Beyond Myth and Ceremony?:
An Examination of Corporate Responses to Climate Change

by

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For Nina who inspires me to leave the world a better place, and provides me with the hope that that is possible.

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ABSTRACT

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The focus of this dissertation is on corporate responses to climate change. Using three empirical studies, I examine the gap in corporate words and actions when it comes to addressing climate change through three empirical studies. The first study uses critical theory to analyze how firms decouple climate change discourse and actions through an examination of Environmental Protection Agency Climate Leaders participants. The second study uses textual analysis of sustainability reports to examine the underlying logics of corporations addressing climate change. Finally, I present an ethnographic and historical case study of Ford Motor Company and their journey from symbolic to substantive climate change response to better understand the mechanisms and tensions underlying such change. Throughout the three chapters, the themes of opportunity and belief in the science of climate change stand out as important motivating factors driving substantive corporate response to the issue.

Chapter 1

Introduction

The focus of this dissertation is on corporate responses to climate change. In the words of Meyer and Rowan (1977), I ask: when does firm responses to climate change constitute "myth and ceremony" and when do their responses constitute substantive action? To answer this question, I examine corporate discourses and actions related to climate change, the gap between words and actions, and the reasons that may explain the existence and size of this gap.

An investigation of corporate responses to the issue of climate change is particularly timely given recent events. The Intergovernmental Panel on Climate Change (IPCC) released its Fifth Assessment Report (AR5) confirming the unequivocal warming of the climate system (IPCC, 2013), the U.S. Government released a national assessment of climate impacts, the U.S. and China (the worlds largest contributors to greenhouse gas emissions) agreed to reduce carbon emissions and the People's Climate March in New York City drew over 300,000 demonstrators. Furthermore, industry is the largest contributor to greenhouse gas emissions making it an important empirical setting (IPCC, 2014).

All of these events call into question the role of the corporation in society, particularly when addressing urgent, complex global challenges requiring multi-sectoral

responses such as climate change. I thus situate this dissertation within what must be a very brief review of the broad social developments surrounding the rise of corporations and corporate responsibility. I include as well a more contemporary review of the literature on environmental and social sustainability in organizations and climate change. (A review of other relevant literature such as institutional theory and institutional ethnography can be found in the following chapters).

As stated by Padro (2014): "While corporations are arguably the world's most influential institutions, this influence is accompanied by deep public skepticism about the nature of the corporation, the motivations of its leadership, and its ability to advance the public good. CEOs are among the least trusted leaders in society." The question of the market and the firm in society is of historical relevance, but is also salient today given the pervasive nature of corporations (Welker et al., 2011), their contribution to environmental and social challenges as well as the global multi-sectoral governance response required to address many of these challenges (Braudel, 1982; Lemos and Agrawal, 2006; Perrow, 1991; Polanyi, 1944; Smith, 1994 [1776]). Climate change is one such challenge.

The Rise of Corporations and Corporate Responsibility

Are markets natural?

Understanding markets as physical and socially constructed spaces is a central question of social theory and is a prominent feature in the classic writing of Adam Smith, Karl Polanyi, and Fernand Braudel among others. Taking a socio-theoretical and historical approach Polanyi and Braudel each call into question Smith's central proposition that the "invisible hand" of markets forces are natural, and it is human

tendency to "truck, barter and exchange" (Braudel, 1982; Polanyi, 1944; Smith, 1994 [1776]). Using examples of the kula ring from the Trobriand Islands, Polanyi argues that there are a wide range of market types and successes, and that the current market society is due to state and other social interventions, e.g. economic action emerges from social practice (Braudel, 1982; Polanyi, 1944). Braudel focuses on the markets and stock exchange of Europe to illustrate the cyclical, ritualized diffusion of market structures and argues that the "wheels of commerce" are really unstoppable (Braudel, 1982). It is worth noting that Braudel himself worked as an historian in a tradition of the Annales school of French historians, within which some of the first detailed studies of long term climate and environmental processes at regional scales emerged in Europe. We thus see that the question of environmental impacts on human institutions, and vice versa, enjoys a long and illustrious history when it comes to chronicling the emergence and development of capitalist systems.

The rise of the large corporation

As an extension of market theorization, the rise of the corporation has also received considerable classic and contemporary consideration from Karl Marx, Max Weber and more recently Talcott Parson (W. R. Scott and Davis, 2006b). Various functionalist, historicist, legal and organizational explanations are presented to account for the rise of the large corporation in the late twentieth century, many centering around the impact of the railroad.

In *The Visible Hand*, Chandler's central thesis is that large corporations proliferated when technology made it more efficient for the "visible hand" of management to coordinate functions once performed by the invisible hand of the market.

Chandler defines the modern business enterprise as having two distinct characteristics: "it contains many distinct operating units and it is managed by a hierarchy of salaried executives" (Chandler, 1977, p. 1). Through eight propositions he further explores the modern enterprise with an emphasis on administrative coordination, technology, consumer demand and efficiency (Chandler, 1977).

Critics acknowledge Chandler's contribution to our understanding of business history, however they also point to several gaps. They argue that in Chandler's treatment of historical events, items of social significance and the role of government as exogenous forces leads to several empirical problems: First "Chandler leaves no room for selective adaptation of technologies, and workplace arrangements by "managers" (e.g. declining innovation and efficiency), second, "…He fails to examine…the goals these managers pursue. He puts into the background the question of market control as a prime objective…" and third, " He effectively denies us the means by which we might assess the impact of the corporate system on the population at large and the socials costs produced…" (DuBoff and Herman, 1980, p. 92; Roy, 2001).

In *Organizing America: Wealth, Power and the Origins of Corporate Capitalism*, Perrow presents an organizational interpretation of the rise of large corporations. Perrow argues that two interrelated circumstances led to a unique corporate structure in the U.S. First, a weak state that allowed for concentration of wealth and power and did not provide regulation, and second, organizational reasons (e.g. organizations shaping the state with the dissolution of limited liability). Furthermore a non-homogenous elite, centralized capital, and an available wage dependent immigrant labor force were key to the formation of Perrow's *organizational society* (Perrow, 2005).

Finally, it is important to note the corporation is viewed as a special legal personality particularly in the United States: "the corporation is far better viewed as an immortal being with a soul, its existence and its personality distinct from that of both the individual and the state" (O'Melinn, 2006, p. 2). Historically, the legal debate has been centered around the concept of the corporation as a concession, e.g. property of the state and responsible for public good, vs. the corporation as a contract, e.g. an agreement among private parties with a primary goal of maximizing profit. Although the original mandate for U.S. corporations was to serve the public interest, the 1919 case of *Dodge vs. Ford* set a legal precedent for corporations to maximize shareholder value (O'Melinn, 2006; W. R. Scott and Davis, 2006b). This, as we shall see in subsequent chapters, creates the conditions for new forms of activism, and for social debates about the creation and management of value by corporations for shareholders, in relation to wider societal costs.

Friction, or Why Corporations Exist

As a final point of reference, it is also relevant to understand why firms exist, and how they determine their organizational boundaries. According to Scott and Davis, "A central theme in answering the question of why firms exist is the friction that arises between two organizations when they are mutually dependent" (W. R. Scott and Davis, 2006a, p. 234). Anthropologist Anna Tsing defines friction differently in her prize winning book by that title (2005), in terms of the sparks that are shed in the tensions between state and corporate interests and the social movements such as environmentalism (in her cases, forest conservation in Indonesia) that enable or constrain particular types of capital investment schemes. She describes social fields across which new forms of

environmental politics emerge, in turn shaping new possibilities and obstacles. This dissertation considers the more specific field of organizational and corporate theory in relation to wider anthropologies of environmental change within organizations, but also applies a particular ethnographic tool kit to the question of how and why firms are able to address broader social challenges.

In his classic work, "The Nature of the Firm," Coase aims to define the firm, and explain its existence given the presumed rationality of Adam's Smith's "invisible hand" (Coase, 1937). Coase defines the firm as "the system of specialized relationships which comes into existence when the direction of resources is dependent on an entrepreneur" instead of the market price mechanism (Coase, 1937, p. 393). Coase continues on to explain the existence of the firm as a response to the costly process of transacting (e.g. forming contracts) rendering the entrepreneur and internal economic transactions more efficient than the external market. The boundaries of the firm, and decisions about what to do inside a firm are based on these transaction costs: "a firm will tend to expand until the costs of organizing an extra transaction within the firm become equal to the costs of carrying out the same transaction by mean of an exchange on the open market or the cost of organizing in another firm" (ibid, p. 395).

Building on Coase's argument, Williamson further develops the determinant role of transactions costs in forming organizational boundaries (Williamson, 1987). Williamson equates transactions costs to friction in the economic system that can take the form of *ex ante* or *ex post* costs. His focus is on the contractual man including behavioral assumptions and corresponding dimensions of transactions costs. Williamson's explicit behavioral assumptions as related to transaction cost economics are bounded rationality

and opportunism. Bounded rationality suggests that actors are "*intendedly* rational, but only *limitedly* so" (March and Simon, 1958, p. xxiv). Williamson defines his second assumption, opportunism, to be "self interest seeking with guile" (Williamson, 1987, p. 47). Williamson argues that without these behavioral assumptions the world of transactions would be vastly different because information would be transparent or contracts could be governed by rules. The dimensions of transactions costs include asset specificity, uncertainty and frequency. Williamson argues that higher uncertainty and greater frequency of transactions increase costs and often make it more efficient for an organization to bring that transaction "in house." However, he emphasizes that asset specificity is the most important and costly element of the three dimensions as it results in organizational vulnerability due to investments in technologies that are not redeployable. Essentially asset specificity creates a "fundamental transformation" where an organization moves from having many potential suppliers to more of a bilateral relationship with a single supplier (ibid, p. 61). Williamson notes further that asset specificity can include site specificity, physical asset specificity, human asset specificity, and dedicated assets.

In his seminal article, "Economic Action and Social Structure: The Problem of Embeddedness," Granovetter argues "that most behavior is closely embedded in networks of interpersonal relations and that such an argument avoids the extremes of under-and oversocialized views of human action" (Granovetter, 1985, p. 68). More specifically, Granovetter focuses on economic behavior and the problems of trust and malfeasance. He places his argument in direct contrast with the transaction cost economists perspective as articulated by Williamson. Granovetter criticizes Williamson's

arguments as representing an "undersocialized," atomistic view of human nature as well for its functionalist tendencies (Granovetter, 1985).

