leadership among interested parties representing diverse points of view.
- Industry demonstrates leadership by practicing the highest level of environmental performance; environmental and community organizations demonstrate leadership by insisting on it.
- Aggressive standards and demonstration of their results will raise performance expectations throughout the industry and society.
- Independent, third-party certification programs for responsible operators allow shale gas developers the opportunity to earn public trust and support, and to differentiate themselves by their superior environmental attributes

According to leaders from several challenger groups, the coalition created significant uncertainty around appropriate rules for behavior and alliance structures within the environmental field. One informant stated:

> There was a lot of cynicism [about the CSSD] frankly. In fact, I had to defend our relationships with some of the organizations brought into the Center process…because we had such a longtime relationship with them working in concert on common goals and so on. There was some pushback. There was cynicism about the industry's participation and a lot of them just could not believe that [two participating organizations] would have participated in this. And they were convinced there was some kind of financial quid pro quo that those groups got in order to buy into this process…I mean, there were some folks like that with sympathy, but the overwhelming reaction was cynicism amongst our [organization's] members and our decision-making board (Interview, September 18, 2014).

Additionally, one informant from a participating organization that attended an anti-fracking event offered the following:

> People knew I was from [a participating organization] and people came up to me and were complaining about [another participating organization] of being in support of [the CSSD]. They said 'We wrote letters to them, and op-ed letters to the paper. They are scoundrels, how could they do something like that? They have given up their mandate!' And I said, well, you should send the same letter to [my organization] because they are a part of the same group. Well, they said they were tiptoeing around me because 'we know you are a part of [a participating group], and we didn't want to insult you'…So in a way the activist groups feel a little co-opted because they know me…And then others who are not as local said, 'You should quit! You should hand in your resignation from [your organization]!' I

said, actually I am considering it. I don't know what effect that would have on anything because if it were up to me, I wouldn't [join CSSD] because you can use that argument of keeping your enemies closer, but they are so much more powerful than us. The oil and gas companies have more money and power than God! So, are you going to make a difference in their lives? Maybe for PR. In fact, a lot of the activists call it green washing (Interview, August 6, 2014).

4.4 Movement divisions and field instability

Fligstein and McAdam (2012: 99) argue that fields can be destabilized by exogenous shocks stemming from three sources: large-scale macro-events, changes in dependent fields, and invasion by outside groups into a field. To some degree, all three sources of shocks are relevant to the case at hand. Undoubtedly, the macrolevel processes of both globalization and neoliberalism have undermined the capacity of the state – a field on which environmental groups have traditionally been dependent – to pass and enforce environmental laws. This reality has generally forced the environmental movement to adapt its approach and find new ways to advance its goals.

In this context, some environmental organizations have chosen to shift their attention away from lobbying the state to directly engaging with industry for pursuing their objectives (Bartley and Child 2014; Sasser et al. 2006). While adversarial methods of direct targeting, such as boycotts and picketing, have been accepted in the environmental movement as legitimate tactics for advancing environmental goals, cooperatively negotiating with industry has yet to be seen as an appropriate strategy to pursue. One primary concern is the belief among some actors that collaborating with industry serves to appease environmental opposition and undermine the

collective capacity of the environmental movement for challenging industry practices. If we apply Fligstein and McAdam's framework, we can more explicitly understand this concern to reflect a perception among some actors that cooperatively engaging with industry represents a form of invasion by industry groups into the environmental strategic action field.

Invasions by outside groups into a strategic action field can have the impact of generating uncertainty among field actors about the rules upon which the field has been established and maintained (Fligstein and McAdam 2012). This sense of uncertainty is manifest in my interviews with informants from environmental groups who oppose the Center for Sustainable Shale Development. Fundamentally, some informants worried that the coalition would create divisions and polarization within the environmental movement beyond the tacitly accepted ones that already existed between challenger and incumbent groups. One challenger informant from a non-participating group said:

> I don't really have any way of knowing what was in the minds of the industry folks when they did this, but if their goal was to disrupt the environmentalists, they picked the right tactic to do that. Because there was a flurry of finger pointing and so forth as to 'why are you in' and 'why are you out'; 'we think this is the right thing to do,' 'well, we think that you are kidding yourselves' (Interview, September 18, 2014).

Another challenger from a non-participating group commented on the alliance's impact on the environmental movement in the following manner:

> You have to ask yourself two questions – how does this affect [the movement's] unity? And, two, how can I use it to build unity? ... So, [the Center for Sustainable Shale Development] is not the issue, but rather what does it do to help you build more power. And joining a coalition with the boss – that doesn't do anything. And, in fact, it violates

> the first question – how does this affect the environmental movement's unity? And people are pissed off…The Center has created disunity in the environmental movement. So, why would we do that to ourselves? (Interview, August 11, 2014).

Despite entrenched disagreements between grassroots and national groups over the most effective frames to adopt and strategies to pursue for advancing environmental causes, one long established understanding is an acknowledgment among all environmental groups that industry is the movement's chief enemy. Indeed, mobilizing to address the effects of industrial practices was the genesis of the environmental movement that formed more than 50 years ago. Therefore, when environmental groups choose to engage in coalition work with the enemy, uncertainty settles in regarding field rules that provide meaning to field membership, collective identity, and appropriate repertoires of action. Ultimately, such transgressions can have the effect of disrupting the fragile balance established between actors within a field. These sentiments are reflected in my data. As a leader from a challenger group stated:

> To me the CSSD has been disruptive to the opposition [to fracking]…And I think what CSSD did was they divided the environmental community – more than it was already …I don't think that the CSSD ever started off even as a well-intentioned effort on everybody's part…it's strictly a diversion, it's window dressing, green washing, whatever you want to call it…I can't fault [participating environmental organizations] for say 'selling out', I don't blame them for what they did. I blame them for allowing their name to be used in the press for 'see, the environmentalists are in favor of this.' And they should have known…that their name was going to be abused to further somebody else's agenda (Interview, September 18, 2014).

Another leader from a non-participating challenger group offered:

> [The CSSD] could have been exploited to give frackers green cover to convince legislators, the decision makers, to say 'don't worry. We've got this covered. You don't have to engage on the policy side, we're working with the environmental community and the free market will solve all of your problems. We have them as a safety net.' And they have the deep pockets to get that message out. Right? They have PR machines, they can run adds, newspaper adds, and TV adds, and billboards, and could have just milked it saying, 'Look! Of course we care about the environment!' As a measure of how legitimate and serious we are about the environment – 'Look, all these environmental groups are supporting our efforts to protect the environment. And we're actually working collaboratively with them to ensure we are doing it in a way that those abject outsiders, the environmentalists, are happy with!' (Interview, September 3, 2014).

Recall that in Whittier's (2018) frenemy typology, adversarial collaborations have the potential to generate the highest level of conflict within a movement or field. Because participants in these types of frenemy structures are opposed ideologically, when field members choose to ally with ideological opponents, the collective identity of field actors is called into question, potentially leading to movement factionalism and thereby calling into question the boundaries of the field as a whole.

4.4.1 The state as a dependent field for certifying environmental claims

A key concern expressed by informants relates to the historical dependence of environmental organizations on the state for legitimizing and "certifying" their claims and goals. My data reveal that a significant source of contention over the coalition is due to the "voluntary"

nature of the standards for industry to implement, and the lack of state involvement in enforcing their compliance. As one informant from a non-participating incumbent organization explained:

> We had serious concerns about what we kind of viewed as a public relations gimmick if you will. The Center being created and funded in part by the shale gas industry, and some foundations, but the fact is that it was all voluntary. And that was one of our biggest concerns, is that there was nothing in the Center's work that would move what they were working on towards adoption of regulations. It was all voluntary. That was our biggest concern, was we didn't see it as having a meaningful role because…it was all voluntary (Interview, September 18, 2014).

Another informant from a non-participating challenger group succinctly questioned:

> These so-called standards, who's regulating? Who has oversight? So, you can have these things in place, but will anyone be called to task? (Interview, August 6, 2014).

Moreover, these worries extended beyond the unenforceable nature of the standards to concerns that the coalition would undermine the political will among legislators for creating new laws to advance environmental causes. In a hypothetical example, one challenger informant from a non-participating group played the role of an industry representative lobbying a lawmaker, claiming the industry representative would say the following:

> 'Hey, we are already doing this voluntarily. No need for regulation. We are making progress on this just fine as we are, we don't to have the costly duplicative set of regulations.' (Interview, November 18, 2015).

Another non-participating challenger informant exclaimed:

> Because there are so many companies that are creating huge problems related to shale gas drilling in any number of ways, whether it's air pollution, groundwater contamination,

> drinking water contamination, loss of habitat, the list goes on and on, the whole approach about voluntary is a way for the industry to be able to fend off more stringent mandatory regulations. So, we don't believe that working on these voluntary programs helps, it actually undercuts efforts to get stronger regulations in place that everybody would be required to adhere to (Interview, September 18, 2014).

In Fligstein and McAdam's (2012: 71) words, "the presence of state fields creates the kind of predictability and security that allows nonstate actors to create new fields without fear of having themselves or their property threatened." The lack of state involvement in legitimizing and enforcing agreements reached in the coalition understandably generates a sense of vulnerability for field actors who may refuse or lack the capacity to participate in such alliances. While incumbents may have the resources and wherewithal to effectively pursue new strategies with industry for advancing their goals without the state's endorsement, challengers may be left questioning their ability to adapt to new field rules and routines.

4.4.2 Unstable relationships among interdependent field actors

Because the survival and maintenance of challenger groups is typically more tenuous than incumbent organizations, challenger groups in some ways are reliant on incumbent organizations for their own survival. In particular, challenger groups often ally with incumbent groups to pool resources to advance mutual goals and secure their own viability (Fligstein and McAdam 2012: 98). According to Dalton et al. (2003), alliance formation between environmental groups ranks third among their most frequent activities, behind media strategies and mobilizing public opinion. Further, Della Porta and Rucht (2002) show that environmental alliances are often forged between groups of different forms, ideological orientations, and resource bases. Using environmental

protest campaigns as their units of analysis, Della Porta and Rucht (2002: 1) demonstrate that to improve chances of favorable outcomes, environmental actors tend to form broad alliances with one another that "resemble loose coalitions of groups that act in an implicit division of labor, thereby playing on their respective backgrounds, foci and experiences." Accordingly, if resource rich national organizations ally with industry, uncertainty settles in regarding the ability for grassroots groups to coalesce with nationals for advancing their causes within their own field and ensuring their own survival.

One incumbent involved with the Center explicitly expressed the viewpoint that discord over the coalition stems from the need for grassroots groups to advocate for their own organization and survival:

> One of the things [grassroots groups] would say is 'These mainstream, these co-opted establishment environmental groups' or whatever, 'That they are chortling over having a seat at the table' is the phrase that [they] would use. And that somehow not only are we compromised, but that 'All we ever wanted was to be able to play with the big kids. Being in a room with DEP [Department of Environmental Protection] decision makers, or with Shell, that was all we wanted. Now we'll just sit back and be obedient and let them destroy the planet' is [their] way of looking at it. And, really, I think the reason [they] can perceive things like that is first [they're] really interested in promoting [their own] organization (Interview, August 8, 2014).

Overall, my data point to the sense of uncertainty that the environmental-industry alliance created among interdependent actors in the field. On the one hand, challengers view such actions of incumbents as a violation of established field rules and an overarching threat to the movement's capacity. On the other hand, incumbents perceive the reactions of challenger groups to be grounded

in self-interest and ignorance. What both viewpoints reveal is that the 'invasion' of industry actors and retreat of the state in negotiating new structures within the environmental field exacerbates internal divisions among interdependent field actors. While environmental incumbents may feel secure in their ability to weather such changes, challengers are left questioning their position within the field and ultimately their ability to survive.

4.5 Conclusion

The degree to which external shocks affect field stability depends on the capacity for field actors to adapt to and endure the changes occurring within their field. While the advent of fracking engendered significant activity among organizations within the environmental movement, most grassroots and national groups initially followed their established patterns for action and maintained stability in the environmental field despite their divergent approaches to addressing the development. Nevertheless, the formation of the Center for Sustainable Shale Development and its associated contention destabilized the environmental field as a whole.

Recall that the degree to which an episode of contention escalates conflict among field actors is largely dependent on how the episode may or may not affect the balance of power within a field. Field members will either coalesce to settle an episode of contention and revert back to the status quo or refine ways of operating within the original scope of field's purpose. Alternatively, members may form alternative alliances to reorganize the field or reorient its ultimate purpose. As Fligstein and McAdam (2012) point out, in evaluating the impact of an episode of contention within a field, it is important to consider not only the perceived threats to a field's structure, but also to the deeper existential concerns that the event may cause within the hearts and minds of the

field's members. Though participating incumbent organizations perceived their involvement in the CSSD to be an appropriate tactic for their organization in the context of the macrolevel processes at hand, challenger groups viewed the coalition as a disruption to the environmental movement as a whole.

Deeper examination of the concerns expressed by challenger groups reveals that underlying the contention may be less a fear that the coalition would fail to deliver valued ends, and more of a concern over the transgression of field relationships that the alliance represents. In this context, not only does the coalition undermine the ability of challenger groups to pool resources and coalesce with their national counterparts in their efforts to address fracking, but even greater is the fear that the new alliance structure will undermine the capacity for the movement to address other environmental concerns, such as climate change. Such fears throw into question the capacity of challenger groups to withstand the impact of external shocks like invasion by industry groups into their arena, and their ability to survive in a seemingly shifting field order.