The Rise of Corporate Social Responsibility

Notably absent from much of the literature related to the rise of the corporation, and organization of the corporate form is the externalization of social and environmental costs that accompanied the rise of large corporations. As recently as 1970, the social responsibility of corporations is to produce shareholder profit in Milton Friedman's words (Friedman, 1970). Although this paradigm has held important sway for decades other economists and corporate practitioners, have argued that business does have a greater role to play in society particularly in recent years. Henry Ford believed that "a business that makes nothing but money is a poor business," and even Jack Welch, former CEO of General Electric heralded as an exemplar of shareholder value theory, has recently come to be a strong critic of shareholder value calling the pursuit of short-term profits in the absence of a view of long-term value for a company "the dumbest idea in the world" (Denning, 2013). This duality of corporate purpose is nicely captured by Padro (2014):

> Throughout history, the corporate form has been used for constructive and remarkably diverse purposes: establishing settlements in the New World (Massachusetts Bay Company), building America's first railroads (The Granite Railway Company and The Baltimore and Ohio Railway Company, among others), bringing the automobile to the masses (Ford Motor), treating diabetes (Novo Nordisk), making air travel affordable (Southwest Airlines), and making the world's information accessible and useful (Google). However, an equally

> powerful narrative of the corporation views it as an engine of income inequality and a threat to the sustainability of our natural environment and the civic institutions charged with protecting society's interests. Both of these narratives hold a fair share of truth and are deeply rooted in historical experience. And yet both assessments are incomplete on their own.

While corporate philanthropy is not new, corporations increasingly view issues of Corporate Social Responsibility (CSR) or sustainability, as strategic business issues (Garsten and Hernes, 2008; Hart, 1995; Hoffman, 2001a; Porter, 2006). For example, the potential value gained vis-à-vis CSR related activities such as climate actions and reporting for corporations includes carbon and associated energy savings, reputational advantages and potentially new revenue streams (Hart, 1995; Hoffman, 2001a). Furthermore, climate change- as with other preeminent CSR issues- is an environmental problem of global urgency and companies are increasingly responding to societal and governmental calls for action on the topic via new forms of hybrid governance (Jagers and Stripple, 2003; Lemos and Agrawal, 2006). However, the emergence of CSR activities has not always been voluntary. In many instances, external shocks such as Greenpeace protests to the sinking of Brent Spar for Shell, consumer boycotts of labor practices at Nike or publication of Rachel Carson's *Silent Spring* for the Chemical Industry have provided the impetus for coordinated activity (Hoffman, 2001a; Porter, 2006).

Yet much remains to be studied about how CSR actually works, particularly from an economic standpoint (Lyon and Maxwell, 2008; Margolis and Walsh, 2003;

Reinhardt, Stevens, and Vietor, 2008). Furthermore, it is unclear whether CSR related actions and disclosure are material (Davis and Anderson, 2008; Lyon and Maxwell, 2008; Margolis and Walsh, 2003; Reinhardt, et al., 2008). Recent review articles capture the relatively long history of scholarship on organizations, corporate social responsibility and the natural environment (Bansal and Gao, 2006; Margolis and Walsh, 2003). The landscape has changed considerably from the beginning when theorists advocated for fundamental change in they ways that organizations acted in order to reduce their impacts, to a focus on the business case for environmental actions to a more normative conversation (Gladwin, Kennely and Krause, 1995; Hart, 1995; Hart and Ahuja, 1996; Hoffman, 1999; Howard-Grenville, 2012; Lounsberry, 2001; Porter and VanLinde, 1995; Reinhardt, 1999; Sharma, 2000; Shrivastava, 1995). The studies included here explore nuances in corporate discourse, underlying assumptions and aspirations that shape their action, and circumstances that determine chronologies of action by a given company (in this case, Ford) with many broader social consequences, particularly where the corporate economy in question dwarfs some national scale economies.

Climate Context

To understand corporate responses to climate change one must understand several key facts about contemporary causes and perceptions of climate change, understandings of which are shifting rapidly.

First, both conventional and greenhouse gas emissions are on the rise as a result of human consumption of nonrenewable fossil fuels. [1]

[1] In the terms of the IPCC Fifth Assessment Report (IPCC, 2013 pg. 5 and 17):

Second, in addition to increasing corporate attention to the issue, public awareness of climate change and its associated impacts is also changing. Public perception is particularly important, as related consumer pressures and reputation moderate corporate attention to the issue of climate change. In particular, 2007 and 2008 were pivotal years for public and corporate perception of climate change, arguably more so than any previous years until this past year. On one hand, numerous events prompted more action and public awareness. The Nobel Prize was awarded for climate change work, Al Gore won an Oscar for his climate change documentary, "An Inconvenient Truth," the Intergovernmental Panel on Climate Change (IPCC) issued its fourth assessment of the risks related to climate change, and oil prices passed $100 per barrel creating a tipping point for the already growing consumer interest in the issue of climate change. Seventy-one percent of U.S. citizens said they believed in the science of climate change at the beginning of 2008 (Pew Research Center, 2009). However, this increase in attention also marked the beginning of renewed skepticism and debate about climate

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> Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased… Each of the last three decades has been successively warmer at the Earth's surface than any preceding decade since 1850. In the Northern Hemisphere, 1983–2012 was likely the warmest 30-year period of the last 1400 years (medium confidence)…It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century.

change, especially in the United States (Hoffman, 2011). A series of events "galvanized the climate denier movement and created confusion within the general public" (Hoffman, 2011): starting with "climategate" that charged scientists had manipulated data about climate change and continuing with ethical concerns about the IPCC reports and leadership. These events led to greater mobilization of the climate denier movement and a decrease in public belief in climate change. Belief in the science of climate change declined from 71 to 57 percent among Americans between April 2008 and October 2009 (Pew-Research-Center, 2009). It is also worth noting that even more recently a national study of American public opinion on climate change found that belief in climate change was on the rebound, with 62 percent of Americans believing that temperatures on the planet were increasing and 26 percent opposing this view. Lest we conclude that this reflects new or widespread openness to scientific research, it seems that half of Americans believe that climate change is occurring as a result of their personal experiences with temperature changes and weather (Rabe, B. et al. 2012).

However derived, the diversity in understanding of, commitment to address, and public alignment around climate change exists globally as well. For example significant public debate is ongoing in several countries, with resistance to international legislation coming from developed and developing countries alike, and uncertainty about global cooperation on the issue remains. Given this lack of broader alignment, public stakeholder pressure on companies about whether and how to address climate change is diverse, at times conflicted, and inconsistent. This places corporations at a challenging crossroads: do they take action to address climate change? If so, how do they talk about it publicly? More importantly what do they do in response?

Although each chapter represents an independent study, there are two themes that run through the dissertation: climate change, and corporate responses to it. The empirical studies in the dissertation examine the "words-and-action" gap in corporate efforts to address climate change. First, I do so through a study of Environmental Protection Agency Climate Leaders participants examining predictors of decoupling in climate change discourse and actions. Based on constructs developed in this first study, I then broaden the lens through which to examine the issue with analysis of the logics through which corporations view climate change as reflected in their sustainability reports. Finally I present a case study of Ford Motor Company and their journey from symbolic to substantive climate change response to better understand the mechanisms and tensions underlying such change. Ford is also a recipient of the EPA's Climate Leaders Award. Throughout all of these chapters, the themes of opportunity and belief in the science of climate change stand out as important motivating factors driving substantive corporate response to the issue. These studies are described in more detail below.

Chapter 2: Decoupling Discourse and Actions: A Study of Environmental Protection Agency Climate Leaders' Participants

This study examines how firms decouple climate change discourse and actions. It does so by analyzing surveys and interviews with firms participating in the U.S. Environmental Protection Agency's (EPA) Climate Leaders program. The paper situates its arguments in the existing literature on decoupling that has examined a variety of contexts in which actions of firms diverge from their statements. The study provides an assessment of when and why firms are likely to decouple climate discourse and action. Little prior research examines decoupling in the context of broad sustainability

challenges. We find that market opportunity and belief in the science of climate change are predictors of positive climate change action (or coupling), and mere risk perception is insufficient to motivate action and predicts decoupling. Our analysis suggests that voluntary programs such as the Climate Leaders play a useful role in encouraging early climate action, but are not able to sustain substantive climate action on their own. This limitation suggests a concurrent need for regulation.

Chapter 3: The formation of multiple institutional logics: An examination of corporate climate change reporting

In this study we use sustainability reports to examine the underlying logics of corporations addressing climate change. We explore these logics over time as addressing climate change emerges as a legitimate corporate action. We find that there are four logics that guide corporate responses to climate change: efficiency, opportunity, risk avoidance, and conservation. The efficiency and opportunity logics co-exist with each other, complementing various potential strategies. On the other hand, the risk avoidance and conservation logics are more exclusive and offer competing views of climate change and the role of corporations in addressing it. This work contributes to our understanding of how multiple logics are formed, compete and transform over time, and translate into potential future corporate reactions to climate change.

Chapter 4: Changing Corporate Cultures: Ford Motor Company's Response to Climate Change

In this chapter I draw on institutional ethnography and institutional theory along with theories of corporate change to understand Ford's response to climate change over time, and its movement from symbolic to more substantive action. It articulates Ford's how and why over the course of a decade the company moved from issue acceptance, to

recognition of their role and finally opening up to opportunity and scaling of solutions. Findings are used to develop a model of change that both expands and refines previous theory. I advance a model of change from decoupling to coupling, and symbolic to substantive action that is emergent, ongoing and pluralistic, resulting from multiple interactions within the firm, with stakeholders, and external conditions that are characterized by friction.

In sum, the three studies respond to calls for problem-centered organizational research (Davis and Marquis 2005). They also aim to address the gap in the literature focused on whether corporate social responsibility leads to enhanced financial performance (Margolis, Elfenbein and Walsh, 2009). By positioning climate change as a cultural issue rather than focusing on economic and technical aspects of the problem, these studies provide a better understanding of the deep cultural forces impacting organizational response (or non-response) to climate change. In this way, these studies contribute to our understanding of the elements that influence organizational responses to climate change and possibly lead to culture change.

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Chapter 2

Decoupling Discourse and Actions: A Study of Environmental Protection Agency Climate Leaders' Participants

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INTRODUCTION

In an early, foundational article on institutional theory, Meyer and Rowan (1977) show that organizations can separate, or decouple, their formal structure from their actual work activities to enable greater operational flexibility. Decoupling allows organizations to maintain legitimacy with important stakeholders when facing uncertainty. Despite the importance of decoupling to institutional theory, there is relatively little research on the subject (Scott, 2001; Westphal and Zajac, 2001).