5.0 Political opportunities, threats, and policy innovation

5.1 Introduction

In this chapter, I argue that while challenger groups perceived the formation of the coalition to be a threat to the environmental movement's capacity for advancing goals on fracking and to their own organizational survival, participating organizations and other incumbent groups welcomed it as an opportunity to fashion a "winning coalition" that could generate new collective action frames and identities to advance environmental interests (Fligstein and McAdam 2012: 107). My data show that participants perceive the coalition to be an important innovation to their tactical repertoire, a potential catalyst for creating solutions to a complex problem and for implementing environmental protections in a constrained political climate.

5.2 Political opportunities and collective action frames

The organizational and social movement literatures have stressed that collective action and social movement mobilization is fundamentally dependent on the existence of shared systems of meaning and communication among actors in a field (Lounsbury et al. 2003). Shared systems of meaning and discourse are used to form "frames" that "help to render events or occurrences meaningful and thereby function to organize experience" and facilitate collection action (Benford and Snow 2000: 614). Framing processes represent "the shared meanings and definitions that people bring to their situation" which help to incite mobilization because shared understandings

legitimate, motivate and direct behavior (McAdam et al. 1996: 5). Key to framing processes is the presence of actors that are engaged in a deliberate effort to shape others' understandings of issues and political developments. Actors within organizations interpret and disseminate frames, which serve as the bridge between ideas and action (McCarthy, Smith and Zald 1996). Often, efforts to shape frames stem from the perception that, by adopting a certain frame, the relative costs to collective action are low and potential for delivering valued ends high. Such conditions often arise when there is a perceived opening in the political system to influence policy or structural change to achieve collective goals. Social movement scholars conceptualize such circumstances as political opportunity structures which, when perceived to be present, tend to encourage mobilization among like-minded actors (McAdam et al. 1996).

At the field level, frames also help to determine the boundaries of strategic action fields by focusing actors' attention on shared meanings that "stabilize power arrangements, interaction patterns and particular arrays of practices" that "provide order and meaning to fields of activity" (Lounsbury et al. 2003 pp. 76-77). Contention can arise, however, when actors within a field are not in agreement with the most effective frame to adopt to guide collective action. When field frames are unsettled, actors within a field often "engage in political struggles to either establish dominance within a frame or to alter or deinstitutionalize a frame in order to more easily attain their interests" (Lounsbury et al. 2003 pg. 77). Such struggles can impact the nature of interaction and collective identities of field members, generating prolonged periods of conflict within a field, which can ultimately undermine the stability of a field as a whole (Fligstein and McAdam 2012: 54).

5.2.1 Unsettled frames for collective action in the environmental field

One of the primary factors underlying the contention over the formation of the Center for Sustainable Shale Development stems from disagreements between challenger and incumbent groups in the environmental field over the appropriate frame to adopt to effectively mobilize to address fracking. According to my informants from challenger groups, fracking signified a major threat to the environment that had to be eliminated in its entirety. Activists within these groups expressed the view that nothing short of a full moratorium on fracking would satisfy their grievances. This frame thus guided the approach challenger groups adopted for collective action, setting them at odds with incumbents and other groups in their field who pursued alternative frames.

Incumbent organizations, while not necessarily disagreeing with a moratorium on fracking, did not adopt this frame as a platform for collective action. In particular, several informants described fracking as "inevitable," not only because the development was already well under way in the state, but also because of Corbett's "comfortable relationship" with the industry. As a result, many incumbents believed that the economic and political climate surrounding the issue rendered the moratorium frame ineffective, and, therefore, felt it was critical to focus on getting protections in place immediately. As one participating informant described:

> We were working with a very challenging legislature and administration that is very pro oil and gas drilling. And I guess our perspective is that there are folks out there…who need protections in place right now. So, by only working on a moratorium, we aren't addressing the development that exists out there and getting those protected who are near and dealing with the health impacts and the problems associated with the development (Interview, November 18, 2015).

Another informant from a participating incumbent organization expressed the same sentiment:

> For most places in this country, I don't think it is likely that a moratorium will be enacted. And I care deeply about neighbors of the development in those places. And hence that's why [our organization] has engaged so vigorously in the effort to upgrade the rules … [and participate] in efforts like the CSSD (Interview, October 14, 2015).

Additionally, an informant from an incumbent participating organization pointed to the legal constraints of adopting the moratorium frame:

> There's gas development going on out there and it ain't going to stop in Pennsylvania, I mean if for no other reason than for legal reasons. I mean, the state can't stop it. I mean, it's private property, and so there are statutes that authorize it. So, unless the General Assembly – and then they're going to be facing constitutional takings claims and, you know, so it's not going to happen. So…I guess my perspective is that [we] try to influence the activities that are actually going on on the ground (Interview, August 21, 2014).

Once again, frames form the bridge between ideas and action (McCarthy, Smith and Zald 1996). Mobilizing around the moratorium frame, incumbents and participants believed, would serve to distract and undermine the ability for environmental organizations to make real advances in addressing the environmental impacts of a process that was already well underway and strongly supported at the political level. This shared belief among incumbent and participating organizations that opportunities to advance a moratorium on fracking lacked openings in the political and legal system thus rendered it for them an unviable frame for action.

5.3 Leveragng industry to create political opportunities

In addition to the perception of political and legal constraints for advancing the moratorium frame, participating organizations also viewed the coalition as an opportunity to create an alternative policy mechanism that could, at least at a minimum, help fill the void of state action on fracking. More significantly, many informants communicated the hope that the coalition would help generate openings in the political system to eventually enable movement on legislative protections. The coalition's members were explicit in expressing this mission on the CSSD website:

> The CSSD Performance Standards were developed to drive leading industry practices and to set a bar that goes above and beyond the regulatory requirements established by Appalachian states (specifically, Pennsylvania, Ohio and West Virginia) and the federal government. The goal is to ensure that each performance standard, on the whole, requires a level of environmental performance that exceeds the regulatory minimums established by the states and the federal government. We believe that by setting this high bar, CSSD serves as a complement to strong regulatory frameworks and can help inform ongoing efforts to ensure environmental protection (*www.sustainableshale.org*).

In light of this perspective, one incumbent informant explained his organization's decision to participate:

> Our theory is that if you can get a set of these companies to operate to a measurable quantifiable higher set of standards, then that can create a leading or a pulling function on the regulatory environment generally, so you can set a high bar (Interview, October 21, 2015).

Another offered similar views:

> It's no secret, and I think people are aware and we've talked about it with the other members of CSSD, that we do hope through these demonstrations of what's technically and economically feasible, that we can demonstrate to regulators what some of the next logical steps are in the process of improving the rules and raising that minimum floor for everybody in industry (Interview, October 14, 2014).

Additionally, one informant offered that regulatory changes are rare (if not impossible) unless there is a clear demonstration of their feasibility:

> Even if you are trying to promote regulatory improvements, you still have to have dialogue with industry. You still have to be able to explore the feasibility of getting things done. Regulations don't change unless it's clear that the kinds of practices that you are trying to get into a regulatory framework can actually be done. So, the only way to do that is to engage in dialogue with industry (Interview, September 30, 2015).

What is significant about these comments is that they reveal the deeper and more strategic motivations that underpinned environmental organizations' decision to participate in the coalition. Despite the perceived constraints in the current political climate for advancing environmental goals on fracking, participating organizations nevertheless sought to utilize the coalition as a tactical way to generate political openings for future regulatory action. By demonstrating that some firms were capable of implementing improved practices, environmental organizations could strategically leverage this information to pressure the state to adopt the same measures. Indeed, Whittier (2018: 203) supports this idea by arguing that "frenemy relationships often emerge around movement goals of state intervention."

Perhaps more significant is that participating groups were not shy in revealing to the industry collaborators their motivations to leverage the coalition for political and regulatory pressure. An industry participant corroborated:

> The NGO community has been very clear that they want to see these standards get picked up and put into regulation, so whether you voluntarily decide to come in and be a part of this or you [will] get it required of you anyway later (Interview, September 4, 2014).

Moreover, coalition participants sought to continue ratcheting up the political pressure by encouraging more industry players to join the coalition. According to a key neutral figure who participated in the coalition:

> The goal was to demonstrate that standards that were higher than existing regulations could be adopted and could be achieved with the hope then that more companies would do that, and then, in turn, that regulations would be further updated and strengthened (Interview, October 9, 2015).

Again, statements from the CSSD's website suggests this understanding:

> Just as operator field performance and regulatory frameworks must undergo a process of continuous improvement, so will the CSSD performance standards. With input from operators, regulators, CSSD auditors, environmental groups and other stakeholders, the CSSD Standards Committee will regularly review the performance standards – adding new standards over time, and updating the existing standards to ensure they continue to drive leading practices (www.sustainableshale.org).

Thus, participating organizations not only viewed the CSSD as a mechanism to advance the goals of environmental protection in a politically strained climate, but they also believed that

efforts at this level could help facilitate openings in political and regulatory arenas on fracking that environmental actors otherwise wouldn't have been able to create on their own.

5.4 Political opportunities and policy innovation

In addition to the long-term goals of participating organizations, most also believed that the short-term gains of working with industry to establish new standards of conduct for gas development justified their involvement in the coalition. Generally speaking, all participants viewed the CSSD as a key innovation to their tactical repertoire, an opportunity to use market forces to "divide the laggards from the leaders" and inspire a "race to the top" for environmental performance across the industry (Prakash and Potoski 2007). One informant stated:

> When you get to the CSSD, you're dealing with groups that are willing to push beyond what's required. And I think that's the real benefit for us here, is that the regulatory world to us then becomes the floor. That you have to do at least this. And the ceiling, we want to keep pushing higher and higher, as we do with these new standards (Interview, August 15, 2014).

Another informant expressed his thoughts:

> Well, we're trying to change the world and businesses and the marketplace is a big part of the world. And so, if you want to change the world, then changing the world through businesses has got to be a part of that. They are producing the products and often times the pollution or the effects that we are concerned about. So, working with them directly has proven to be one – not the only – but one very effective way to have an impact (Interview, October 14, 2015).

According to Fligstein and McAdam (2012: 51), “one of the most important vehicles for framing is the direct authority to tell someone what to do.” By securing a “seat at the table” with industry, environmental actors are afforded an opportunity to participate in framing and directing the discourse around industry practices and environmental goals. Participants believed that such an opportunity was not otherwise available in the political arena. Whittier (2018) supports this idea by arguing that frenemy relationships can increase the likelihood that activist participants will gain access to powerful elites.

5.4.1 Alternative environmental governance systems

At a broader level, the formation of the coalition and motivation to participate in it reflects a larger trend occurring in the field of environmental activism. Beginning with efforts in the forest sector in the early 1990s, a number of environmental organizations frustrated with the lack of progress at the governmental level on developing regulations for the logging industry sought to develop their own program to encourage and reward lumber firms willing to adopt sustainable business practices (Auld 2014). In what became known as the Forest Stewardship Council (FSC), environmental organizations worked directly with willing lumber firms to create a program to certify compliant companies under the FSC label, promising enhanced reputational capital and market access in return. Since the establishment of the FSC, other arrangements that adopt the certification model have been applied to the fishing, food production, construction, mining and other environmentally intensive industries (Auld 2014). The Center for Sustainable Shale Development represents ones of the most current (and only) certifying programs attempting to address impacts of the energy sector.

Criticism of these programs largely reflect concerns over the perception that they are "greenwashing" stunts designed for companies to leverage reputational and market benefits from the environmental certification, while co-opting and undermining the ability for environmental activists to demand more substantive protections at the state level (Bernstein 2001). Recall that Whittier (2018) corroborates this notion in arguing that movement co-optation is a primary concern of activists who oppose frenemy structures. Alternatively, supporters of these programs generally view these systems as a potentially effective way to supply environmental oversight and governance in a globalizing world. This belief is well captured by the following analysis:

> Faced with shortfalls in the capacity of governments and intergovernmental regimes to supply governance, as well as pressures to shrink the role of government through measures emphasizing privatization and deregulation, many analysts have begun to think about the prospects for meeting the demand for governance without relying on governments…Given the fact that over half of the 100 largest economies in the world today are associated with multinational corporations, it makes sense to direct attention to the role of corporations and industry associations in meeting the demand for [environmental] governance (Young 2009: 24).

The rise of environmental certification systems, also called in the academic literature "non-state market-driven governance programs," can be understood to represent an emerging arena within which environmental and industry actors negotiate new systems of meaning, identities and behaviors around reciprocal interests, however minimal the reciprocity may or may not be. The important point as it relates to this study is that these emerging arenas of environmental governance represent new institutions spawned typically during contentious times, and that constitute one of many potential tactics that environmental organizations choose to employ in an attempt to advance

their interests. In this context, a key question is why certain organizations choose to employ this particular tactic while others do not.

Bosso (2005: 125) argues that the tactics employed by environmental organizations are conditioned on several factors – the nature of the issue at hand, internal characteristics of the organization, and the existence of political opportunities or threats. He notes, however, that despite knowing empirically that political opportunities are especially critical in informing the strategic decision-making of organizations, we know little about how changes in political systems or processes influence the way organizations seek access to new decision-making arenas or judge certain tactics worthwhile (Bosso 2005: 125). I contend that in the case presented here, the "interpretive frame" that each organization utilizes to evaluate the CSSD as a tactic rests on the existence of a shared understanding that engaging in environmental certification schemes is "legitimate" and therefore ultimately is in line with cultural norms around which the environmental field has been built and settled (Cashore 2002).

According to Bernstein and Cashore (2007: 348), non-state market driven certification programs are "defined as deliberative and adaptive governance institutions designed to embed social and environmental norms in the global marketplace that derive authority directly from interested audiences, including those they seek to regulate, not from sovereign states." Programs of this sort are by definition not universally viewed as legitimate because of two reasons: they bring together unequal actors with competing interests, calling into question the program's credibility; and more significantly, they are not backed by the authoritative capacity of the state. Bernstein and Cashore (2002: 351) argue that generating legitimacy for these systems is dependent on "the normative environment and interactions of actors" involved in the alliance, and on the historical experiences and understandings of those actors for solving environmental problems. In

other words, perceptions of legitimacy of environmental certification programs rest on the ideological orientations of the actors involved, on their prior experience in similar situations, and on a shared understanding of the most effective way to solve complex environmental problems in a changing world.

Just as challengers may view a collaborative relationship with industry to be a direct violation of environmental field rules and norms, supporters view it as an important tool in the overall toolkit of environmental advocacy in a changing world. Informants from participating organizations expressed views to support this conclusion. As one stated:

> You know, I think in some ways the more technical understanding you have of this issue, the less scared you get. Frankly, that's where I've gone with nuclear power, is the more I understand about nuclear the less I am concerned. But, there's that. I think it's also the organizational DNA – is not just technical depth, but it's also just political pragmatism. And not just political pragmatism, but also a fairly deep understanding of the energy system at the level of, no, we are not going to abolish fossil fuels. And, yes, gas has all kinds of advantages over coal from an emissions control standpoint. So, it's also partly that. We are not, it was never in our DNA to be an anti-fossil fuel organization (Interview, September 8, 2014).

Another informant noted similar sentiments about the legitimacy of the coalition:

> [Compromise] is the only way you really do make any progress. Otherwise it's just the polemical people in the trenches and you don't get any public credibility, which is really central. What does this mean on the ground, in communities in which these operations are done? And I also don't argue that there should be one, singular way forward. There should be a proverbial basket of ways forward. And all should inform one another, there should

be cross pollination. So, I see CSSD fitting into that, as one cog in a very complex mechanism (Interview, August 29, 2014).

A third offered his view that the coalition is a good strategy among imperfect ones:

So, I guess the shorthand is our goals are, I mean to the extent [gas] is displacing coal, it's a good thing. To the extent it is displacing renewable development, which I think is a totally valid concern, it's not a good thing. So, what are our ultimate goals for natural gas? I guess in an ideal world I guess we would obviously have renewable everything, but technologically, and in terms of generating capacity, available land, we're not anywhere near that being a reality at this point. It's just numbers, it's not an ideological thing on my part, it's just we really don't have a way to provide the power needs we need with renewable energy, no matter how much stuff we build right now. We need better technology, we need different laws on distributed generation, all kinds of things. We're just not there. So, if nothing else, natural gas has been billed as this bridge fuel. So, I think the goal [of our participation in the CSSD] would be to at least try to hold people to the bridge fuel promise (Interview, August 8, 2014).

The critical takeaway from these statements is that the informants' positions rest on beliefs that compromise is necessary in a world with competing priorities and that environmental-industry alliances can be a politically pragmatic tactic among imperfect options to advance environmental goals. These reflect fundamental belief systems regarding the nature of how environmental problems can be solved.

5.4.2 Globalization and environmental problem solving

Since the rise of environmentalism in the 1960's and 70's, organizations and activists have primarily focused on lobbying the state to enact legislation to address environmental problems. Environmental problems during this era were largely the result of "point-source" pollution problems, where the source of the pollution could be traced back to particular entities, typically industry actors (Kraft 2011). Point-source pollution problems were relatively easy to resolve, both because there were specific technical fixes that could be deployed at a polluter's facility, and also because the scope of industry activity was generally contained by national boundaries. Based on these factors, the environmental movement focused on advocating for the passage of federal and state laws to regulate industry and to successfully address many environmental problems throughout this time.

Since the 1990's, the advent of globalization and technological advancements that have come along with it, however, have significantly changed the landscape of environmental problems and the solutions to address them. Not only do industrial activities span national boundaries, making regulating these entities a challenging task, but environmental problems as a whole have become more complex and varied. These problems include pollutants that come from a multitude of sources that are hard to identify and regulate from the conventional command-and-control approach. In light of these changes, new understandings have emerged that indicate that the "conventional response of relying on government" to solve many environmental problems may be ineffective (Delmas and Young 2009). Moreover, a globalizing world has given rise to the idea that the goals of economic growth and environmental protection should be merged into the singular agenda of sustainable development, framing one goal as dependent on the other (Bartley 2007). Such conditions have generated interest in alternative forms of environmental governance that

serve to address both the limited scope of government in a globalized world as well as the societal imperatives of economic growth and environmental protection.

Understood in this context, environmental certification programs are based on the premise that "we cannot rely on governments alone" to address environmental problems, and that "there are circumstances under which private actors – especially large corporations – can become part of the solution rather than part of the problem to meet the rising demand for governance in today's world" (Young 2009: 25). One informant from a participating environmental organization corroborates this viewpoint:

> I've always felt the way forward had to include all stakeholders, and in particular industry. I had a colleague earlier in my career who used to say 'industry is the big lever. If you want to really change the world, you need industry to do it. They're the ones that make things. They're the ones that pollute the water. They're the ones who emit pollution into the air. They're the ones who screw up the land. So, if you really want to change things, you've got to change their behavior, like it or not.' You could do it through regulation. You could do it through taxation. You could do it through collaboration. And they are not mutually exclusive, of course (Interview, September 8, 2014).

Another informant stated:

> So, I came to this with a pre-conceived bias that the collaboration approach is the most sensible way to go. And I think that people who are participating in CSSD share that view that if you simply take the position that gas extraction is all good or all bad, you're not going to advance the conversation much. You are going to ensure the status quo or a standoff, and there's going to be winners and losers. And so, the best shot that you have – I am not going to say everybody is going to be a winner, but maximize the benefits and

> minimize the impacts, is to talk to one another and try to identify 'what do you know about the science? What do I know about the science? What do the scientists tell us? What can we do that implements what we know recognizing that there is a lot that we don't know - what can we do to find out more?' That seems to me the most logical way to go (Interview, August 25, 2014)

What these sentiments reflect are fundamental ideas about how to address the priorities of environmental protection and sustainable development in a globalized world. They also reflect a shared understanding about what are the appropriate "rules" for organizational practice in the environmental field.

The challenge is that these fundamental belief systems about how environmental problems can be solved are at odds with the views and understandings of other actors in the environmental field. According to Fligstein and McAdam (2012: 11), strategic action fields exist "not so much of shared interests as of a creative cultural process that binds field members together through a constructed narrative account of the…collective identity that unites them and the shared mission that is at the heart of the field." If globalization and the imperative of sustainable development generates different understandings among field members about how to advance environmental goals, the capacity for environmental organizations to coalesce under a collective action frame and facilitate mobilization could be at risk. This not only has the potential to undermine the capacity of the environmental movement to advance the common goal of environmental protection, but more significantly, as new collective action frames, identities, and practices emerge, uncertainty may seep into the shared understanding of the cultural processes and missions on which the field has been built as a whole.

5.5 Power dynamics and framing processes

It is important to recognize that "frames are always embedded in power relationships that authorize certain actors and perspectives, while neglecting others" (Lounsbury et al. 2003: 96). While my data reveal that participating groups perceived the moratorium frame to be unviable due to the lack of political opportunities available to advance it, their decision to engage with industry in the CSSD nonetheless undermined the shared identities and systems of meaning established among organizations in the environmental field. Beyond disagreement over the viability of the moratorium frame and the appropriateness of directly engaging with industry, several challengers expressed what was really at stake was the ability for the movement to address the more urgent goal of fossil fuel extraction and climate change. As one challenger stated:

> To me what it comes down to is climate change. And no matter if we could get natural gas out of the ground without doing any damage, we can't use it. We've got more than enough carbon fuel right now to destroy our environment and there's no reason to have an entire industry looking for more sources of carbon fuel. So, to me, fracking is simply the next level of addiction after you have run out of all the easy stuff. Your more and more desperate for more sources of the thing you are addicted to and fracking is the next level of desperation (September 18, 2014).

To challengers, the immediate environmental impacts of fracking were secondary to the larger issue of fossil fuel consumption and climate change. An informant from a participating group recognized this:

> Well, one thing was we made a big blunder I think with the choice of the name. The word sustainable in our title really angers a lot of people because it connects directly to the major reason why people are opposed to CSSD, and that's cause they are opposed to fossil fuels

> in general, or all fossil fuels. So, the idea that any fossil fuel could be ever declared sustainable, even if you talk about the process by which it's being exploited, is really offensive to that part of the environmental community. And I understand that. But I disagree with it. So, I think, I *know* that's what it is all about – being driven by concerns of climate change and the absolute belief that we must get off fossil fuels as soon as possible. And having a relatively cheap and clean equivalent fossil fuel is adding to our addiction rather than getting us off of them. That's the argument. And, they're not going to change (Interview, September 29, 2015).

To reiterate, framing processes represent "the shared meanings and definitions" that people bring to a situation which help to incite mobilization because shared understandings legitimate, motivate and direct behavior (McAdam et al. 1996: 5). The broader concern over the CSSD centers on some groups' belief that by adopting a cooperative stance with industry over fracking, the movement's efforts to develop a cohesive frame for action on climate change would be affected. To be sure, if participating in the coalition signified that fracking was a sustainable practice if done more responsibly under the auspices of the CSSD, then broader efforts to minimize fossil fuel extraction and advance renewable energy initiatives may fail to generate sufficient political opportunities in other important arenas, such as the state.

Nevertheless, most incumbent groups did not share this concern. On one level, many incumbents believed that engaging with industry would actually provide them with more opportunities and resources that could be leveraged down the road to advance environmental interests on climate change. This idea will be discussed in more detail in the following chapter. More immediately, most participating organizations expressed appreciation for the challenger groups' stance on a moratorium because it helped to bolster their bargaining power within the

coalition. This idea is known as the "radical flank" effect in the social movement literature. As one incumbent stated:

> One of the things that helps make groups like [ours] more able to get things done now is there's these other entities out there that are pushing for even more. And it moves what people see as the middle, what the compromise point is, and it means that, ultimately, we can get more done. I don't want the [challenger] groups to go away because I think, ultimately, they help us. And I think ultimately even if they think we are taking the sell-out weak compromised position, well, ultimately, we are doing things that are in their interest, too. And some of them see that (Interview, August 8, 2014).

According to Fligstein and McAdam (2012: 49), "action depends on both the structural position and opportunities actors have and their ability to recognize how they can mobilize others in order to maximize their chances for both narrowly instrumental and broader existential gain." Political opportunity structures can take on different forms for different organizations within a field, ultimately shaping the way incumbent and challenger groups act upon perceived openings or constraints in the political system. While incumbent groups typically seek to affirm shared meanings and courses of action that serve to sustain their dominant status within a field, deeper analysis reveals their dependence on challenger groups' for making particular tactics worthwhile pursuits. In this light, the environmental movement may benefit to recognize that the divergent approaches of environmental groups are in fact interdependent and beneficial for advancing both narrow organizational interests as well as broader existential goals of the environmental field.

5.6 Conclusion

As new strategies, tactics, and frames are employed by organizations in the environmental movement, the ensuing uncertainty regarding the nature of previously taken-for-granted rules and routines of actors within the field will undoubtedly engender ongoing conflict among environmental organizations. Whether participating in nonstate market driven environmental governance mechanisms will gain legitimacy as an appropriate strategy for environmental organizations to pursue is a question still unresolved. At stake is whether environmental organizations will be capable of transcending their own "narrow group interests" in order to "take the role of the other as a prerequisite for shaping a broader conception of the collective rooted in an emergent worldview and shared identity" (Fligstein and McAdam 2012, 17-18; c.f. Meade 1934).

Indeed, I argue that actors would benefit from the realization that contested identities, frames and routines are in fact beneficial to the viability of the environmental field as a whole. Given the interdependency of national/incumbent organizations and grassroots/challenger groups for framing issues, mobilizing diverse constituencies, and attending to environmental problems at all levels of society, fashioning a new consensus on appropriate rules for action for a diversity of environmental groups is essential for the movement's continued relevancy and capacity to inspire the level of collective action necessary to address current environmental problems of unprecedented scale.

6.0 Resource mobilization and organizational learning

6.1 Introduction

In this chapter, I analyze the resource incentives that influence the motivations of environmental organizations to participate in the coalition. My findings reveal that, while financial support encouraged initial decisions to join the coalition, participating organizations remained invested in the alliance even after the elimination of funding. Several informants explained that the organizational learning and access to insider information that occurs from dialogue with industry helps them strategically plan for future campaigns. They also stated that cooperatively engaging with industry increases their credibility vis-a-vis the state, creating greater access to decision-makers at the political level. Such resources are particularly critical for incumbent environmental organizations since their strategies are largely focused on lobbying state officials and attempting to advance environmental goals via conventional political channels. Overall, my findings reveal that organizations value the coalition primarily for the strategic advantages it offers for mobilizing informational and network resources to enhance organizational capacity and efficacy in meeting environmental goals.