The paucity of research that identifies when and why organizations decouple their actions from their public pronouncements is also visible in writings on climate change, despite the growing scholarship on the subject. The present study addresses this gap in the literature, and analyzes surveys and interviews with participants in the U.S. Environmental Protection Agency (EPA) Climate Leaders Program to examine firms' decoupling of climate change discourse and actions.

Observing decoupling means understanding not only how plans and policies are developed, but also the subtle ways in which companies disconnect their practices from those policies. The latter step can be difficult, and thus previous studies of decoupling are primarily qualitative in nature (Westphal and Zajac, 2001). Early studies examine the decoupling of formal procedures from everyday teaching and administrative routines in educational institutions (Meyer and Rowan 1977), and decoupling of affirmative action policy statements from actual hiring practices in a small liberal arts college (Edelman et al., 1991). Westphal and Zajac (1994 and 2001) conducted the first large scale investigations of decoupling, examining chief executive officer (CEO) incentive programs and stock repurchase plans. They find that CEO power relative to the Board of Directors is an important determinant of decoupling for incentive programs (Westphal and Zajac, 1994). This finding remains true for stock repurchase programs, and is also influenced by experiential learning and social awareness (Westphal and Zajac, 2001).

Climate change provides a generative context to study decoupling because of the high level of uncertainty for businesses about the appropriate course of action, despite the scientific consensus about the urgency of the problem. There are no federal regulatory standards in the U.S., leaving only voluntary mechanisms such as EPA Climate Leaders program. But although federal regulation is mostly absent, there are growing regulatory pressures at the state level and increasing pressure from investors, non-governmental organizations (NGOs) and consumers. Climate change has been broadly acknowledged as potentially leading to a market transition that will create both threats and opportunities for organizations (Hoffman 2005; Kolk and Hoffmann 2007). This study seeks to explain why and when decoupling is more likely to be observed amongst a group of companies

participating in the EPA's Climate Leaders Program. This study also aims to contribute to the larger body of knowledge concerning when, why, and how decoupling works in organizations, in general.

Participation in the EPA Climate Leaders program was voluntary, but participating companies were required to commit to annual greenhouse gas emissions accounting and reporting and to setting reduction goals. However, the program did not require participants to specify scientifically determined emissions reduction goals, or even to meet such goals. Therefore, participating in the Climate Leaders program did not guarantee implementation of and action on climate goals and strategies. It could, however, alleviate pressure from NGOs, investors and government regulation by signaling climate leadership. Participating was therefore at least partially symbolic, and can be viewed as indicative of decoupling, since participating companies were encouraged to develop new discourse (on climate change) without needing to "prove" subsequent actions related to that discourse. Therefore, this study seeks to address the following research questions: Why do some firms who have signed up for a voluntary initiative like EPA Climate Leaders and espouse concern still avoid taking action, while others substantively implement climate actions? When is decoupling likely to occur in this situation? And, what is the role of voluntary programs like the EPA Climate Leaders in promoting sustained climate action?

THEORY

Insights from three sets of literature are useful for the analysis of decoupling – that from institutional theory, studies of organizational and industry self regulation, and work on organizational responses to climate change.

Institutional theory

Neo-Institutional theory (referred to as NIT or Institutional theory in this paper) focuses on the way that organizations are shaped by social, political, and cultural forces. More specifically, Institutional theory addresses the role of norms, regulations and culture in promoting orderly behavior in institutional systems[2] (Scott and Davis, 2006). The result is that within organizations, products, services, techniques, policies and programs are institutionalized and social processes take on a rule-like status (Meyer and Rowan, 1977).

Institutional theory is built on the concept that organizations have vested interests in survival. Survival is predicated on the attainment of resources based on the support of a constituency, e.g. the organization must be viewed as legitimate by its constituency to gain the resources necessary to survive. Legitimacy[3] is created via myths and ceremonial activities, including the creation of narratives that fit within larger socially accepted scripts (Meyer and Rowan, 1977).

Institutional theory also predicts that organizations adopt practices that are viewed as legitimate to reduce uncertainty: "organizations tend to model themselves after similar

[2] Scott defines institutions as "cognitive, normative, and regulative elements that, together with associated activities, provide stability and meaning to social behavior" (Scott, 2001, p. 48).

[3] Legitimacy "is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995, p. 574)

organizations in their field that they perceive to be more legitimate or successful" (DiMaggio and Powell, 1983, p. 152). In this conception of corporate structure, firms converge and begin to look alike, similar to plants in the ecological sense of isomorphism, based on their quest for legitimacy rather than purely on competitive bases. Isomorphism is most commonly conceived as mimetic, but may also be coercive or normative (DiMaggio and Powell, 1983).

Adherence to institutions, however, can hinder efficiency, according to Meyer and Rowan (1977): "…quite apart from technical efficiency, organizations which innovate in important structural ways bear considerable costs in legitimacy." Organizations may therefore "decouple these formal structures from actual, ongoing practices in the organization to buffer internal routines from external uncertainties, thus enhancing flexibility while still maintaining legitimacy with important external constituents" (Westphal and Zajac, 2001). Furthermore, as long as an organization can convince its constituency of its legitimacy with mythical storytelling and ceremonial acts, decoupling (or inconsistency of narrative and action) is irrelevant. To maintain efficiency, as well as "ceremonial conformity" organizations can decouple their formal structure and their actual work actual activities, such that the formal structure reflects the "myth of institutions" rather than the demands of work activities. Behind this myth, the formal structure is loose, rules are violated, and decisions are often unimplemented (Meyer and Rowan, 1977).

Westphal and Zajac (2001) draw attention to a variety of ways companies actively use symbols to influence the perception of external constituencies:

> Symbolic action can range from relatively extreme forms of institutional decoupling, such as the non-implementation of formal policies that affect the technical core of the organization (Meyer and Rowan, 1977), to relatively subtle forms of decoupling that involve taking actions that are inconsistent with the spirit of a formal policy, although perhaps still consistent with the letter of the plan.

Although prior research has not directly examined organizational decoupling in the context of climate change, several studies find no direct correlation between firms' carbon intensity and response to climate change. Instead, firms opt for short-term solutions and strategic flexibility to mitigate perceived uncertainty (Hoffman, 2007). This historic lack of alignment between climate performance and response suggests potential decoupling by firms (Bansal and Clelland 2004). These authors argue that institutional pressures (i.e., the need to maintain legitimacy in the eyes of constituents) matter when motivating organizations to respond to climate change, even more so than the issue itself (Bansal and Clelland 2004).

Organizational responses to climate change

Studies of corporate environmental discourse and actions suggest that businesses have responded to climate change in many different ways. Virtually all studies acknowledge that businesses accept climate change as an important global issue but differ in both the intensity of their expressed concern, and the tools needed to combat potential negative effects of climate change.

For much of the 1990s, businesses adopted a "wait and see" approach to climate change; by the 2000s, companies were increasingly aware of the issues, but still had little desire to overhaul their business strategies and plans in favor of low-carbon business models and this is still primarily true today (Ihlen, 2009). Among companies that seek to act on climate change, Kolk and Pinske (2004) find there are two types: those that focus on innovative ways to reduce emissions ("improvements in processes, products, product or product/market combinations"), and those that focus on compensation ("external or internal emission trading, and other forms of offsets"). They also find that companies differ in terms of how they attempt to achieve these objectives, whether at the individual company level and within their own supply chain, or with other companies in different sectors.

Ihlen (2009) finds that the simple *recognition* of the climate change issue may serve to legitimate a business. Since corporations are often seen as part of the problem, citing scientific studies and rhetorically purporting to "act in line with the scientific consensus" ameliorates that view. One of the primary forms of this corporate recognition of the climate issue is through accepted disclosure mechanism, such as reporting. Kolk *et al* (2001) find that a decade ago reports of positions on environmental issues were only conducted when required. Reporting conventions are, however, rapidly changing and in 2013, ninety-three percent of the 250 largest companies in the world issued sustainability or corporate responsibility reports, with over a quarter (27 percent) of these companies being headquartered in the U.S. and two-thirds of the non-reporting companies being in the U.S. (KPMG, 2013). Further, while industrial firms (e.g., mining, utilities,

electronics, automotive, and forestry) report the most, reporting is now the norm for all sectors included in a recent KPMG survey (2013).

While reporting is a critical step (and often the first one that companies take) in acknowledging climate change as an important issue, Cogan (2006) argues that corporations must also reduce the "governance gap" whereby actions and policies are made for the short-term and long-term climate implications are ignored. Governance *within* a company related to climate change is also lacking as revealed by the CDP (formerly the Carbon Disclosure Project) in a 2008 report: "climate change is still not a regular agenda item for most Boards. It is commonly discussed two to four times a year at formal meetings, rather than being a routine Key Performance Indicator." The absence of Board level discussions about climate change performance through long-term planning, precisely illustrates the governance gap as a form of decoupling.

Similarly, Makovsky and Company's 2008 survey of senior Fortune 1000 executives finds a disconnect between executives' personal beliefs that climate change is real and requires action, and their company's actions to address it (e.g. educating its employees and cutting emissions rates). They call this the "green gap." Yet another study revealed that while 80 percent of the U.K. FTSE 100 identified climate change as a business risk in their corporate responsibility report, the majority of these businesses had yet to develop an actual target of emissions reductions (Carbon Neutral Company report, see Armstrong, 2006). This pattern is widespread (Kolk and Hoffman 2007). However, at odds with executive views on climate change, several studies on individual managers' perceptions of risk suggest that the issue of climate change, with all of its uncertainties, is *not* viewed as a salient issue (Bansal and Roth, 2000; Hill and Thompson, 2006). It is

possible that these gaps, which are essentially another form of decoupling, result from larger issues of leadership; after all, decision-making tools do not make decisions, managers do (Hill and Thompson, 2006). As expanded upon in the discussion section, the findings of this paper are relevant to the observed green gap and governance gap in the literature; decoupling provides a possible explanation of these gaps.