6.2 Resources for mobilization

A basic assumption among skeptics of the CSSD is that environmental organizations participate in the coalition because they receive the financial support to do so. To be sure, one of

the supporting foundations of the Center, the Heinz Endowments, is a major funder of environmental groups in Southwestern Pennsylvania and offered funding to organizations to participate in the coalition. According to one informant, this support motivated the initial decision to participate:

> I mean it wasn't even so much 'hey, would you like to participate in this' it was kind of like 'you really need to participate in this and the Heinz Endowments and the funders are going to make it worth your while to participate in this.' So there was funding provided initially to the non-profit groups to spend time and to send people and to get involved with the formation of the Center…So the decision to participate in the Center was not voluntary on some level…I think it was a process of why would we not want to be at this table. This is where all the major players are. We have an opportunity to influence what the outcome is. And we are getting funded to do it, so why not? (Interview, September 25, 2015).

Another informant from a participating organization stated this kind of direction from funders was not unusual:

> That's the reality of the nonprofit world…private foundations are not supposed to guide their grantees that way, but the reality is that grantees don't make pitches for work out of the blue, you know? They're guided towards interests of [their funders] … So, I'm not saying it's so black and white. You don't change your mission to suit who's going to fund you. It's not that way. But obviously within certain reason you'd be somewhat short sighted to not have ongoing communications with your large funders to make sure that you are continuing to do work with their support (Interview, August 21, 2014).

Much scholarship exists on the necessity and impact of foundation funding for supporting and channeling the activities of social movement organizations (e.g. see Bosso 2005; Dowie 1995).

For better or worse, social movement organizations often rely on foundations to support their work and overall viability. Given this reality, organizations often adapt their goals and tactics to appease potential funders and garner critical financial support (Bosso 2005). This strategy can lead organizations to adopt more conventional strategies, even if those strategies put them at odds with other members in their field (McCarthy and Zald 1977).

Overall, most informants of participating organizations agreed that at least initially what helped to motivate participation was the support they received from the Heinz Endowments to do so. As a result, much of the initial contention within the environmental field over the CSSD centered on challengers' claims that participating organizations "sold out" to industry in exchange for monetary resources. Such contention highlights challengers' concerns regarding appropriate tactics to adopt and strategies to pursue within the environmental field. From their perspective, if an environmental organization can be 'bought out' by industry and appeased with financial incentives, the whole premise on which the environmental field operates is called into question.

6.3 Resource infrastructure and tactical diversity

My data reveal that while financial support may have helped to encouraged initial decisions to participate in the CCSD, it does not explain the organizational motivations for continued participation after funding ceased. For starters, three years into the coalition's operation and after a contentious shake up at the Heinz Endowments in response to environmental backlash against the CSSD, the foundation suspended its funding to environmental organizations for their participation. Yet, despite the termination of funding, participating organizations remained invested in the coalition. One informant stated:

> Now I don't have any funding to continue working on it because Heinz is not interested in funding it anymore. But I just don't want to completely drop it because we've invested so much work and it's right at the point where they are starting to do these evaluations (Interview, August 8, 2014).

For many informants, the sunk costs associated with the time invested in the negotiations, as well as a desire to see the certification process through to implementation, offered justification for remaining in the coalition even without financial incentives to do so.

Additionally, incumbent organizations typically have more capacity than challenger groups to spend precious resources on diverse tactics and goals "without exhausting their existing infrastructure and resources" (Soule and King 2008: 1576). This allows them to try different approaches without the threat of overextension. To be sure, an informant expressed this sentiment:

> At least historically we have the resources to have a sort of complex approach to issues. Not only does our position tend to be nuanced, more nuanced than some organizations, but we have a communications person on staff, [a] legislative person who's up in Harrisburg who is amazing and really knows his way around the halls of the General Assembly and knows a lot of people up there, and we have attorneys on staff statewide…and so it allows us to reach out with different tools in the toolbox and to approach any issue in different ways (Interview, August 21, 2014).

Resources afford organizations the ability to pursue a diversity of strategies and tactics, which, in turn, helps to support organizational nimbleness. Nimbleness allows organizations to take advantage of unique opportunities and use them to shape the system and field more in their favor (Fligstein and McAdam 2012). Occasionally, these efforts include the coordination of new social spaces, like the CSSD. At question is the degree to which new alliance systems may shift

decision-making arenas and ultimately undermine the capacity for collective action among organizations in the field at large.

6.4 Mobilizing informational networks for policy change

Weible et al. (2012) explain that there are three primary strategies for influencing policy change: (1) developing a deep understanding of the issue at hand; (2) creating new networks; and (3) remaining committed to these strategies over a long period of time. Indeed, my informants expressed the view that that the coalition promoted all three factors, which ultimately solidified their decision to remain in the coalition after the cessation of funding. All informants in one way or another expressed the significance of the opportunity for organizational learning that occurs from the direct exchange of information with gas industry representatives within the coalition. Such processes enable participating organizations to develop a deeper understanding of shale gas development and about what issues are most critical for industry to help scope their activist efforts. One informant stated:

> From my perspective there was an incredible amount of education that comes out of participating with the industry and having those discussions for me and for our organization, that you just don't get when you're sitting on the outside…I just gained a lot of knowledge. You understand [industry's] perspective with issues that are sensitive to them (Interview, August 21, 2014).

Another succinctly explained:

> I mean that's part of the personal benefit to me and the benefit to [our organization] of being involved, is I have been able to get information I otherwise couldn't have, and also

just the insights into how industry works, what their concerns are (Interview, August 8, 2014).

Similarly, one informant described how the information sharing and learning that occurred in the coalition reduced the costs of pursuing other adversarial tactics, in particular litigation:

> So, there's a piece of this which is, um, which I think it's hard to pin down completely. But, it's this knowledge development. It's the co-production of facts, as opposed to the adversarial production of facts. Which in my experience makes a negotiation process a problem-solving process in a way that a traditional litigation situation is almost counter to that, because if you admit any weakness or, you know, show any ambiguity then it has legal consequences, so I'd say that has almost independent value. And I think there is something more than a zero-sum here. There's co, there's value creation, there's cooperative value creation here of some kind that goes on in this process. And I think that that occurred here (Interview, September 8, 2014).

Lin and Darnall (2010) explain that in cross-sector alliances, organizations that make an effort to obtain a nuanced understanding of their counterparts' strategic priorities are better positioned to develop valuable organizational competencies as a result of the alliance. Such competencies enable organizations to effectively interpret new and ambiguous information and deploy it to their advantage during future interactions. An industry informant supported this sentiment in offering:

> For the NGOs, [the CSSD] gives them really close access to the data and the best minds and what is possible, what the realities are, what the issues and hurdles are. I was just in DC last week talking to [a participating environmental organization] about these very questions, and really getting into the weeds on where the hiccups have come. So, it's really

important for the NGOs to get inside the tent and see these intricacies and challenges (Interview, August 26, 2014).

Insights from the venue shopping and policy process literature support these ideas. According to Pralle (2003: 235), advocacy organizations often expend significant amounts of energy seeking venues that provide them with "access to decision-making processes and adequate leverage over their opponents." Such venues help to develop the skills and capacity of advocacy organizations to impact the pace and extent of policy reform in a targeted policy arena, particularly when organizations are unable to advance their agendas in other arenas. In this context, organizations are most successful at affecting policy change when alternative understandings about an issue are created, and new rules enforced by venue participants who can collectively leverage sufficient resources to circumvent traditional policy making avenues. Absent such productive venues, the ability for advocacy organizations to effect policy change is limited since they do not traditionally possess access to decision-making authorities where policy challenges occur (Bosso 1988; Pralle 2003; Whittier 2018).

6.4.1 Organizational learning and future campaigns

In the same vein, several informants explained that the organizational learning that occurs from dialogue with industry helps them plan for future campaigns. In particular, possessing an understanding of what issues opponents are most sensitive to can inform how to strategically leverage those sensitivities for other gains. According to one informant:

> It's useful to understand what's happening in the field right now. It is just sort of one more piece of information that wastewater discharge is an issue. Northern tier counties contain a large percentage of our special protection waters, streams. You know, they're headwater

> streams in our state forests that are exceptionally sensitive to change in terms of their water quality. And to know that there is this pressure for the industry to get rid of their wastewater in a more economical way and one of the things they are looking at is trying to find a way to discharge it into what would be pretty sensitive waters in all likelihood, it's some indication where we may want to look in the future for concerns (Interview, August 21, 2014).

Access to insider industry information, like the wastewater issue mentioned above, can create an awareness about critical points of leverage and help organizations plan for future campaigns. This awareness allows organizations to more appropriately frame strategies and devise tactics that are winnable, thereby reducing the costs of mobilization and increasing the chances of success.

In her analysis of private forest certification schemes, Sasser (2003: 241) demonstrates that engaging with industry helps environmental organizations to become "more attuned to the dynamics" of the industrial sector and therefore better able to identify "the most vulnerable points in the supply chain" to launch "targeted campaigns that inflict maximum damage" to these firms' reputations. Thus, venues like the CSSD potentially provide a win-win situation for participating organizations. In the case of forest certification, environmental organizations were able to secure cooperation from several large lumber corporations who agreed to use more sustainable practices. Such an agreement had the effect of creating a new market for sustainable forestry products, thereby influencing the scope and processes around which future conflicts in this sector were shaped (Pralle 2003). On the other hand, if groups within the coalition are unable to mobilize sufficient resources to effect policy change, at the very least participating organizations gain access to sensitive industry information that can help inform effective adversarial campaigns in the future.

6.4.2 Resource mobilization and the development of new networks

Another important strategy for participating organizations is the new networks the coalition helps to generate, not only with other participating environmental organizations, but particularly with industry groups. One informant discussed the advantages of the new networks his organization has formed as a result of the coalition:

> You know, these energy companies aren't doing just shale gas. And we're not doing just shale gas. We're doing other issues and we can call somebody and say, 'hey do you have somebody doing small hydro projects somewhere that we can talk to?' Or 'what can you really tell us about solar thermal?' So, I think it opens up those resources. And the same with NGOs. You know, we are working a lot with [another participating environmental organization] which means we can call them, and they've got resources that they can point us to, somebody on all kinds of issues. And they can call us about anything…so it's a two-way street which is really nice (Interview, August 15, 2014).

Another stated that the relationships formed with industry support future work on other environmental issues:

> I would say that the [CSSD], it's plugged us in, I think our networks are now better with the companies, so we now have a, now we can actually have people to bounce ideas off of (Interview, September 8, 2014).

Weible et al. (2012) explain that developing networks is critical to influencing the policy process because networks help to overcome collective action problems by reducing the costs associated with mobilization. Lubell (2002) offers the same idea, stating that actors who participate in different types of organizations "gain experience with collective action and exposure to recruitment networks that also reduce the costs of environmental activism" (437). In other words,

organizations that accrue "social capital" are in a position to more readily leverage new relationships and call on their networks to facilitate mobilization in future instances (Tarrow 1998).

Moreover, relationships formed in new arenas can serve as mobilizing structures for the accumulation of additional resources. Soule and King (2008) explain that as an organization's networks expand, so does the appeal of that organization to a diversity of constituents and supporters. This mass appeals tends to assist organizations in attracting additional resources for mobilization. Soule and King (2008) find that organizations that pursue a variety of tactics have "survival advantages" over groups that adopt a more specialized tactical repertoire in resource-scarce environments. For instance, the learning that occurs in collaborative and information-sharing processes sets up organizations to be poised for participation in similar coalitions in the future (Lin and Darnell 2010). Not only does this enhance the opportunity for further organizational learning, but it also sets up new opportunities for mobilization and supports a continuous cycle of organizational adaptation and diversification.

6.5 Mobilizing reputational capital as a resource

Political arenas like the CSSD help environmental organizations fulfill a "backup regulatory role" in the void of government action, which also improves these organizations' access to the state. Indeed, Whittier (2018) argues that frenemy relationships not only tend to emerge because of a movement's goal of state intervention (or lack thereof in this case), but also that these structures can improve the participants' access to elite decision-making circles. As one informant from a participating organization stated:

> The Corbett Administration has not really liked [our organization] very much, but I think at least now when they are pigeonholing the environmental organizations, they probably put us in the one that means well. This kind of goes back to what I was saying earlier how people on the other side tend to assume the very worst of intentions in everyone that disagrees with them. Again I don't think any environmental organizations deserve to be in the category of actively trying to perpetuate evil in the world, however DEP [Department of Environmental Protection] would think of it, but, for instance, at least we are out of that category and with people that have good intentions in their mind (Interview, August 8, 2014).

Another informant from a participating organization explained:

> It's given us some credibility – we've learned so much that I think we are just much more credible in Washington now. So, we are really serious players at the table…we are bringing a lot of expertise to the table (Interview, September 8, 2014).

As Pralle (2003: 256) explains, "groups choose venues not only to win substantive policy benefits, but also to mobilize supporters to create, maintain, or re-create organizational identities. Over time, the use of a particular policy venue can become part of the narrative and ideology of an advocacy group, a key component of their organizational image and identity." Indeed, organizations garner socio-political legitimacy by conforming to legal rules and by gaining endorsement from elite actors (Rao et al. 2000: 241). In the case of shale gas development, being perceived as an organization that possesses deep technical knowledge and that is willing to compromise with major economic players helps to establish participating organizations as credible and 'legitimate' players in the policy process. As one informant with prior experience in government states:

> Unless you have good contacts [within government] that you can call up and talk to on the side, or convince [the government] that you are part of the public and that they *should* be talking to you - you know, they don't view it that way, though - you know, they view you as an adversary, they're more likely to talk to industry than to talk to citizen's groups because they view [citizen's groups] as adversaries (Interview, August 21, 2014).

In this light, the CSSD can be viewed as a strategic venue that allows organizations to mobilize reputational capital to generate political openings with the state that otherwise would not have been available to them. Indeed, while directly engaging with industry is increasingly relevant in a globalizing world, continuing to rely on the state to 'certify' and enforce environmental demands remains a critical task. By strategically choosing the environmental-industry coalition as a venue for participation, organizations can leverage their newly acquired technical wherewithal and socio-political endorsement from elite industry players to signal to the state that they are legitimate stakeholders and therefore deserve to be included in the policy making process.

6.6 Organizational learning in collaborations

Organizational learning in a coalition does not happen in a vacuum, but rather is an outcome of the structural and social characteristics that guide the dynamics of the alliance. The literature on this topic indicates that devising successful coalitions of diverse participants with conflicting interests is an iterative process in which individual behavior and decision making are affected by the course of social interaction (Ostrom et al. 1994). In social situations, individuals often utilize contextual cues and informational feedback in forming expectations about the future behavior of others and thus about the efficacy of committing to cooperative action (Axelrod 1984).

Research also shows that individuals often seek to institutionalize cooperative behavior by developing rules to govern behavior and ensure ongoing commitment to the creation of mutually beneficial outcomes. This process helps to minimize the costs associated with engaging in cooperative action by reducing the uncertainty of the future behavior of others (North 1990).

Hardin (1982) explains that in ongoing social interactions, an individual's anticipation of future interactions impacts one's present decisions. Based on this notion, he concludes that the prospects for collective action are greatest under the influence of a "contract by convention." Contract by convention is a form of coordinated behavior in which self-interested individuals agree to cooperate contingent on the expectation that others will cooperate in return. Conventions are constructed through the exchange of tacit knowledge that communicates one's interest in and willingness to conform given that others will do the same. Conventions are maintained via the mutual commitment to sanction or punish those who do not. In this sense, Hardin (1982) claims that problems of collective action become problems of coordination, which are easier to resolve than problems of collective action. This is because conventions can arise simply out of overlapping networks in which individuals possess some level of knowledge about other's expected behavior.

Achieving coordination is therefore dependent primarily on the ability for groups to establish sanctioning schemes that are less costly to implement than engaging in cooperative behavior in which the outcomes are uncertain. Axelrod (1984) found that, through coordination, cooperative behavior can voluntarily emerge when individuals can expect to meet one another in future social interactions. Accordingly, when this necessary condition is satisfied, the occurrence of reciprocal behavior usually contributes to further reciprocity.

6.6.1 Collective action and bounded rationality

Ostrom (1998) contends that bounded rationality can explain the tendency for individuals with competing interests that interact to develop trust, norms of reciprocity, and an incentive to maintain one's reputation in social interaction. In this light, research indicates that if actors can expect that cooperative behavior will be reciprocated then a commitment to cooperation develops. Further, when mutual commitments increase individual returns to cooperative behavior, one's interest in maintaining a reputation among group members is also enhanced, thus deepening one's commitment to that group. Indeed, several informants supported this understanding regarding their commitment to the CSSD and to learning through the process. According to one participant:

> It was two full years of *a lot* of collaborative dialogue and a lot of meetings. You know, a lot of meetings. You can't meet three or four times a year and build that (kind of trust). I mean we were meeting three or four times a week sometimes!...And so when you are sort of pushed into that kind of prioritization for all of us, cause we all have day jobs, when you push in that kind of prioritization, that meant every one of us had pulled our seat up to the table and said, 'yeah, we're gonna see this through.' And I think that made a big difference (Interview, September 4, 2014).

As Ostrom et al. (2007) explain, when participants have the opportunity to communicate frequently and over time, they tend to discuss how to build norms to encourage compliance with more collectively beneficial ends. These outcomes are strengthened particularly when actors engage in substantive and face-to-face communication and form relationships with one another. These conditions allow trust to develop and thrive. Trust, in turn, facilitates the exchange of sensitive information, which enhances the opportunities for learning.

For instance, in research on the development of collaborative resource management programs involving the Minnesota Department of Natural Resources, citizen groups, and commercial users in complex watershed, forestry and fishery cases, Blann et al. (2003) find that candid and extensive communication was central in developing trust to overcome collective action challenges among these participating groups. They assert that "in complex systems, relationships form the basis for all communication, motivation, and action. Trust is critical" to learning from one another, and to facilitating cooperative ends (Blann et al. 2003: 228).

Several of my informants communicated this same idea, that the extensive communication and engagement that the coalition fostered help to develop working relationships, generate feelings of trust among the group, and therefore facilitated the exchange of sensitive information. An industry participant offered an example that expounded upon this idea:

> The original [issue] was greenhouse gas emissions from well completions, and we would loggerhead, you know some people yelling at each other, not getting anything done, and we went back to the industry and said, 'look, let's put the numbers on the table and have that break the ice.' So, we went in – and it took me six weeks to get approval through [my corporation] – and got those numbers released, and then we just slid them across the table and said those are our greenhouse gas numbers.' And their eyes bugged out and [an environmental participant] said, 'wow, well, you guys were willing to share' (Interview, August 26, 2014).

Additionally, an informant from a participating organization emphatically offered:

> Over time it got to the point where it was like companies were providing us with pretty sensitive information that really takes quite a bit of trust to share, very detailed operations stuff (Interview, August 8, 2014).

Transparency and reciprocity reinforce the development of trust among participants which lead to a greater willingness to share sensitive information and data. This learning, in turn, facilitates the potential for finding common ground in complex issues, even among actors with competing interests (Blann et al. 2003). One informant offered another example to illustrate this idea:

> At one point we went into the bowels of [one gas corporation] and met with their deep tech people, you know, like a day-long work session. It was actually kind of funny how that happened…We were arguing about [a technical solution]. And it just went back and, there was all this fog and just talking past one another. And we were just gridlocked. And I happened to be over at a meeting in Warsaw, the IEA [International Energy Agency] was doing a report on the topic of shale gas. It was the 'Golden Age of Gas' report. And, so, they had a work session. So, I was there, and [the gas corporation's] guy was there. And, I don't know, we were just kind of stuck on this. And we had this corridor conversation and we said 'well, let's just get so and so together with so and so.' And [we] got to the bottom of it (Interview, September 9, 2014).

Trust that had been established among participants in the CSSD enabled one leader from a participating organization to effectively engage with a key industry representative in a venue outside of the CSSD to resolve a critical issue in a critical moment. The norms of reciprocity and trust that had been established by participating in the coalition enabled further learning and communication between these actors to reach mutual goals.

6.7 Institutions and cooperation

Nevertheless, research demonstrates that substantive and face-to-face interaction and trust, though necessary, are not sufficient for engendering cooperative outcomes, especially in the context of contentious issues (Ostrom et al. 1994). In addition to communication and trust, the creation of sanctions is also essential for facilitating sustained collective action (Ostrom 1998). While communication and trust allow for individuals to exchange information and devise rules for future behavior, the threat of sanctions for noncompliance helps to reduce individual incentives to defect. Sanctions also reinforce expectations that group members will follow through on mutual commitments (North 1990). Organizational learning in a coalition does not happen in a vacuum, but rather is an outcome of the structural and social characteristics that guide the dynamics of the alliance. Several of my informants explained that devising a robust auditing system in which the environmental organizations had full visibility into industry operations was essential for facilitating their participation and cooperation. As one industry informant stated:

> The auditor guy said: 'How often do you go on the ground? What documents do you need to see for evidence of conformance?' We did that as a package all together in about nine months. And that was really hard. In many ways that was harder than the standards themselves because that was when the operators had to say, 'Hey the curtain is open. Come in, come on the ground and see what we are doing.' And the NGOs were like 'Wow, now we get to see! And if we see something else, we are here to see an air question, if we see a water issue, do we call them out?' It was like a candy store problem [i.e. there would be a lot of issues to point to]. We didn't want to let the curtain aside too much. So, a really tough moment where the sides were very disjoined. And the NGOs said, 'Look this is our reputation. If this is not really fully all eyes open, then we can't take it to our public and

> say hey we're inside a candy store.' So really important for all sides [to have an auditing program]. That's why I was saying it was in many ways more difficult than the standards themselves to write (Interview, August 26, 2014).

Generally speaking, the CSSD certification program satisfies the need for an industry sanctioning mechanism to ensure transparency and commitment to the goals developed within the coalition. Moreover, participants were hopeful that the certification scheme would serve as a sanctioning mechanism for industry non-participants by demonstrating to the public the lack of commitment on the part of industries that defect, that is, that don't agree to the auditing. This, they hoped, would help to scale the performance standards to all operators across the industry, as well as demonstrate to the state what was feasible from a regulatory perspective.

Moreover, my data indicate that without a certification program to reward conforming firms, and without the ability for environmental organizations to 'peek under the hood' of industry operations, the communication and trust-building that occurred in the CSSD would never have gotten the traction necessary to facilitate collaborative outcomes. In this light, not only was the auditing program essential to garnering commitment to the coalition and commitment to action in the field, but so was the work of a neutral facilitator in the coalition. According to one informant about the coalition:

> You needed strong leadership. Someone who really could - it's not just a facilitator, the Executive Director role here, it would be a grave mistake to think about that as just a facilitator. You've got to be a real driver of the process, for several reasons. One is a practical reason. You've got to have someone whose mission is to get the ball over the finish line. But that person – I was thinking about this this morning before our meeting – is the only person in this who is really trusted by all sides, and can put stuff on the table

that wouldn't be as well received if it came from one side or the other; knows intimately each person's - not only their organizational requirements and needs, but also the individual requirements and needs and how they work, how they think. You've got to understand all the relationships, and you've got to have continuity, you've got to have folks that are in this month after month, year after year, so the Executive Director and also the partners get to know who they are and what the issues are, and how to get them to closure.

In this light, it is critical to recognize the central role institutions play in facilitating collective action by structuring social interaction (North 1990). They do so by providing guidelines for behavior, by facilitating communication and the development of trust, and by offering a mechanism through which sanctions can be imposed on defectors or non-compliers (Knight and Sened 1995). As Rao et al. (2000: 247) argue, "new organizational forms can explicitly be created by activists to discredit exiting arrangements and can provide a vehicle for those who feel excluded from access to the existing system." Thus, participating organizations sought to use the coalition not only as an alternative vehicle to gain new information and networks for advancing their efforts, but also as a strategic venue for pursuing broader goals.

6.8 Conclusion

Effectively mobilizing resources is a critical task for all organizations. Overall, my findings demonstrate that organizations value the coalition primarily for the strategic advantages it offers for mobilizing informational and network resources to enhance organizational capacity and efficacy in meeting environmental goals. By collaborating with industry groups, environmental organizations acquire key resources that enable them to plan for future campaigns and leverage

new identities for access to elite policy circles. Moreover, when participants have the opportunity to communicate frequently and over time, they tend to discuss how to build norms to encourage compliance with more collectively beneficial ends. These outcomes not only strengthen an organization's position in the environmental field, but also satisfy concerns for advancing environmental goals.

7.0 Conclusion

If we accept Fligstein and McAdam's premise that fields are the 'basic building blocks of organizational life,' then attention to contention in a given field is relevant for understanding the processes of stability and change in society at large. Additionally, if we support Whittier's (2018: 196) argument that "the story of social change is a story of frenemies," then a focus on contentious alliances is important sociological work. My case reveals interesting dynamics within the environmental field as actors navigated the emergence of a new industry and a contentious alliance. A field level perspective helps to contextualize the strategic decision-making that environmental organizations engaged in as they surveyed broader level societal and political conditions for deciding whether to support or oppose the coalition for advancing their goals. Additionally, Whittier's (2018) conceptualization of frenemy relationship structures assists in linking the interaction of environmental actors with the dynamics of contention that occurred within the field as a result of the collaboration.

By situating organizational factors, such as resource mobilization and the framing processes of individual groups, in a wider network of potential alliance and conflict systems (Klandermans 1997) and proximate fields (Fligstein and McAdam 2012), my analysis shows that, as new collective action frames, identities, and practices emerged within the environmental field, uncertainty seeped into the shared understanding of the cultural processes and mission upon which the environmental field (and movement) had been built. As such, suspicions about aberrant activities and the organizations that employed them exacerbated existing divisions within the movement, threatening to unravel the tacitly agreed upon rules for action and interaction among organizations within the field. However, my analysis also reveals that participating organizations

valued the coalition as an important addition to their tactical repertoire and a necessary strategy to advance the movement's goals in a politically constrained environment and globalizing world.

7.1 Strategic action fields: the link between agency & structure

From a social movement perspective, one may conclude that contention within the environmental movement over formation of the CSSD played out along the classic lines of disagreement regarding the preferred strategies and tactics of grassroots/challenger groups and national/incumbent environmental organizations. Conclusions from a movement-centric perspective most likely would have overshadowed the nuances of strategic decision-making that the organizations pursued as they made the difficult decision to either join the alliance or oppose their movement counterparts for participating. On the other hand, an organizational theorist may have underscored the emergence of the CSSD as a new form of organized life that helps to resolve conflict *between* the environmental and industry fields, while underappreciating the contention that this new structure created *within* the environmental field.