Organizational and Industry Self-Regulation

Finally, in order to address our third research question and better understand the role of voluntary programs, like the EPA Climate Leaders, in promoting sustained climate action we turn to the literature on voluntary, market based programs and self-regulation. Over the past twenty years, increasing international mandates have resulted in stricter greenhouse gas emissions requirements. Most notably, the United Nations Framework Convention on Climate Change devised the Kyoto Protocol to cap greenhouse gas emissions to 1990 levels. However, the United States and others (e.g., India and China) have refused to sign the Kyoto Protocol (United Nations Framework Convention on Climate Change Kyoto Protocol, 2008). However, the United Nations negotiated additional mandates in 2011, which are due to be adopted in 2015. In the meantime, many developed nations are already setting substantial emissions targets of their own, surprisingly and most recently including the U.S. and China. However, these targets are often not adhered to strictly. In sum, the lack of formal or mandated climate policies at the international level and federal level in the U.S. has, opened the door for alternative ways for corporations to participate in socially responsible business. The proliferation of voluntary, market-based mechanisms suggests that international

agreements are no longer the "only game in town" (Jagers and Stripple, 2003; Lemos and Agrawal, 2006). According to Short and Toffel (2010, pg. 361):

> The existing literature provides a rich empirical and theoretical account of how and why…"self-regulatory" structures emerge and diffuse broadly across organizational fields but leaves unanswered the key question of whether they actually change organizational behavior to conform to legal or normative ideals. This question has become especially pressing as corporate internal compliance structures are increasingly integrated into twenty-first-century regulatory design. In an era of mounting regulatory demands and shrinking regulatory budgets, government agencies have encouraged companies to adopt self-regulatory structures in the hope that they will increase compliance and achieve regulatory goals.

There is general consensus in the literature that self-regulation can both institutionalize norms and act as a vehicle for undermining regulation (Selznick, 1992). And, it is the question of when one should expect one vs. the other outcome that we are interested in addressing in this paper. Previous studies of corporate environmental discourses and actions suggest that industry self-regulation and voluntary programs are viable solutions to the lack of political consensus on addressing climate change (Brunner and Klein, 1999; Clinton and Gore, 1993). For example, self-regulatory structures can create a "corporate conscience" by institutionalizing norms in institutions (Selznick, 1992, pg. 352; Stone, 1975). Furthermore, voluntary compliance programs are supplemented by external monitoring and reporting to reduce information asymmetry

between groups and encourage accurate assessment of risk Katz et al (2009). Seong-Gin (2008) found that in the early stages of a voluntary program, corporations are driven by the potential to gain "a green reputation." Those that join voluntary programs later are driven by institutional motives, including the desire to improve relationships with regulatory agencies and avoid the embarrassment of looking "environmentally unfriendly." This suggests, for example, that we might expect more decoupling among late joiners of the EPA Climate Leaders who are looking to avoid negative pressure from regulators, than those that joined early because they saw reputational opportunities. Other authors argue that self-regulatory structures allow companies to circumvent and undermine the law (Edelman, Fuller, and Mara-Drita, 2001). This work points to the need for external regulation and compliance requirements for voluntary programs to have a systematic effect, and suggests that voluntary programs do not have a systematic effect in the absence of external constraints.

SETTING

EPA Climate Leaders

Begun in 2002, The Environmental Protection Agency (EPA) Climate Leaders program was an incentive based, voluntary program with over 200 participating companies. Under the program the agency provided services to participating companies including free technical assistance with setting greenhouse gas reduction goals, public recognition, and peer networking opportunities at an annual conference. In exchange, companies committed to reducing scope one and two emissions by completing annual greenhouse gas emissions accounting and reporting and setting reduction goals. As described by the EPA, Climate Leaders was an:

> …industry-government partnership that works with companies to develop comprehensive climate change strategies. Participating companies commit to reduce their impact on the global environment by completing a corporate-wide inventory of their greenhouse gas emissions based on a quality management system, setting aggressive reduction goals, and annually reporting their progress to EPA. Through program participation, companies create a credible record of their accomplishments and receive EPA recognition as corporate environmental leaders. (EPA Climate Leaders, 2010)

The program was originally designed for large commercial operations. However, increased membership of small businesses occurred in the later years of the program, and, over time, some exceptions to membership were made for government organizations such as the EPA to participate in its own program. The EPA declined membership to NGOs, academic institutions and others non-commercial organizations due to a lack of resources and a declining budget.

On top of the technical nuts and bolts of the program, the EPA aimed to advance a "big picture theory of change" according to a program official (interviewed by Krista Badiane and Arun Agrawal, February 24, 2010). Public recognition was a key incentive of the Climate Leaders program. While companies often joined the program for technical assistance, they later wanted the EPA "good housekeeping seal of approval." The EPA recognized companies who set and achieved goals in a relatively modest way by drawing public attention to their accomplishments through their website and press releases. The

EPA wanted companies to compete for EPA recognition as a climate leader. According to the official:

> We want to have an impact not only on companies' climate footprint, but the sector as a whole. For example one of the [Climate Leaders] partners is Kohl's. They have pledged to go carbon neutral – maybe Walmart will want to follow. We would like to see that kind of impact. The program is about a notion of leadership, and that is why the EPA imprimatur is important. We don't care what the sector is…we want companies to compete with each other for the EPA "good housekeeping seal of approval".

While the EPA was interested in motivating companies to undertake significant greenhouse reductions, the technical focus of the program remained on setting emissions goals and an annual inventory and reporting. Goal setting, a key component of the program, varied considerably among members. The EPA accepted both absolute and normalized goals for membership to Climate Leaders. However, in 2010 they were aiming to move towards only absolute goals despite debate and opposition from member companies. The goal-setting process began with the company completing a standardized goal-setting form and submitting it to EPA. The proposed goals were tested against an EPA model of emissions in the company's sector, and compared to other company goals as well as projected growth. The EPA often discussed whether the goals were stringent enough with the company, and occasionally companies who did not want to set more aggressive goals opted to not join the Climate Leaders.

According to the EPA official, "the experience of the program is mixed." Of the over 200 members in 2010, the EPA official estimated that approximately 130 were doing a pretty good job or an exceptional job reducing their carbon emissions. However, not all companies participating in the program were climate leaders, according to the official. They stated that some companies were laggards, and were likely to get tossed out of the program– maybe a dozen in the quarter following our interview in 2010. They pointed as an example to the different ways that companies staffed their climate programs, with some companies devoting staff resources and doing a great deal, while others were doing significantly less.

The Climate Leaders program was phased out in 2011, and the EPA encouraged participating Climate Leaders companies to transition to state or non-governmental programs. In a September 2010 announcement the EPA stated their reason as the creation of "many new… regulatory and voluntary programs that address greenhouse gas (GHG) emissions, including the first-ever mandatory greenhouse gas reporting rule that took effect on January 1, 2010. In addition, several states and non-governmental organizations (NGOs) now offer climate programs that are now robust enough to serve companies in the Climate Leaders program." (Environmental Protection Agency, 2010). The EPA committed to staying involved in initiatives to support companies' actions to reduce greenhouse gas emissions through programs such as Energy Star and the Green Power Partnership. The agency also stated that they will continue to "promote, support, and recognize climate leadership" (Environmental Protection Agency, 2010).

Climate Leaders is an interesting study subject, even in its now-defunct state, as it provides insight into decoupling of climate discourse and actions by companies. It is one

of the oldest voluntary programs for addressing climate change. Understanding decoupling is particularly interesting in this case given the voluntary nature of the program, and the agency recognized leadership of the companies involved. Furthermore, the demise of the program allows us to gain a better perspective on the program than would have been possible during the time it was functioning, and allows us to have more confidence in interview reports about how respondents considered the issue of decoupling, since the now-former participants presumably could speak with more honesty about their participation because they were no longer at risk of being asked to leave the Program.

METHODS

We designed an online, 30-question survey using Qualtrics and subsequently revised the survey based on feedback from the Director of the Climate Leaders program. We distributed the survey via an email and hyperlink in April 2010 to approximately 200 companies participating in the EPA Climate Leaders program and 38 respondents completed the survey. Respondents are from a variety of sectors and sizes, and include a mix of program maturity. Therefore they are likely to be representative of the broader Climate Leaders population. The final question on the survey asked respondents if we could contact them for an interview.

We conducted semi-structured, open-ended interviews with 10 company representatives and an EPA official from the Climate Leaders program via phone between February and September 2010. Company representatives participating in interviews were primarily from the Environmental Health and Safety or Sustainability

Office and ranged from management level to Vice-President. Interviews averaged one hour for each participant. The purpose of the interviews was to develop a descriptive account of the views of corporate actors and decision makers – particularly those in the environmental sustainability units of the relevant companies – about their firms' climate related challenges and opportunities and related actions.

Subsequently, we analyzed the bivariate relationships in STATA using chi-square and Fisher's exact tests to examine relationships between corporate climate related discourse and actions. Inductive content analysis was completed using interview data. As the interviews elaborate on the survey questions, we present both sets of data together, for each of the following: discourse, actions, and the relationship between discourse and actions. While discourse has a weighted history and use, here we use it to describe a firm's narrative of climate change including statements, perspectives, and representations.

RESULTS

Survey respondent demographics, a summary of discourse and action variables and key findings are provided in the tables below.

Survey Respondent Demographics

Ninety-five percent of the respondents were based in North America, and 70 percent were male. Table 2.1 describes respondents' education, sector, and tenure.

Table 2.1
Survey Respondent Characteristics

Education		**Tenure**	
41%	BA/BS	47%	>5 years
51%	MA/MBA	11%	6-9 years
8%	PhD	32%	10+ years

Sector

29%	Transportation/manufacturing
18%	Oil, energy, chemicals
16%	Aerospace/IT
13%	Consumer goods
5%	Health, pharmaceutical
3%	Forest products
16%	Other/unknown

Discourse

Nearly half of the respondents viewed climate change as the top environmental issue affecting their company, and 92 percent of respondents viewed climate change as one of the top three environmental issues affecting their company. Over half of respondents viewed climate change and how to respond to it as one of their company's biggest challenges. While the majority of respondents see climate change as *already* affecting their businesses, almost 20 percent of leaders do not see climate change as affecting their business for 10-20 years.

Respondents overwhelmingly saw climate change-related opportunities for their company in energy efficiency, reputation and competitive advantage. Eighty-two percent of respondents believe that their company faces regulatory risk related to climate change. Interview respondents frequently cited regulation and physical risks as the greatest risks facing their company related to climate change. However, few respondents believed that they were currently constrained by regulation - regulation was more commonly framed as

a burden or bureaucratic challenge, rather than a real motivation to change actions. Interview respondents most frequently cited finances as their primary constraint, while viewing new market opportunities in a low carbon economy as the greatest opportunity. Finally, 78 percent of respondents believed that scientific findings of the Intergovernmental Panel on Climate Change (IPCC) merit actions by both the government and their own corporation.