Overall, my case offers empirical evidence to reveal how a field level framework engenders a deeper appreciation for the underlying structures and social processes that incite the reactive mobilization of groups within the environmental field as a result of the alliance, and the motivation of organizations who joined it. My case also offers support for Whittier's (2018) conceptualization of frenemy alliance structures and the impact these relationships have on broader movement dynamics. Through the analysis presented in this paper, I show that while participation in the environmental-industry coalition represents a relatively new form of action for environmental organizations, on the whole the motivations to participate in this new social structure are not

indicative of acquiescence to movement co-optation by industry groups or of narrow self-interest to secure financial resources. Rather, my case demonstrates that the motivation to participate largely reflects a process of strategic decision-making and adaptation to societal changes over which environmental organizations have no control, and a decision to employ one strategy among others that some organizations believe to be effective for advancing environmental goals in a changing world (Delmas and Young 2009).

Additionally, a field level framework engenders a deeper appreciation for the underlying structures that incite the reactive mobilization of opposing groups, transcending the traditional focus on their contempt for institutionalized politics to an emphasis on the uncertainty these groups face when organizations in their field seemingly shift their loyalties to actors that have long been established as one of the chief enemies of the movement. As new collective action frames, identities, and practices emerge, uncertainty seeps into the shared understanding of the cultural processes and missions on which a field has been built. Ultimately, such processes not only threaten the viability of less powerful actors in the field, but also undermine the ability for field members to "deliver valued ends", thus potentially jeopardizing the long-term stability of the field as a whole (Fligstein and McAdam 2016: 176).

7.2 Roadmap for understanding strategic action in organizational fields

According to Fligstein and McAdam (2012: 7), there has been little concern in the literature regarding how opportunities and constraints in the social and political environment are fundamentally dependent on the "complex lattice work of relations" that connect one organizational field to another. By paying attention to key processes that occur *within* and *between*

strategic action fields, they argue that one can develop a meso-level theory of social action that links agency and structure. When actors within their local fields of action operate on the basis of a shared understanding about the purpose of a field, collective action that occurs within and between organized groups either maintains, changes or transforms the existing field order, ultimately impacting organized social life.

The analysis presented in this project follows the methodological roadmap Fligstein and McAdam (2012) offer to support researchers in their study of social life. They contend that fields exist along a continuum of three states: formation/emergence, stability, and crisis/rupture. When a field is in the third state, a state of conflict or crisis, analysts must evaluate the following:

1. What are the factors and processes that precipitate the contention?
2. Who are the actors that shape the contention over time?
3. What are the interactive dynamics that shape the contention?
4. With what forms of action and collective action frames do incumbents and challengers respond to the contention?
5. What role do key external actors and fields play in precipitating the contention, shaping its trajectory, and ultimately helping to affect a new field settlement?
6. What are the terms of the new settlement? And to what extent does it alter the prior power structure of the field of interest?
7. How do the contention and new settlement affect proximate fields?

My research utilized these key questions as I analyzed contention within the environmental field as a result of the formation of the coalition. Below I provide a summary of the research presented in this paper that follows Fligstein and McAdam's (2012) roadmap for a field-based study of organized social life and collective action.

7.2.1 Factors and processes that precipitated contention in the environmental field

The factors that precipitated the contention within the environmental field over the formation of the coalition include both long-term and short-term processes. Long-term processes that are relevant include the historical processes of globalization that gave rise to the neoliberal economic paradigm as the organizing principle for contemporary environmental policymaking, as well as entrenched multinational corporations as key actors in a globalized world. These factors facilitated the retreat of the state in dealing with environmental problems and inspired the formation of environmental-industry alliances as a novel attempt to fill the void in global environmental governance.

Short-term processes that precipitated the contention include technological advancements in natural gas drilling and the lax regulatory environment that facilitated rapid development of fracking in various regions of the country. Pennsylvania was a "first mover" in enacting statewide legislation to encourage development of the industry (Rabe and Borick 2013). By the time environmental activists mobilized in opposition to the development and its impacts, fracking was already an established part of Pennsylvania and the surrounding region's energy and economic portfolios, leaving few political opportunities for advancing environmental goals.

7.2.2 Actors and events that shaped the episode of contention over time

Regional actors, such as the Environmental Defense Fund, Pennsylvania Environmental Council, Clean Air Task Force, and Citizens for Pennsylvania's Future (PennFuture) represent the incumbents of the environmental field, with their formalized structures, large resource base, and access to political circles. Their professional structures enabled them to draw on resources and

expertise to participate in the coalition, as well as supported their "good" standing with foundations willing to provide funding for their involvement in the coalition (see Bosso 2005; Rudel et al. 2011).

Grassroots environmental groups, with their decentralized structures and limited access to financial resources and decision-makers (Schlosberg 1999), represent the challengers in the environmental field. Their challenger orientation is manifest in their outspoken criticism of participating groups, condemning them for being too willing to compromise on environmental issues and for 'selling-out' to industry for what they perceive to be financial and instrumental gain (see Bosso 2005; Dowie 1995).

7.2.3 Interactive dynamics that shape the conflict

As activism on fracking grew in response to gas development occurring in the region, the presence of divergent goals and frames for action became increasingly apparent. Incumbent and challenger groups tended to fall into their expected patterns for action, utilizing frames and strategies that supported their respective roles in the field. On the one hand, incumbent groups generally called for stronger regulations and governmental oversight without outright opposing the development, while challenger groups pressed for a full ban or moratorium on any further drilling.

Contention within the environmental field peaked with the formation of the Center for Sustainable Shale Development. Opposing groups in the environmental field challenged their counterparts not only because some organizations chose to cooperate with industry rather than their environmental counterparts calling for a moratorium, but also because the coalition did not secure the state's endorsement for enforcement of the performance standards. Whitter (2018) argues that movement factionalism is a primary concern for activists who believe that collaborating

with the enemy only helps to strengthen the enemies' position. Furthermore, she (2018: 203) claims that "frenemy relationships often emerge around movement goals of state intervention." This notion supports the views of participating and incumbent groups that the CSSD could serve as a 'back-up regulator' in the absence of state oversight for fracking. On the other hand, it also underscores challenger concerns about the lack of state involvement in the CSSD. Conceptualizing environmental actors and their interaction with the CSSD helps to specify the environmental field as it relates to the coalition and the conflict it created.

	Coalition participants	Coalition non-participants
Incumbent organizations	• Environmental Defense Fund • Pennsylvania Environmental Council • Clean Air Task Force • Citizens for Pennsylvania's Future (PennFuture)	• Western Pennsylvania Conservancy • Nature Conservancy • Sierra Club • Natural Resource Defense Council
Challenger organizations	• Group Against Smog and Pollution (GASP)	• Marcellus Protest • PennEnvironment • Clean Water Action

Figure 5. Organizational Classification

7.2.4 With what forms of action and collective action frames do incumbents and challengers respond to the developing contention?

Environmental groups that oppose the CSSD were concerned that collaborating with "the enemy" compromises the ability of other environmental organizations to challenge industry and secure the state's support to make sustained progress towards environmental goals. Opposing groups also perceive such strategies as undermining the accountability of environmental organizations, suggesting that groups are lured into alliances with industry organizations with

financial incentives in exchange for organizational acquiescence and green cover to industry practices.

Participating organizations and other incumbents welcomed the coalition as an opportunity to fashion a "winning coalition" that could generate new collective action frames and identities to advance reciprocal interests (Fligstein and McAdam 2012: 107). Additionally, incumbents expressed that participation in the environmental-industry coalition enabled their organization to fulfill a "backup regulatory role" in the void of government action, and that such strategies also help to generate important outcomes for improving access to the state.

7.2.5 What role do key external actors play in precipitating the episode, shaping its trajectory, and ultimately helping to affect a new field settlement?

Because of the actions of John Hanger, an "institutional entrepreneur" (DiMaggio 1988), the environmental field experienced conflict. Institutional entrepreneurs are actors "who invent new cultural conceptions" in order to "fashion a political coalition under a new banner that unites disparate groups" (Fligstein and McAdam 2012: 109-110). John Hanger, former head of Pennsylvania's Department of Environmental Protection, initiated the formation of the CSSD, inciting contentious reaction in the environmental field. Recognizing the Corbett administration's cozy relationship with the gas industry and lack of environmental concern for fracking, Hanger sought to create an alternative mechanism for implementing environmental protections. Thus, he approached a select few foundations, several environmental organizations, a handful of major gas companies, and professional allies to form a coalition with the purpose of creating environmental performance standards for the gas industry to voluntarily implement.

7.2.6 What are the terms of the new settlement? And to what extent does it alter the prior power structure of the field?

Despite entrenched disagreements between incumbent and challenger environmental groups over the most effective frames to adopt and strategies to pursue, one long established field rule is an acknowledgment that industry is one of the movement's chief enemies. Thus, when environmental groups chose to engage in coalition work with the enemy, it violated a central rule of the environmental field that provides meaning to field membership, collective identity, and appropriate repertoires of action. In Whittier's (2018) frenemy relationship typology, adversarial collaborators are ideologically opposed, which can create confusion and concern among other field members about who is in and who is out of their field in question. Furthermore, environmental-industry alliances are a particular concern for grassroots groups who are resource poor relative to their national counterparts. Because the survival and maintenance of grassroots groups is usually more tenuous than national organizations, grassroots groups in some ways are reliant on national organizations for sustaining the viability of the field as well as their own survival on some occasions.

Incumbents believed that engaging with industry not only provided them with access to insider information and industry networks, but also with resources that increase their credibility vis-a-vis the state. Such resources are particularly critical for incumbent environmental organizations given that their strategies are primarily focused on lobbying state officials and attempting to advance environmental goals via conventional political channels. By collaborating with industry groups, incumbent environmental organizations acquire key resources that enable them to do what they typically do even better and solidify their dominant position in the field.

7.2.7 How does the contention and new settlement affect proximate fields?

Overall, contention over the formation of the CSSD did not disrupt the viability of the environmental field, even if it disrupted some internal rules upon which the environmental field had been established. For a variety of reasons, contention over the coalition subsided as gas development waned due to forces of the global market. These forces were the result of widespread development that created an oversupply of natural gas in the global market, plummeting gas prices and undermining the ability for companies to continue extracting the resource in a profitable manner. These larger scale processes had the impact of shifting the attention of environmental organizations to other conflicts more relevant to their broader work. While the coalition is still in existence, participating and opposing organizations in the environmental field no longer view the CSSD as a threat to the movement's larger goals and therefore to the stability of the environmental field as a whole.

Moreover, every participating organization with the exception of one – PennFuture – remains in the coalition (now named the Center for Responsible Shale Development) to this day, reflecting the ongoing benefits to their organizational work the coalition offers. Regarding PennFuture's departure, one informant stated that the organization recently left the CSSD to spend organizational resources on other activities. Perhaps one could also argue that because the Heinz Endowments is a major supporter of PennFuture, the foundation's eventual opposition to the CSSD inspired PennFuture to cease their involvement in order to appease their funders.

7.3 Global environmental problems and collective action

While global market forces may have diminished the potential relevance of the Center for Sustainable Shale Development, analyzing the processes of collective action within the environmental movement from a field level perspective is critical in light of the scope of environmental problems that society faces today. Effectively addressing issues such as climate change and loss of biodiversity requires an unprecedented level of collective action by actors, organizations, and governments across the globe whose activities span countless numbers of organizational fields. The environmental movement plays a key role in leveraging societal forces required to address these problems.

Due to the influence of macrolevel processes such as globalization and entrenchment of the neoliberal economic paradigm on structuring state-society relations, environmental-industry governance mechanisms are becoming increasingly prevalent as the state's capacity to address environmental problems declines (Young 2009). In this light, research on environmental-industry alliances is indeed "motivated at least in part by desire to improve our ability to design regimes that will prove effective in solving, or at least managing, specific environmental problems" (Young 2002: 11). However, making valid conclusions about the impact of any environmental-industry alliance requires that researchers take into account a host of factors and variables that influence the ability for the coalition to successfully improve the health of the environment and ecosystems that society relies on. Indeed, the potential of any governance mechanism to address environmental problems is complicated by the contested nature of social values, resource management orientations, and environmental perceptions (Richter et al. 2006; Yearly 2005). Research on these issues is critical for revealing how cooperative action can occur to better address environmental

problems in a world where resource management is a complex process rife with competing interests, an array of desired outcomes, and a diversity of actors (Young et al. 2008).

7.3.1 Collective action to address complex global environmental problems

Scholars have particularly underscored the need to investigate the challenges associated with developing governance systems for the protection of larger and more complex environmental resource systems, such as the climate (see Berkes et al. 2003; National Resource Council 2002). Edwards and Stein (1998) argue that complex resource systems may complicate prospects for collective action because multiple users have competing incentives for cooperative resource management. In other words, complex resource systems may be susceptible to the classic problems of collective action, and specifically to Hardin's theory of the tragedy of the commons. Hulme (2009) argues that a lack of action towards mitigating complex environmental problems, such as climate change, stems not from disputes over the scientific evidence available, but rather from the various *relationships* that different people have toward that scientific evidence. He states that these relationships include people's different orientations toward the role of science in decision-making, of the relationship between humans and nature, of one's responsibility to future generations, and of the way to interpret climate risk and uncertainty. These different relationships toward scientific evidence are established and reinforced through different institutions and cultural processes that define different organizational fields.