> What we learned from EPA for air regulation is true to carbon. And regulation drives innovation. A single regulation for greenhouse gases provides clarity. We would prefer one regulation.-- Company E

> We believe in climate change. We think that there is enough science out there and enough things we have seen with our own eyes that man does have an impact on the environment. We will make every effort to address climate change while still making money. For the time being our decisions are made to reduce or change materials to reduce climate change within financial constraints…we might get to a point where this is no longer possible…at this point climate change will win.-- Company B

> I wouldn't say [we are] constrained [by regulation]. I think that I personally and the company feel that the proliferation of regulations around the world and their increased frequency and demand are hard to remain current on and are a challenge for our operating objective…The biggest [climate related] risk would be not

setting yourself up for regulation that comes and inhibits your competitiveness.-- Company A

While financial and regulatory pressures directly related to climate change are not yet promoting climate action, other pressures may act to *inhibit* climate action. Several interview respondents referred to shareholder pressure, and the need to find projects that had a 3-year return on investment as reasons for not implementing certain climate actions. Other respondents referred to the need for regulation to "level the playing field" among their competitors.

I feel that we are aware of it [climate change], somewhat proactive, but not as proactive as we could be. The primary reason for that is the economy. When I came onboard in July 2008 it was full steam ahead, I had a healthy budget and support and within 6 months that all went away because the economy tanked. But it will come, it's just a matter of time and priorities for our company.-- Company I

If I were chairman I would go even further; I might do some solar projects and some wind projects that wouldn't pay back in a timely manner. Why would I do a project that didn't pay back in 3 years? Because if there is another oil shock I would be laughing all the way to the bank.-- Company D

Until there is a regulatory mandate [for climate action] publicly traded companies need to show the business benefits of the actions. You have to be competitive in the marketplace. So unless all companies are affected equally through regulation

or tax on carbon you can only do things that make you more competitive.--Company C

Actions

There is some confidence in the effectiveness of respondent's company's current efforts to mitigate the effects of climate change: 54 percent somewhat agree and 29 percent completely agree that their company's business strategy will successfully mitigate the effects of climate change. Moreover, 32 percent completely agree and 62 percent somewhat agree that their company is taking all of the appropriate steps to address climate change. However, when it comes to corporate governance 46 percent of respondents indicated that climate change rarely comes up in executive meetings; 43 percent said that it comes up regularly while only 8 percent said that it comes up in every meeting.

Companies are undertaking a variety of actions to address climate change. The five most common actions taken to address climate change include office and manufacturing energy use reductions, measuring greenhouse gas emissions, reporting, setting greenhouse gas targets, and conducting a greenhouse gas emissions inventory. A summary of corporate actions and related frequencies can be found in Table 2.2, based on respondent selections from a list of actions provided in the survey. Sixty-eight percent of respondents indicated that their company produces a public report of climate change practices. Over half (57 percent) of respondents have a small department (1-5 persons) responsible for climate change issues, while nearly a quarter of respondents (24 perent) have multiple departments working on the issue together. Similar to survey findings,

interview respondents described processes for maintaining corporate-wide dialogue and action related to climate change including cross-departmental teams responsible for managing climate change reporting to executive committees. Most respondents stated that the greatest climate related impacts for their company result from operating their facilities. Interview respondents demonstrated a great deal of awareness about the source of their companies' impacts, and referred to consistent measuring (of scope 1 and 2 emissions), auditing, monitoring and reporting of these impacts. Respondents most commonly addressed these impacts through facilities management such as efficiency improvements, energy saving technology, product innovation, employee engagement, travel reduction and purchasing offset. One company was carbon neutral as a result of these combined actions.

> We've institutionalized this [climate action] and live it day to day; we have green police in every facility; hopefully everyone has the habit now; but at least once a month we find things that don't belong in recycling.-- Company G

All interview respondents described their company as having a formal environmental, health and safety (EHS) policy. These policies were primarily broad and global in scope, and commonly focus on water, waste and energy. Most companies did not have formal sustainability or climate change policies in place. However respondents indicated that climate change and sustainability are a more recent part of the broader EHS policy.

Table 2.2
Climate change actions

Action	Count(Percent)
Office energy use reduction/use of recycled material	37 (100)
Measuring greenhouse gases against a baseline	34 (92)
Participation in voluntary reporting practices	32 (86)
Setting future greenhouse gas targets	31 (84)
Conducting greenhouse gas inventory	30 (81)
Manufacturing innovations/energy reductions	28 (76)
Technological changes	26 (70)
Networking/sharing best practices	26 (70)
Innovative products	25 (68)
Changes in supply chain	22 (59)
Environmental advising/committee established	16 (43)
Business travel reduction	15 (41)
Donations to environmental groups	15 (41)
Registering emissions savings and offsets	13 (35)
Other	2 (5)

Climate action strategies are primarily focused on cost saving and incremental improvement measures rather than transformational change. A few companies that were privately held or family owned appeared to be taking a longer-term strategic view of climate change. Unlike Kolk and Pinske (2004), we found that companies do not fall into two types; rather most of them undertake a combination of conservation, innovation and purchasing offsets, suggesting a movement towards more inclusive climate change strategies. All of the companies interviewed are tracking their operating emissions, setting targets and reporting their progress in sustainability reports, to the Carbon Disclosure Project and the EPA. Similar to Armstrong's (2006) findings, most companies

are setting relative, intensity based targets rather than absolute targets. Companies indicated that it was difficult to set absolute targets because of anticipated growth.

Competitive advantage, reputation and regulations motivate respondents to address the issue of climate change, however the latter does not necessarily motivate leaders to partake in partnerships- those are driven primarily by competitive advantage and reputation. Similar to survey findings, interview respondents commonly cited business benefits (e.g. cost savings), responding to regulation, customers, employees (e.g. recruitment and retention benefits), reputation, and preparing for the future as motivations for addressing climate change. In addition, interview respondents cited CEO or ownership passion for addressing the issue, and that it was "just the right thing to do" as reasons for their companies' climate actions.

> [Addressing climate change] is good for business and good for our business. We also believe our greenhouse gas emissions are equivalent to 30 million to the bottom line. The other thing is that it's the right thing to do. Given our history of corporate responsibility it's important because it's motivating [to employees].-- Company E

> There is only one bottom line, and sustainability equals profitability. Being profitable allows you the opportunity to do things that are good…I think this [addressing climate change] is very important for national security and for the bottom line and shareholders.-- Company D

Thirty-six of the 38 companies stated that their company engages in at least one partnership that is focused on climate change, in addition to EPA Climate Leaders. Respondents listed government programs (EPA Climate Leaders and Department of Energy Save Energy Now) as well as several non-profit organizations (Chicago Climate Exchange, CDP, Conservation International, World Wildlife Fund, The Nature Conservancy, Environmental Defense Fund, World Resources Institute, Pew Center on Global Climate Change) and academic institutions as their primary partners. Interview respondents also referred to climate related partnerships as forums not only for networking and benchmarking but also as means of supporting corporate climate related actions and staying "rigorous" in their own actions.

> We participate [in climate partnerships] mostly to not only get third party perspective on results and performance, and how we are performing and to support the work of others. These [partnerships also] keep us rigorous.--Company F

Tables 2.3 and 2.4 provide a summary of the key discourse and action variables and measures of interest for this study.

Table 2.3
Discourse variables and measures of interest

Variable (variable name)[description]	**Response**	**Count (Percent)**
Sector (sector)[categorical variable with 7 levels]	Transportation/ manufacturing	11 (29)
	Oil, energy, chemicals	7 (19)
	Aerospace/IT	6 (16)
	Consumer goods	5 (13)
	Health,	2 (5)

	pharmaceuticals	
	Forest products	1 (3)
	Other/unknown	6 (16)
Discourses		
Climate change as a top environmental issue (top issue)[categorical variable with 4 levels]	Rank 1	17 (48)
	Rank 2	12 (32)
	Rank 3	6 (16)
	Not Ranked	3(8)
Perceived opportunities (opportunities) [binary variables]	Energy efficiency	33 (87)
	Competitive advantage	32 (84)
	Reputation	28 (74)
	Product innovation	28 (74)
	Cost savings	27 (71)
	Other	3 (8)
Perceived risks (risks)[binary variables]	Regulatory	31 (82)
	Consumer	19 (50)
	Physical	12 (32)
	Other	6 (16)
IPCC findings merit action (IPCC) [categorical variable with 3 levels: yes, no, I don't know for various actors]	Government	30/2/6 (79/5/16)
	Your corporation	30/2/6 (79/5/16)
	Corporations	29/2/7 (76/5/18)
	Individual consumers	25/3/10 (66/8/26)
Affect of climate change (affected)[categorical variable with 5 levels]	It never will be	0
	It already is	27 (73)
	Within the next 2-5 years	7 (19)
	Within the next 10-20 years	3 (8)
	Far into the future=0	0

Table 2.4
Action variables and measures of interest

Variable (variable name)[description]	**Response**	**Count (percent)**
Climate change discussions in executive meetings	Never	1 (3)
	Rarely	17 (46)
	Regular basis	16 (43)

(executives)[categorical variable with 4 levels]	Every meeting	3 (8)
Size of the department devoted to climate change (department)[categorical variable with 5 levels]	No specialized person or department	3 (8)
	Small (1-5 persons)	21 (57)
	Medium (6-10 persons)	4 (11)
	Large (more than 10 persons)	0
	Multiple departments	9 (24)
Reporting (reporting) [binary variable]	Yes	25 (68)
	No	12 (32)
Partnerships (partnerships) [binary variable]	Yes	35 (95)
	No	2 (5)
Climate action index (action) [Action is an index of actions based on a count of actions treated as a categorical variable]	2 actions	1 (3)
	3 actions	1 (3)
	4 actions	0
	5 actions	2 (5)
	6 actions	1 (3)
	7 actions	3 (8)
	8 actions	4 (11)
	9 actions	6 (16)
	10 actions	4 (11)
	11 actions	4 (11)
	12 actions	6 (16)
	13 actions	4 (11)
	14 actions	2 (5)

Discourse-Action Relationships

We found several statistically significant relationships between discourses and actions in our data. There is a positive relationship between companies who ranked climate change as a top environmental issue with the size of the department devoted to addressing climate change (Fisher's exact pvalue=.017 see table 2.5), with most companies having small departments or multiple departments working together. There is also a marginally significant relationship between these companies and climate change

reporting, in which those that rank climate change as a top issue are more likely to conduct reporting (Fisher's exact pvalue=.097 see table 2.6).

Table 2.5 Relationship between department size and climate change as a top issue

Size of department devoted to climate change	**Climate Change as a top environmental issue**				Total
	Rank 1	Rank 2	Rank 3	Not ranked	
No Specialized person	1	0	0	2	3
Small (1-5 persons)	12	4	4	1	21
Medium (6-10 persons)	0	4	0	0	4
Multiple departments	4	4	2	0	10
Total	17	12	6	3	38
Fisher's exact pvalue=.017					

Table 2.6 Relationship between reporting and climate change as a top issue

Reporting	**Climate Change as a top environmental issue**				Total
	Rank 1	Rank 2	Rank 3	Not Ranked	
No	6	1	3	2	12
Yes	11	11	3	1	26
Total	17	12	6	3	38
Fisher's exact pvalue=.097					

To assess the relationship between the total suite of actions corporations undertake to address climate change and discourses, we created an action index based on a count of actions using STATA. We treated this index as a categorical variable and, given the small sample size, used Fisher's exact tests to compare the action index to variables of interest. There exists a positive relationship between the action index and perceived opportunities for energy efficiency, product innovation, reputation as well as other opportunities (Fisher's exact pvalue=.006, .1,.1 and .1 respectively see Tables 2.7,2.8,2.9 and 2.10) .

Table 2.7 Relationship between action and energy efficiency opportunities

Action Index	**Energy Efficiency Opportunities**		Total
	No	Yes	
2	0	1	1
3	1	0	1
5	2	0	2
6	0	1	1
7	1	2	3
8	0	4	4
9	0	6	6
10	0	4	4
11	0	4	4

12	0	6	6
13	1	3	4
14	0	2	2
Total	5	33	38
Fisher's exact pvalue=.006			

Table 2.8 Relationship between action and product innovation opportunities

Action Index	**Product Innovation Opportunities**		Total
	No	Yes	
2	1	0	1
3	1	0	1
5	1	1	2
6	1	0	1
7	0	3	3
8	2	2	4
9	1	5	6
10	0	4	4
11	0	4	4
12	1	5	6
13	2	2	4
14	0	2	2

Total	10	28	38
Fisher's exact pvalue=.1			

Table 2.9 Relationship between action and reputation opportunities

Action Index	**Reputation Opportunities**		Total
	No	Yes	
2	1	0	1
3	1	0	1
5	1	1	2
6	1	0	1
7	0	3	3
8	2	2	4
9	1	5	6
10	0	4	4
11	0	4	4
12	1	5	6
13	2	2	4
14	0	2	2
Total	10	28	38
Fisher's exact pvalue=.1			

Table 2.10 Relationship between action and other opportunities

Action Index	**Other Opportunities**		Total
	No	Yes	
2	1	0	1
3	1	0	1
5	1	1	2
6	1	0	1
7	0	3	3
8	2	2	4
9	1	5	6
10	0	4	4
11	0	4	4
12	1	5	6
13	2	2	4
14	0	2	2
Total	10	28	38
Fisher's exact pvalue=.1			

A positive relationship also exists between the action index and a belief that IPCC findings merit actions by corporations generally and their corporation (Fisher's exact pvalue=.1 and .045 respectively see Tables 2.11 and 2.12).

Table 2.11 Relationship between action and belief that IPCC findings merit general corporate action

Action Index	**IPCC Findings Merit Action By Corporations**			Total
	No	Yes	Don't know	
2	0	0	1	1
3	0	1	0	1
5	1	1	0	1
6	1	0	0	1
7	0	3	0	3
8	0	2	2	4
9	0	4	2	6
10	0	3	1	4
11	0	4	0	4
12	0	6	0	6
13	0	3	1	4
14	0	2	0	2
Total	2	29	7	38
Fisher's exact pvalue=.1				

Table 2.12 Relationship between action and belief that IPCC findings merit direct corporate action

Action Index	**IPCC Findings Merit Action By Your Company**			Total
	No	Yes	Don't know	
2	0	0	1	1
3	0	1	0	1
5	0	1	0	1
6	1	0	0	1
7	0	3	0	3
8	0	2	2	4
9	0	4	2	6
10	0	4	0	4
11	0	4	0	4
12	0	6	0	6
13	0	3	1	4
14	0	2	0	2
Total	2	30	6	38
Fisher's exact pvalue=.045				

Interestingly, there is not a significant relationship between the action index and perceived risks. However, the relationships between sector and perceived regulatory risk, approaches significance (Fisher's exact pvalue=. 072 see Table 2.13), with transportation and manufacturing sectors perceiving the most regulatory risk. And, risk does appear to result in action in the form of executive leadership attention. The relationship between perceived regulatory risk with discussions of climate change in executive meetings also approaches significance (Fisher's exact pvalue=.1 see Table 2.14).

Table 2.13 Relationship between sector and perceived regulatory risk

Sector	**No Regulatory risk**	**Regulatory Risk**	**Total**
Transportation/manufacturing	2	9	11
Oil, energy, chemicals	0	7	7
Forest products	0	1	1
Consumer goods	0	5	5
Health, pharmaceuticals	0	2	2
Aerospace/IT	1	5	6
Other/unknown	4	2	6
Total	7	31	38
Fisher's exact pvalue=.072			

Table 2.14 Relationship between perceived regulatory risk and executive attention

Regulatory risk	**Executive Meetings**	Total

	Never	Rarely	Regular basis	Every meeting	
No Regulatory risk	1	4	1	1	7
Regulatory Risk	0	14	15	2	31
Total	1	18	16	3	38
Fisher's exact pvalue=.1					

We found no relationship between respondents' ranking of climate change as a top environment issue and sector, whether climate change is discussed in executive meetings, or whether respondents feel their company is currently affected by climate change or will be affected in the future.

Table 2.15 provides a summary of key significant findings. In summary, first, opportunities and science drive corporate actions towards climate change, e.g. result in less decoupling. Second, those corporations that view climate change as a top environmental issue are devoting staff resources but there is only a marginal relationship with reporting suggesting some decoupling. Third, risk tends to be related to sector, and regulatory risk, in particular, drives internal governance of climate change as characterized by executive discussions on the issue however it is not related to action, and is therefore a predictor of decoupling.

Table 2.15
Significant findings

Variable Comparison	Fisher's Exact p-value	Chi-square (df)
Top issue and department size	0.017***	26.6461 (9)
Top issue and reporting	0.097*	5.7614 (3)

Action index and opportunities for energy efficiency	.006***	25.6020(11)
Action index and opportunities for product innovation	.1*	16.5119 (11)
Action index and opportunities for reputation	.1*	16.5119 (11)
Action index and IPCC meriting action by corporations	.1*	40.0123 (22)
Action index and IPCC meriting action by your corporation	.045**	42.4333 (22)
Regulatory risk and Sector	0.072*	12.6932 (6)
Regulatory risk and discussion in executive meetings	.1*	6.6228 (3)
*(*** indicates p<. 01, **indicates p<. 05, *indicates p<.1)*		

DISCUSSION AND CONCLUSION

We began this research by asking, why do some firms who have signed up for a voluntary initiative like EPA Climate Leaders and espouse concern still avoid taking action, while others substantively implement climate actions? And, when is decoupling likely to occur in this situation? The answers lie in the perception of opportunities: decoupling is less likely to occur and corporations are more likely to take action related to climate change when opportunities are perceived. Specifically, companies are motivated to take action by opportunities to save money through energy efficiency improvements as well as product innovation and reputational advantages. This is consistent with findings by Hoffman (2005) and Sharma (2000) that opportunity is an important predictor of corporate climate change action. This suggests that decoupling is more likely to occur when climate change is connected with the Corporate Social Responsibility (CSR) frame. In this case, rather than being viewed as a marginal issue related to public relations, climate change is viewed as a strategic issue that affects a corporation's core product and technological opportunities.

In addition to opportunity, we also find that belief in the science of climate change predicts corporate climate action, e.g. there is coupling of corporate climate discourse and action when companies believe that IPCC findings merit action by their company. This suggests that maintaining corporations' trust in the scientific peer review process and the scientific credibility of the IPCC findings in particular is critical to corporations' willingness to pursue climate related actions. Conversely, we argue that if the credibility of science (and the IPCC in particular) is questioned, it could be damaging to the progress that corporations have made towards addressing climate change as well as inhibiting future actions. This is particularly salient in the wake of the 2009 "climate gate" scandal where scientists at the University of East Anglia were accused of manipulation of data disproving the severity of climate change by climate deniers and the media. The scientific community has faced further scrutiny in 2010 based on apologies for inaccurate claims from the IPCC and accusations that the organizations chair has financial conflicts of interest (Hoffman, 2011).

Our interview data do not support Westphal and Zajac's (2001) findings that CEO power and networks predict decoupling. Rather, in this instance, companies cited CEO leadership and passion for environmental issues as reasons that their firm was taking climate action. They also suggested that participation in climate networks led to more robust climate action. Because our findings are based on a small sample of interviews, this relationship needs further exploration.

While corporate perception of climate change as a top environmental issue and as a predictor of action was not statistically significant at the .05 level, it came close. On one hand, corporations that view climate change as a major environmental concern are

devoting staff and resources to the issue. On the other hand, it is notable that only a marginal relationship exists between companies who view climate change as a top environmental issue and the extent of climate reporting. We expected the relationship between reporting and action to be stronger, given that the CDP (formerly the Carbon Disclosure Project) and Global Reporting Initiative are heralded as powerful forms of "information governance" intended to change corporate action, and the Climate Leaders program stressed the importance of reporting actions.

Perception of climate risk is not related to action, and is thus associated with decoupling. For example, perception of regulatory risk drives internal governance of climate change as characterized by executive discussions on the issue however it is not ultimately a predictor of corporate climate actions. It is possible to interpret the lack of action as a way to address the uncertainty related to risk and avoid taking costly action before their competitors are forced to do the same. As the interview respondents suggested, it is often disadvantageous to take action unless there is a "level playing field."