One key variable that affects people's relationship toward natural resources systems and their proper management is risk perception. Fischoff et al. (1981) explain that defining risks, and more specifically deciding on which risks are acceptable for society to manage, is a decision-making process rife with competing values, judgments and beliefs. In other words, "Risks cannot

simply be described as facts of the natural world; indeed they are the result of a complex process of interpretation" (Richter et al. 2006). Thus, risk perception regarding how to address complex environmental problems must be understood as a dynamic process that is susceptible to change as a result of learning and exchange that can occur during social interaction.

7.3.2 Risk perceptions, bounded rationality and collective action

Cultural processes help to define what people perceive as attainable by clarifying options, establishing expectations, and creating predictability in social interaction (Douglas 1985: 80). Because knowledge is limited and complete certainty about outcomes is impossible, individuals utilize social cues – or heuristics – to make decisions about risk. Social cues help individuals to simplify complex choices and to set "boundaries on the range of feasible alternatives" (Douglas and Wildavsky 1982: 77). This idea is central because it highlights the ability for individual orientations toward risk – and therefore towards particular arrangements for environmental governance – to evolve and adapt through social interaction. This explanation again underscores the role that a modified view of rationality plays in explaining the emergence of collective action for addressing global scale and complex environmental problems. While the traditional rational actor paradigm assumes that individuals make decisions about risks in simple environments where actors are equipped with complete knowledge about the situation and its outcomes, bounded rationality more realistically captures the essence of behavior in complex, and thus riskier, resource management cases (Janssen 2002).

Hulme (2009: 326) ultimately argues that our orientations toward environmental progress "should be seen as an intellectual resource around which our collective and personal identities and project can form and take shape." This recognition, Hulme (2009: 330) claims, helps to engender

the understanding that "the sources of our enduring disagreements about climate change lie within us, in our values and in our sense of identity and purpose." Thus, according to Hulme (2009), addressing climate change and other complex environmental problems should be viewed as a necessarily collective endeavor among competing actors, and one in which conflicting individual interests and values are collectively renegotiated and redefined for engendering the emergence of cooperative behavior.

Ultimately, as Blann et al. (2003: 228) assert, "In complex systems, relationships form the basis for all communication, motivation, and action. Trust is critical" for enabling the exchange of information about risks related to the resource use, and thus for ultimately effecting optimal governance outcomes. As a result of transparent and deliberative processes, individuals are able to share perspectives and learn from one another's diverse orientations and experiences. These processes can facilitate the formation of trust among actors and the development of "solid working relationships" that ultimately enable actors to come up with robust governance solutions (Blann et al. 2003).

In the final analysis, social institutions play a critical role in structuring the opportunities for the collective renegotiation and redefinition of environmental protection. Coalitions like the one evaluated in this project offer the ability for social actors with competing values and different perceptions to exchange information, develop new perspectives and engage in deliberative processes for the creation of collaborative and more robust environmental governance regimes. In this sense, lessons gleaned from this study offer useful empirical insights into the organizational motivations for supporting or opposing such arrangements, and the risks such arrangements may ultimately pose to the viability of the environmental field as a whole.

As new strategies, tactics, and frames are employed by organizations in the environmental movement, the ensuing uncertainty regarding the nature of previously taken-for-granted rules and routines will undoubtedly engender ongoing conflict within the field. Whether participating in non-state market driven environmental governance mechanisms will gain legitimacy as an appropriate strategy for environmental actors is a question still unresolved. Until organizations within the environmental movement can settle on a new consensus for action on this matter, conflict in the environmental movement over use of this tactic will ensue (Fligstein and McAdam 2012: 22). At stake is whether environmental organizations will be capable of transcending their own "narrow group interests" (Fligstein and McAdam 2012, 17-18), or whether the collective capacity of the movement will erode under the pressure of contested routines, logics, and identities.

Given the interdependency of national/incumbent organizations and grassroots/challenger groups for mobilizing diverse constituencies and attending to environmental problems at all levels of society, fashioning a new consensus on appropriate rules for action that comprehends changes occurring outside of, yet relevant to, the environmental strategic action field is essential for the movement's continued relevancy and capacity to inspire the level of collective action necessary to address current environmental problems of unprecedented scale. While the overall impacts of environmental-industry alliances on environmental and societal health must be evaluated on a case-by-case basis, social scientists have a key role to play in uncovering the social processes that help support the development of more secure and robust environmental protection regimes in a globalized world.

7.4 Contributions to the literature

Through this project, I seek to contribute to the emerging body of work focused on the intersection of social movement and organizational theory and field level analyses. In my analysis, I demonstrate that while a movement-centered approach to analyzing the environmental-industry coalition might emphasize the divergence of preferred strategies and tactics between groups in the environmental movement (Bosso 2005), my research suggests that a more comprehensive examination of both organizational and field-level factors is necessary to understand the factors that motivated environmental groups to support or oppose the coalition and the conflict that ensued as a result (Davis et al. 2005; Fligstein and McAdam 2012).

My research also contributes to the literature on social movement coalitions. According to Staggenborg (1986: 374), "modern social movements are not monolithic entities, but consist of shifting coalitions of constituents from varying backgrounds…The ability of these different groups to work together is critical to the movement's chances for success in achieving goals and gaining access to power." Despite the scholarly attention to the formation of coalitions among social movement organizations (Van Dyke and McCammon 2010), little work examines factors that influence organizations to pursue extra-movement, and in some cases, contentious, alliances (Whittier 2018). My research aims to fill this gap in the social movement literature by demonstrating that to understand the organizational motivations for joining contentious coalitions, analysts must take into consideration the larger network of potential alliance and conflict systems within an organizational field. Additionally, researchers must also pay attention to processes occurring in proximate fields that impact the political and organizational opportunities for advancing movement goals.

Further, my findings reveal that intra-movement contention that may occur as a result of the formation of environmental-industry alliances rests fundamentally on the existential concerns of challenger groups. The viability of challenger groups is threatened when more powerful actors in their field spawn new arenas for collective action that transgress previously taken for granted rules and routines upon which a field had been settled. Unless members of a field coalesce under new collective identities or settle back into the status quo, protracted conflict can threaten the shared systems of meaning upon which a field, and movement, have been built.

Additionally, my study corroborates key aspects of Whittier's (2018) frenemy typology. Understanding the CSSD as an adversarial collaborative relationship among ideologically opposed actors helps to contextualize the alliance structure as a phenomenon distinct from social movement coalitions. My study also lends empirical support to her argument that frenemy relationships exhibit characteristic features, namely: reputational risks as a result of participating; a focus within the alliance on more narrow than broader movement goals; collaborative relationships built on tenuous trust in which expert knowledge is prioritized over ideology; and opposing identities and networks that preclude more extensive collaboration (Whittier 2018: 199). Each of these characteristic factors were exhibited in the case analyzed in this thesis.

An underdeveloped link in the research presented here is the causal identification of the specific institutional mechanisms that lead to more cooperative outcomes for environmental governance. Factors that matter include an array of micro-level variables such as individual risk perceptions, levels of economic endowment, and resource management orientations; meso-level variables include the ability for actors to frequently and substantively communicate and devise sanctioning schemes; and macro-level variables include the complexity of the resource system in question and the social practices that characterize the resource system's use (Anderies et al. 2011).

Following this point, an additional gap in the literature includes research on the role that a third-party arbitrator may play in fostering cooperative outcomes in contentious environmental governance cases (see e.g., Wondolleck and Yaffee 2000). This topic seems to be of primary significance in the analysis of environmental coalitions that engage actors with conflicting interests and incentives in complex resource systems. If institutions are to be understood as arenas in which actors seek to strategically benefit from distributional gains (Knight and Sened 1995), then indeed collaborative arrangements are susceptible to mixed-motive behavior in which asymmetrically endowed actors co-opt institutional processes for their primary benefit. Thus, an analysis of the impact of third-party arbitration on mediating these processes would seem a particularly salient research focus.

Appendix A

PERFORMANCE STANDARD 1

1. Operators shall maintain zero direct or indirect intentional discharges of shale wastewater (including drilling, flowback and produced waters) to surface water except as provided by this Standard.
2. In order to facilitate comprehensive wastewater management programs that consider environmental, safety, health, and economic factors, Operators may send shale wastewater to a Centralized Waste Treatment facility (CWT) for treatment and discharge if the Operator demonstrates the following conditions are satisfied at the CWT:
    a. The CWT has, and is in substantial compliance with, a NPDES discharge permit to treat and directly discharge shale wastewater;
    b. The CWT meets or exceeds a CRSD shale wastewater effluent performance standard to be based on current best available technology designed to prevent the discharge of toxic pollutants in toxic amounts;
    c. The CWT must use best available technology for all fluids discharged. Best available technology requires a combination of distillation and biological treatment, with the addition of reverse osmosis if CRSD determines based on further analysis that it provides protection necessary to ensure effluent quality. CRSD may authorize the use of different technologies or combinations of technologies that provide equivalent or superior treatment;

d. The CWT adheres to acceptance procedures designed to assure that the wastewater delivered by the Operator is compatible with the other wastes being treated at the facility, treatable by the treatment system, and consistent with the specific waste stream the facility was permitted to treat and discharge;

e. The CWT does not indirectly discharge wastewater from a CRSD Operator through a POTW.

3. An uncertified Operator must meet the following obligations prior to certification to this Standard and a certified Operator must meet the obligations prior to the use of a new CWT for discharge:

a. Operator shall review, compile, analyze, and deliver to CRSD, publicly available information pertaining to the CWTs performance and permit compliance to demonstrate that the CWT satisfies Part 2(a).

b. In order to help assure the permit writer has all information necessary to consider establishing limits on all pollutants in the expected influent, the permitting agency shall be provided the current CRSD list of chemicals believed to occur in the region's wastewater.

c. In order to confirm the CWT is operating as intended, the Operator shall demonstrate to CRSD that testing at the CWT satisfies the Initial Confirmatory Testing Program or a facility-specific Protocol approved by CRSD.

d. In order to evaluate the potential for CWT effluent toxicity, Operator shall complete WET Testing pursuant to the WET Testing Program or an alternative facility-specific Protocol approved by CRSD.

4. For so long as the Operator delivers shale wastewater to a CWT:

a. Operator shall conduct effluent monitoring as specified in the CRSD Ongoing Monitoring Program or facility-specific Protocol approved for that CWT by CRSD.

b. Every six months, Operator shall review, compile, analyze and deliver to CRSD publically available information about the CWT's performance and permit compliance.

c. Unless CRSD determines that ongoing WET testing is not necessary, Operator shall complete WET testing at a frequency to be determined in the WET Testing Program or facility-specific Protocol.

5. Operators may not initiate, and will immediately cease, deliveries to a CWT:

a. If the CRSD Board determines that discharges from the CWT may increase the risk of harm to human health or the environment. This determination may take into account data and reports submitted to CRSD under this standard, deterioration in effluent quality, research to be sponsored by CRSD or by other parties, and/or any other data or available research.

b. That exhibits substantial non-compliance with its NPDES permit. Deliveries shall not be resumed until the Operator demonstrates to the satisfaction of CRSD that appropriate corrective measures have been made.

6. Operator reporting under this standard shall be as follows:

a. Data from all testing and any additional information gathering required under this standard, shall be analyzed, compiled, and submitted to CRSD by the Operator.

b. Where an operator discovers a potential non-compliance with an existing NPDES discharge permit as part of the monitoring and auditing requirements required under this Standard, the Operator shall immediately report such findings to the CWT, the

permitting agency, and CRSD.

Note: This standard does not apply to nor prohibit disposal of wastewater by deep well injection.

PERFORMANCE STANDARD 2

1. Operators shall maintain and adhere to a plan to recycle, to the maximum extent practicable, flowback and produced water for use in fracturing and in drilling wells at depths below the surface casing.
2. For water withdrawals, operators shall develop an evaluation, monitoring, and action plan that prevents and/or minimizes site-specific and cumulative adverse impacts to surface and ground water resources. The plan should include the following:
    a. For surface waters, the plan should identify measures taken to protect flow regime of the waterway, and avoid temporary or permanent impairment.
    b. Plans should justify, and describe protection measures utilized, for withdrawals from any of the following:
        i. Waters classified or designated as Tier 3 (or state regulatory equivalent); or Tier 2 (or state regulatory equivalent) by an appropriate state or federal authority under the Clean Water Act's anti-degradation program.
        ii. Headwaters or creeks (waters having an upstream drainage area less than 38.61 square miles)
        iii. Waters classified or designated as Intermittent by an appropriate state or federal authority.

iv. If applicable, any waterway during seasonal or periodic (e.g. drought) low flow conditions, as identified by state or federal regulatory agencies.

c. For ground waters, the Plan should assess the feasibility and sustainability of the groundwater source at the proposed withdrawal rate and withdrawal location, and identify all groundwater management measures taken in order to ensure that there are no adverse impacts to: groundwater availability (allowing for the rate of groundwater recharge); hydraulically connected wetlands; private water wells; and the baseflow of hydraulically connected surface waters.

d. Operators shall meter (or otherwise measure) and record daily the volume of water withdrawals. Measuring devices and methods shall be accurate to within 5% of actual flow.

PERFORMANCE STANDARD 3

1. Any new pits designed shall be double-lined and equipped with leak detection.
2. Operators, by March 20, 2014 or initial date of application for certification (whichever is later), shall contain drilling fluid, when using oil-containing drilling fluids to drill a well, in a closed loop system at the well pad (e.g. no ground pits).
3. Operators, by March 20, 2015 or initial date of application for certification (whichever is later), shall contain drilling fluid and flowback water in a closed loop system at the well pad, eliminating the use of pits for all wells.