Finally, we address the third research question: what is the role of voluntary programs like the EPA Climate Leaders in promoting sustained climate action? Interview data is consistent with Short and Toffel's (2010) findings that self-regulation can be a useful tool for leveraging the normative motivations of regulated organizations but that it cannot replace traditional deterrence-based enforcement. Companies received some tangible benefits, such as recognition and technical assistance that allowed for the formation of climate goals and baseline measurement- in the very least a useful first step towards climate action. And, we argue that program participation did create some normative and institutional pressures such as internal governance actions related to

climate change (e.g., devoting staff to address climate change issues and discussing the issue in executive meetings). However, participation in the program alone, even when coupled with the presence of regulatory risk did not prompt climate action or even significant climate change reporting. Therefore, it appears that the participation in EPA Climate Leaders played a role in institutionalizing certain core values for some companies, while for others participation was a way to circumvent pressure to take climate action by signaling leadership.

Further, our study offers insight into why the program itself was limited and ultimately phased out. Simply stated, voluntary programs such as Climate Leaders are beneficial in the short term because they advance "ceremonial conformity" and build a reputation that might be advantageous in the long-run, but they do little to sustain action (work activities). However, that is not to say that these programs are not useful, particularly in the early stages of addressing a contentious issue like climate change. Voluntary systems can encourage and even sustain action because they play an important role in providing reputational and competitive advantage opportunities. In this case, EPA Climate Leaders promoted action through best practice and information sharing, networking, supporting staff, encouraging reporting on the topic and ultimately reputation building. In particular, public reporting of climate practices is effective if companies feel that their reputation is strengthened. Further, programs like Climate Leaders that allow corporations to develop and "test run" climate related actions means that they can address environmental issues that are consistent with both company and individual employee values. In addition, voluntary programs can act as a stepping stone to regulatory action and a proactive yet gradual means to formal and enforced regulations. Companies

involved in these schemes are positioning themselves to be contributors in designing regulation, and their previous actions are likely to reduce the cost of regulatory compliance. However, again, volunteerism cannot be relied upon indefinitely to sustain substantive climate action (Seong-Gin 2008; Short and Toffel, 2010).

Our study contributes to theory on decoupling, particularly as it relates to corporate responses to environmental issues. We can, however, extend (some of) our findings to other fields. We propose that decoupling helps explains why 'governance gaps' occur. If such gaps are to be closed, or at least narrowed, additional, external institutions may be needed to force complementary policy and action that consider long term implications, beyond the immediate motivation of opportunity or the need for legitimacy among constituents. It would be interesting to explore this further in future studies, as well as to examine the issue of decoupling beyond climate change as it relates to other sustainability challenges.

Limitations

Our study is empirically focused and does have some statistical limitations. The small survey response rate gave us limited power for statistical analyses and cell counts which were too small to conduct chi square tests in some cases. In those cases we were able to use Fisher's exact test to account for small cell counts. The lack of some correlations may be due to this limitation. A future study might increase the survey sample size and compare our participants with companies not engaged in any voluntary climate change programs. Nonetheless, our study represents an important step forward in understanding the linkages of corporate discourses towards and actions to address climate change.

Future Research

Future research could examine a larger sample of firms, possibly including international firms, to obtain greater statistical power. This would allow for a cross-cultural comparison of decoupling amongst firms in different industries and geographic location. Based on our findings, important areas for future research also include a better understanding of additional antecedents to decoupling of climate change discourse and action. As suggested previously in the literature (Westphal and Zajac, 2001) executive leadership, and experiential learning and social awareness predict decoupling, and it is likely that leadership values as well as participation in industry networks are important factors related to climate action, however they did not predict climate decoupling in our study. It would also be interesting to examine why there is often a lack of connection between the CEO or higher level executives' climate discourses and middle-management actions related to climate change, e.g. further explaining mechanisms underlying decoupling. Finally, building on our findings and those of Seong-Gin (2008) one could further analyze the effectiveness of voluntary programs in reducing decoupling, and whether early joiners to programs like EPA climate leaders are less likely to decouple than those that join later.

Having established predictors of decoupling in this chapter, the following chapters turn examine of the logics and underlying mechanisms of climate change response and decoupling.

Appendix 2.1: Climate Leaders Survey Questions

Company name

In which region is your company headquartered?
Africa
Asia
Europe
Middle East
North America
Oceania
South America

Sector. Select one:
Automobiles
Chemical
Electric Power Company- N. America
Electric Utility-International
Integrated Oil and Gas
Metals and Mining and Steel
Multi-Utilities and Unregulated Power
Other Sector:

Position Title

Employee since

Gender
Male
Female

Highest educational level attained
High school
BA/BS
MA/MBA
PhD

What are the top environmental issues affecting your company? (Rank the top three, with 1 indicating the highest ranked, 2 indicating the middle ranked, and 3 indicating the lowest ranked)
Biodiversity loss/endangered species
Climate change/global warming
Deforestation
Population growth
Water, air and soil pollution
Other:

What are the top environmental issues of interest to your stakeholders? (Rank the top three, with 1 indicating the highest
ranked, 2 indicating the middle ranked, and 3 indicating the lowest ranked)
Biodiversity
Climate change/global warming
Deforestation
Population growth
Water, air and soil pollution
Other:

Do you have a person/department/committee responsible for climate change issues? If yes, please indicate the size of this
No specialized person or department
Small (1-5 persons)
Medium (6-10 persons)
Large (more than 10 persons)
Multiple departments work together
No
Yes, can be found at/from:
department/committee

Does your company produce a public report of climate change practices?

Do the findings of the Intergovernmental Panel on Climate Change merit action by:
No Yes I don't know
Governments?
Corporations?
Your corporation?
Individual consumers?

Does your business face any of the following risks related to climate change? (Select all that apply)
Physical
Regulatory
Consumer
Other:
Competitive advantage
Cost savings
Energy efficiency
Product innovation
Reputation
Other:

Are there opportunities for your business related to climate change? (Select all that apply)
Physical
Regulatory

Consumer
Other:
Competitive advantage
Cost savings
Energy efficiency
Product innovation
Reputation
Other:

When will your company be affected by climate change?
It never will be
It already is
Within the next 2-5 years
Within the next 10-20 years
Far into the future

How often does the topic of climate change come up in executive meetings?
Never
Rarely
On a regular basis
Every meeting

How is your company addressing climate change? (Select all that apply)
Office energy use reduction/use of recycled materials
Business travel reduction
Technological changes
Innovative products
Manufacturing innovation/ energy reductions
Changes in supply chain (e.g. which companies you network with/receive products from)
Environmental advising committee/department has been set up
Networking/sharing best practices with corporate and non-corporate practioners
Participation in voluntary reporting practices
Donations to environmental advocacy groups
Registering project emissions savings and offsets
Conducting system-wide greenhouse gas emissions inventory
Measuring greenhouse gas emissions against a baseline
Setting future greenhouse gas targets
Other:

What has motivated, or will motivate your company to address climate change? (Rank the top three, with 1 indicating the highest ranked, 2 indicating the middle ranked, and 3 indicating the lowest ranked)
Regulations
Penalties/fines
Changing production/technology costs
Stakeholder concern

Reputation
Societal concern
Competitive advantage
Personal interest
Consumer demand
Recognition

To what extent do you agree with the following statements: (Completely agree, Somewhat agree, Do not agree)
Climate change and how to respond to it is one of the biggest challenges this company faces.
This company is taking all of the appropriate steps to address climate change.
This company is committed to integrating climate change into its business strategy.
The business strategy enacted by this company will successfully mitigate the effects of climate change.

Does your company engage in partnerships with other organizations (corporations, nonprofits, government or academic institutions) interested in climate change issues? If yes, list:
No
Yes

If you answered yes to the above question, why does your company engage in these partnerships?
Avoid regulation
Alleviate stakeholder concern
Reputation
Competition advantage
Personal interest
Consumer demand
Recognition

Do you, personally, believe climate change is happening?
Yes
No
I don't know

What do you think climate change is a result of?
Natural processes
Human activities
A mix of natural and human activities
I don't know

How worried are you, personally, about climate change?
Not at all worried
Somewhat worried

Very worried

Who is responsible for managing the effects of climate change? (Select all that apply)
Every individual
Local government
Federal government
Individual businesses

Are you, personally, doing anything to limit the effects of climate change? (Select all that apply)
I am not doing anything
I have energy efficient technology in my home
I drive an energy efficient car/take public transportation/walk/bike
I recycle
I donate money to environmental groups
I buy products from companies I think are environmentally friendly
Other:

How would you rate your knowledge of climate change?
Poor
Okay
Good
Excellent

How much do you trust that your government is making intelligent and responsible policy decisions regarding climate change?
I don't trust it at all
I somewhat trust it
I have some reservation, but trust it for the most part
I completely trust it

If you would like to receive results of the survey please provide your name and email below. All results are confidential.
May we contact you with follow-up questions?
Yes
No

Appendix 2.2: Climate Leaders Interview Questions

Date:
Time:

Contact Details:

Company Name:

In which region is your company headquartered:
Africa
Asia
Europe
Middle East
North America
Oceania
South America

Sector. Select one:
Automobiles
Chemical
Electric Power Company- N. America
Electric Utility-International
Integrated Oil and Gas
Metals and Mining and Steel
Multi-Utilities and Unregulated Power
Other Sector:

Size of company (Annual Revenue):
Position Title:

Employee since: since December
Gender:

Highest Educational level attained:
High School
BA/BS-Business Admin
MA/MBA
PhD

Questions:

1. Does your company have an environmental policy? Is it a formal (and advertised) policy or an informal position? What are the most pressing issues for your company?

2. Is your company constrained by environmental regulations? If so, in what ways?

Interviewer prompt: If climate change does not come up in #1 answer, ask #3

3. How does climate change fit into your company's stance on the environment?

4. Does climate change affect your company? What are the opportunities or risks it has created for your company (be specific)?

5. Describe your corporation's climate change strategies and goals?

6. How would you describe the climate related impacts of your company? (From basic office practices to production emissions to associated businesses/materials/production, etc)

7. Describe any mechanisms (in-house committees, designated personnel, external monitors/auditing, certifications, publications) in place to oversee your climate related activities.

8. What has motivated, or will motivate your company to address climate change?

9. Does your company engage in partnerships with other organizations (corporations, nonprofits, government or academic institutions) interested in climate change issues? Why?

10. Do you feel like your company has all of the information and resources needed to adequately address pressing climate change issues? Where do you receive your information?

11. Do you share your climate related impacts with your stakeholders? How?

12. How do you feel about your company's overall position and actions towards the climate change issue? Are they adequate? Areas for improvement?