PERFORMANCE STANDARD 4

1. When utilizing centralized impoundments for the storage of flowback and/or produced waters, Operators shall ensure that free hydrocarbons are removed from the water prior to storage and that new impoundments are double-lined with an impermeable material, equipped with leak detection and take measures to reasonably prevent hazards to wildlife. Total hydrocarbons should be substantially removed.

PERFORMANCE STANDARD 5

1. Operators shall establish an Area of Review (AOR), prior to drilling a well, which encompasses both the vertical and horizontal legs of the planned well. Within the AOR, the Operator must conduct a comprehensive characterization of subsurface geology, including a risk analysis that demonstrates the presence of an adequate confining layer above the production zone that will prevent adverse migration of hydraulic fracturing fluids. As part of the risk analysis, and before proceeding with hydraulic fracturing, the Operator must also conduct a thorough investigation of any active or abandoned wellbores within such area of review or other geologic vulnerabilities (e.g., faults) that penetrate the confining layer and adequately address identified risks.

PERFORMANCE STANDARD 6

1. Operators shall develop and implement a plan for monitoring existing water sources, including aquifers and surface waters (as defined in the CRSD Guidance for Auditors document) within a 2,500 foot radius of the wellhead (or greater distance, if a need is clearly indicated by geologic characterization), and demonstrate that water quality and chemistry measured during a pre-drilling assessment are not impacted by operations.

2. Operators must conduct periodic monitoring for at least one year following completion of the well. Such monitoring must be extended if results indicate potential adverse impacts on water quality or chemistry by operations.
3. In the event that monitoring establishes a possible link between an Operator's activities and contamination of a water source, the Operator shall develop and implement an investigative plan and, if a positive link is established, implement a corrective action plan.
4. The testing and monitoring plan should provide for additional monitoring in the event a well is re-stimulated.

PERFORMANCE STANDARD 7

1. Operators shall design and install casing and cement to completely isolate the well and all drilling and produced fluids from surface waters and aquifers, to preserve the geological seal that separates fracture network development from aquifers, and prevent vertical movement of fluids in the annulus.
2. Operators will not use diesel fuel in their hydraulic fracturing fluids.
3. Operators will publically disclose the chemical constituents intentionally used in well stimulation fluids. Disclosures will include: information identifying the well, the Operator and the dates of the well stimulation; the type and total volume of the base fluid; the type and amount of any proppant; all chemical additive products used in a well stimulation, including the name under which the product is marketed or sold, the vendor, and a descriptor of additive's purpose or purposes (e.g. biocide, breaker, corrosion inhibitor, etc.); the common name and Chemical Abstracts Service registry number for each chemical ingredient used in a stimulation fluid; the actual or maximum concentration of each

chemical ingredient, expressed as a percent by mass of the total stimulation fluid. Chemical ingredients should be disclosed in a manner that does not link them to their respective chemical additive products. Disclosure of the above information will be offered to the relevant state agency and will also be posted on FracFocus.org. If an Operator, service company or vendor claims that the identity of a chemical ingredient is entitled to trade secret protection, the Operator will include in its disclosures a notation that trade secret protection has been asserted and will instead disclose the relevant chemical family name. Operators will implement measures consistent with state law to assist medical professionals in quickly obtaining trade secret information from the Operator, service company or vendor holding the trade secret that may be needed for clinical diagnosis or treatment purposes.

4. Operators will also work toward use of more environmentally neutral additives for hydraulic fracturing fluid.
5. Mechanical integrity tests shall be performed when refracturing an existing well.
6. CRSD will develop a standard relating to the public disclosure of chemicals other than well stimulation fluids by September 1, 2013.

PERFORMANCE STANDARD 8

1. Operators shall design each well pad to minimize the risk that drilling related fluids and wastes come in contact with surface waters and fresh groundwater.
2. In preparation for any spill or release event, Operators shall prior to commencement of drilling, develop and implement an emergency response plan, ensure local responders have appropriate training in the event of an emergency, and work with the local governing body,

in which the well is located, to verify that local responders have appropriate equipment to respond to an emergency at a well.

3. In addition, in the event of spill or release, beyond the well pad, Operators shall immediately provide notification to the local governing body and any affected landowner.

PERFORMANCE STANDARD 9

1. Beginning on January 1, 2014, in accordance with the conditions set forth in Paragraphs 3 and 4 below, an Operator must direct all pipeline-quality gas during well completion of development wells, and re-completion or workover of any well into a pipeline for sales.
2. Any gas not captured and put in the sales pipeline may not be vented and must be flared in accordance with Standard No. 10 below.
3. Acceptable reasons for sending gas to a flare and not directing gas into the sales line include:
    a. Low content of flammable gas. Such low-flammability gas must be directed through a flare, past a continuous flame, to insure combustion begins when gas composition becomes flammable; For safety reasons.
4. Circumstances unacceptable for sending gas to flare, instead of directing it into a sales line, are:
    a. Beginning on January 1, 2014, a lack of a pipeline connection except for wells that are designated as either exploratory or extension wells using SEC definitions (however, companies should minimize flaring and maximize the use of reduced emissions completions on exploratory or extension wells, where possible);
    b. Inadequate water disposal capacity;

c. Undersized flow back equipment, lack of flow back equipment or lack of equipment operating personnel.

5. Any upset or unexpected condition that leads to flaring of gas, instead of directing it into a sales line, must be documented and records maintained by the Operator, including a description of the condition, the location, date, and quantity of gas flared.
6. Using the SEC definitions, an exploratory well is a well drilled to find a new field or to find a new reservoir in a field previously found to be productive of oil or gas in another reservoir. An extension well is a well drilled to extend the limits of a known reservoir. Wells with these designations must be consistent with Operator reporting of such designations to the SEC, if applicable.

PERFORMANCE STANDARD 10

1. When flaring is permitted during well completion, re-completions or workovers of any well, pursuant to Standard No. 9 above, Operators must adhere to the following requirements.

a. Operators must either use raised/elevated flares or an engineered combustion device with a reliable continuous ignition source, which have at least a 98% destruction efficiency of methane. No pit flaring is permitted.

b. Flaring may not be used for more than 14-days on any development well (for the life of the well). Flaring may not be used for more than 30-days on any exploratory or extension wells (for the life of the well), including initial or recompletion production tests, unless operation requires an extension. If flaring continues beyond

30-days for an exploratory or extension well, Operators must document the extent of additional flaring and reasons requiring flaring beyond the 30-days.

c. Flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours.

PERFORMANCE STANDARD 11

1. The following standard applies only to nonroad dedicated diesel horizontal drilling rig engines at the wellpad. CRSD encourages and supports the conversion of drilling rig engines to either dual-fuel, electricity or natural gas. The following emissions standards apply to the nonroad dedicated diesel drilling rig engines.
    a. By March 20, 2013, Operator and contractor nonroad engines shall achieve horse power-hour weighted average site emissions equivalent to U.S. EPA Tier 2 nonroad diesel engine standards or better.
    b. By March 20, 2015**,** 25% of all Operator and contractor engine utilization (hp) shall comply with U.S. EPA Tier 4 emissions standards for particulate matter.
    c. By September 24, 2015, 75% of all Operator and contractor engine utilization (hp) shall comply with U.S. EPA Tier 4 emissions standards for particulate matter.
    d. By September 24, 2016, 95% of Operator or contractor engine utilization (hp) shall comply with U.S. EPA Tier 4 emissions standards for particulate matter.
    e. All nonroad equipment must use Ultra-Low Sulfur Diesel fuel (15 ppm of sulfur) at all times.

2. The following standard applies only to dedicated diesel fracturing pump engines at the wellpad. CRSD encourages and supports the conversion of fracturing pump engines to either dual-fuel, electricity or natural gas.

    a. If the fracturing pump is a nonroad dedicated diesel engine powered solely by diesel fuel, then the following emissions standards apply:

        i. By March 20, 2014, Operator and contractor nonroad engines shall achieve horse power-hour weighted average site emissions equivalent to U.S. EPA Tier 2 nonroad diesel engine standards or better.

        ii. By September 24, 2015, 25% of all Operator and contractor engine utilization (hp) shall comply with U.S. EPA Tier 4 emissions standards for particulate matter.

        iii. By September 24, 2016, 75% of all Operators and contractors engine utilization (hp) shall comply with U.S. EPA Tier 4 emissions standards for particulate matter.

        iv. By September 24, 2017, 95% of all Operator and contractor engine utilization (hp) shall comply with U.S. EPA Tier 4 emissions standards for particulate matter.

        v. These engines must use Ultra-Low Sulfur Diesel fuel (15 ppm of sulfur) at all times.

    b. If the fracturing pump is powered by a dedicated diesel heavy-duty vehicle engine, then the following emissions standards apply:

i. By March 20, 2013, 50% of the heavy-duty vehicle engines used to power fracturing pumps must meet U.S. EPA's Final Emission Standards for 2007 and Later Model Year Highway Heavy-Duty Vehicles and Engines for particulate matter (PM) emissions.

ii. By September 24, 2014, 80% of the heavy duty vehicle engines used to power fracturing pumps, must meet U.S. EPA's Final Emission Standards for 2007 and Later Model Year Highway Heavy-Duty Vehicles and Engines for particulate matter emissions.

iii. These engines must use Ultra-Low Sulfur Diesel fuel (15 ppm of sulfur) at all times.

3. CRSD will develop a standard and implementation date for all other engines located at the wellpad.

PERFORMANCE STANDARD 12

The following standard is only applicable to compressor engines dedicated to unconventional activities.

1. By March 20, 2014, existing compressor engines greater than 100 horsepower may not emit more than 1.5 grams of NOx per horsepower-hour.
2. Any new, purchased, replacement, reconstructed, or relocated lean-burn engines greater than 100 horsepower and up to 500 horsepower may not emit more than 1.0 g/hp-hr for NOx; 2.0 g/hp-hr for CO; 0.70 g/hp-hr for VOCs.

3. Any new, purchased, replacement, reconstructed, or relocated lean-burn engines greater than 500 horsepower may not emit more than 0.50 g/hp-hr for NOx; 47 ppmvd at 15% O2 or 93% reduction for CO; 0.25 g/hp-hr for VOCs; 0.05 g/hp-hr HCHO.
4. Any new, purchased, replacement, reconstructed, or relocated rich-burn engines greater than 100 horsepower and up to 500 horsepower may not emit more than 0.25 g/hp-hr for NOx; 0.30 g/hp-hr for CO; 0.20 g/hp-hr for VOCs.
5. Any new, purchased, replacement, reconstructed or relocated rich-burn engines greater than 500 horsepower may not emit more than 0.20 g/hp-hr NOx; 0.30 g/hp-hr CO; 0.20 g/hp-hr VOCs; 2.7ppmvd at 15% O2 or 76% reduction for HCHO.

Note: This standard will be updated to reflect any future determinations from regulatory agencies with regard to the NOx limitation.

PERFORMANCE STANDARD 13

1. By October 15, 2013, all (existing or new) individual storage vessels at the wellpad with VOC emissions equal to or greater than 6 tpy must install controls to achieve at least a 95% reduction in VOC emissions.

PERFORMANCE STANDARD 14

This standard is applicable to new and existing equipment dedicated to unconventional activities unless stated otherwise.

1. Change rod packing at all reciprocating compressors (both existing and new), including those at the wellhead, either every 26,000 hours of operation or after 36 months.

2. By October 15, 2013, pneumatic controllers (both existing and new) must be low – bleed, with a natural gas bleed rate limit of 6.0 scfh or less, or zero bleed when electricity (3-phase electrical power) is on-site.
3. New centrifugal compressors may not contain wet oil seals. Operators must replace worn out wet seals on existing centrifugal compressors with dry seals.
4. By March 20, 2014 or date of an Operator's initial application for certification (whichever is later), Operators will implement a directed inspection and maintenance program (DI&M) for equipment leaks from all existing and new valves, pump seals, flanges, compressor seals, pressure relief valves, open-ended lines, tanks and other process and operation components that result in fugitive emissions. Process components subject to DI&M are monitored by a weekly visual, auditory, and olfactory check, and once a year by a mechanical or instrument check to detect leaks. Once significant leaks are detected, they are required to be repaired in a timely manner.
5. Eliminate VOC emissions associated with the prevention of well-bore freeze-up (only de minimis emissions are permitted).
6. Existing and new compressors are required to be pressurized when they are off-line for operational reasons in order to reduce blowdown emissions.

PERFORMANCE STANDARD 15

1. By March 20, 2014, 80% of all trucks used to transport fresh water or well flowback water must meet U.S. EPA's Final Emission Standards for 2007 and Later Model Year Highway Heavy-Duty Vehicles and Engines for particulate matter (PM) emissions.

2. By September 24, 2015, 95% all trucks used to transport fresh water or well flowback water must meet U.S. EPA's Final Emission Standards for 2007 and Later Model Year Highway Heavy-Duty Vehicles and Engines for particulate matter emissions.
3. All on-road vehicles and equipment must limit unnecessary idling to 5 minutes, or abide by applicable local or state laws if they are more stringent.
4. All on-road and non-road vehicles and equipment must use Ultra-Low Sulfur Diesel fuel (15 ppm of sulfur) at all times.

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