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Chapter 3

The formation of multiple institutional logics: An examination of corporate climate change reporting

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INTRODUCTION

Companies are increasingly expected to respond to societal and governmental calls for action on the issue of climate change, and are addressing the issue with a diversity of actions as discussed in the previous chapter. For example, corporations may choose to offset carbon-dioxide emissions, make efficiency improvements, and/or develop new products with lower carbon footprints. A growing number of companies strategically address climate change and leverage their sustainability reports to discuss, promote, and/or defend their activities in this area (Etzion and Ferraro, 2010). Thus, these reports provide insight in the way organizations understand sustainability issues such as climate change (Hirsch, 1986, Westphal and Zajac, 2001, Fiss and Zajac, 2006, Lammers, 2011) and the logics, or patterns of practices, assumptions, values, beliefs, and rules (Thornton and Ocasio, 2008), that underpin their actions to address these issues.

Organizational responses to climate change provide a unique context for studying the evolution of logics. Sustainability reports are shaped by the underlying logics and over time can be used to evaluate changes in logics and the corresponding organizational

actions (Scott et al., 2000). In this study we examine the logics organizations enact when they discuss climate change challenges in their sustainability reports. We further evaluate the relationship between the logics and actions that are taken to address climate change. We explore these relationships over time as addressing climate change emerges as a legitimate corporate action. This work contributes to our understanding of how multiple logics are formed, compete and transform. We also begin to address how these logics are influenced by external organizations, how they are translated into action, and suggest the need for future research in this area.

Having established an understanding of the constructs underlying corporate response to climate change through a study of the Environmental Protection Agency's (E.P.A.) Climate Leaders Program in the previous chapter, this study expands our understanding of these constructs through an examination of broader population of corporate sustainability reporters.

THEORY

Institutional Logics and Change

Logics are patterns of practices, assumptions, values, beliefs, and rules that structure organizations (Thornton and Ocasio, 1999, Thornton and Ocasio, 2008). They are available to organizations and individuals to elaborate and enact (Friedland and Alford, 1991). Further, logics can be observed at the level of "organizations, markets, industries, inter-organizational networks, geographic communities and organizational field" (Nigam and Ocasio, 2010: 825). Institutional logics provide order and guide

behavior within particular contexts: they shape which behaviors are considered by restricting choices to a specific area (Zucker, 1977). They inform perceptions of legitimacy that determine which actions are successful or failures within a particular level (Rao et al., 2003, Thornton and Ocasio, 1999). In this way, logics influence which issues are attended to by organizations and what strategies organizations use in addressing these issues (Scott, 1995, Thornton and Ocasio, 1999).

Organizational fields can form around issues, such as climate change. Analyses of organizational logics structuring the field of climate change can reveal the ways in which organizational responses to climate change impact cultural and institutional norms (Hoffman, 1999). Often, within a field, a dominant logic reinforces the status quo and limits heterogeneity in organizational behavior. Behavior or choices that do not align with the dominant logic are perceived as illegitimate or incorrect and sanctioned (DiMaggio and Powell, 1983). This encourages organizations to act in alignment with the dominant logic.

However, there is not always one dominant logic. Pluralistic organizations operate across multiple institutional fields and therefore face multiple logics (Kraatz and Block, 2008). These multiple logics can coexist in tension with each other, supported by distinct groups and interests over long periods of time (Dunn and Jones, 2010). Alternatively, this co-existence can be managed through the development of collaborative relationships between groups that are in accordance with both logics (Reay and Hinings, 2009, Heinze, 2010).

In this study, we focus on how logics form around a specific issue rather than on a group of key organizations. When new issues emerge, organizations shape and elaborate upon logics as they work to develop the patterns of practices and rules to govern behavior in response to the issue. Multiple logics may emerge and events that occur around the issue can lead to cognitive realignment and change in the logics (Nigam and Ocasio, 2010). We focus on the issue of climate change and explore whether a dominant logic exists within companies addressing climate change or if multiple logics compete or complement each other. In this way, our attention is on the current logics being enacted. These logics can either be entirely new logics or evolutions of existing logics previously structuring the company.

CONTEXT

Climate change context including key facts about contemporary causes and perceptions, is provided in the introduction. Therefore in this section, we will narrow our focus to provide context around climate change reporting.

For many corporations, the starting point for addressing the climate issue is baseline data collection and reporting. There are several approaches for reporting climate impact, actions and progress. Most notably, these include sustainability reports based on the Global Reporting Initiative (GRI) guidelines and the Carbon Disclosure Project (CDP) (CDP, 2014, GRI, 2014). Despite their prominence these reporting mechanisms remain voluntary, however increasingly governments and stock exchanges around the world are requiring mandatory reporting (KPMG, 2013). Due to their voluntary nature,

company reports vary greatly in their content and depth of coverage. Since reporting is voluntary, corporations have some agency in how they discuss climate change issues in their sustainability reports. The practices, values, and assumptions they highlight signal the underlying logics of climate change. However, we recognize the limitations to using reports to identify logics as discussed below.

GRI is regarded as the preeminent framework for nonfinancial, e.g. sustainability, reporting and used globally by a variety of organizations (Brown et al., 2009a, Brown et al., 2009b). Established in 1997 by Ceres, a coalition of environmentalists and investors, and the Tellus Institute, GRI is an Amsterdam based nongovernmental organization (NGO). GRI develops nonfinancial reporting guidelines including reporting principles and performance indicators using a stakeholder process with participation of all sectors of society. GRI has defined two options for reporting in accordance with its guidelines: core and comprehensive both with required indicators communicating environmental, social, economic and governance performance (GRI, 2014). The newest guidelines (G4) include specific climate change indicators such as EC2: Financial implications and other risks and opportunities for the organizations activities due to climate change (GRI, 2014).

In recent years, the production and dissemination of sustainability reports has increased as reporting gains broader legitimacy (Kolk, 2003). Globally the reporting rate amongst the largest 250 companies has remained stable around 93 percent in the past few years, signaling a strong isomorphic pressure amongst some of the largest international companies (KPMG, 2013). Companies can also choose to formally submit their report to GRI, and the number of GRI-reporting companies has increased dramatically over time.

Amongst the largest 250 global firms GRI reporting is nearly universal with 82 percent of firms referring to the GRI guidelines (KPMG, 2013).

METHODS

Data

We collect all available sustainability reports from 1997-2010 for 20 randomly selected companies who a) participate in the Global Reporting Initiative in 2010 or b) were listed on the Fortune Global 2000 list from 2010. This provides us with a set of companies that are explicitly engaged in the sustainability reporting community (GRI) as well as top international companies (Fortune Global 2000) across diverse geographies and industries. For this study we selected companies representing a diversity of headquarters locations and industries amongst each group as described below and illustrated in Figure 3.1. The sampling approach constrains our insights to companies that are issuing sustainability reports; however, given the number of companies issuing these reports and our interest in the publically evolving communications and understandings of this issue, we believe that the focus on public documents, even if not completed by all companies, is appropriate.

We use three approaches to uncover potential distinctions in sub-samples for our study on logics of climate change. First, by focusing on GRI vs. non-GRI sustainability reports, we can evaluate whether or not companies that actively participate in sustainability initiatives (e.g. GRI) leverage different logics to address climate change than those who issue sustainability reports but do not actively participate in these forums

(e.g. Fortune 2000 companies that are not GRI reporters). Second, we select companies that have issued reports over a longer time period (e.g. 5 years), and evaluate the change of logics for those target companies using reports from years 2003, 2006 and 2009. Third, to ensure that our sample is representative, we compare companies who were early adopters in sustainability reporting (e.g. issued reports prior to 2004) and those who are followers in sustainability reporting (e.g. issued reports only after 2007). Combined, these approaches to sampling provide insight into adoption and evolution of climate change logics. Our final sample was for 19 companies as one of the randomly selected Fortune companies did not issue a sustainability report.

Figure 3.1. Sampling Approach (company name, headquarters location, industry)

Global Reporting Initiative (GRI)	Berkeley Group (United Kingdom, Real Estate) New Clicks Group (South Africa, Retail) Hennes Mauritz (Sweden, Retail)	Ecologic Designs, (U.S., Textiles and Apparel) Pacific Hydro (Australia, Energy) Vodacom (South Africa, Telecommunications)
GRI and Global Fortune 2000	Banco de Sabadell (Spain, Banking) Baxter (U.S., Health care equipment and services) EnCana (Canada, Oil and Gas Operations) IBM (U.S., Software and Services) K+S (Germany, Chemicals) SCA-Svenska Cellulosa (Sweden, Household and Personal Products)	AMR (U.S., Transportation) ChunghwaTelecom (Taiwan, Telecommunications)
Global Fortune 2000	CPFL Energia (Brazil, Utilities) General Mills (U.S., Food, Drink and Tobacco)	Inmarsat (United Kingdom, Telecommunications) Progress Energy (U.S., Utilities) Shoprite Holdings (South Africa, Food Markets)
	Early Adopters	**Late Adopters**

(Issue 2004)	first report prior to	(Issue first report on or after 2007)

Coding

We use content analysis techniques to evaluate climate change logics and strategies. In total we coded 41 reports for 19 companies. Content analysis was performed using Altas.ti software. The authors coded several reports together to identify emergent logics. Most companies discuss climate change using a variety of terms in an opening statement or letter from the CEO and as part of an environmental section focused on energy and/or climate actions. The text around the following terms were coded and considered relevant to climate change: climate, energy, carbon, global warming. We developed a sense of relevant constructs related to companies' views of climate change based on earlier data collection efforts (Charmaz, 2006). In particular, the Environmental Protection Agency's (E.P.A.) Climate Leaders Program study in the previous chapter provided the basis for these constructs. This prior study informed our in depth coding and analysis. By looking at a sample of firms beyond the Climate Leaders this study expands findings from the previous chapter and revealed a conservation logic. We used inductive coding to identify which logics were prevalent in the data and what characteristics were associated with each logic. We developed ideal-type versions of each logic based on the organizational understandings that are communicated in the sustainability reports.

RESULTS

Four climate change logics emerged through coding. They are, in order of frequency of occurrence: efficiency, opportunity, risk avoidance and conservation. In Table 3.1 we use ideal types as a means of highlighting the defining characteristics of each logic. Examples of each logic are shown in Table 3.2. We discuss each logic below.

Table 3.1 Description of ideal type logics

Dimensions of Logic	Efficiency	Opportunity	Risk-Avoidance	Conservation
Basis of Mission	Address climate change actions as much as possible within constraints of current business activities	Lead market by developing approaches for addressing climate change that are proactive and innovative	Avoid any regulatory or market risks or penalties	Protect the environment and conserve natural resources
Focus of Attention	Current processes	New technology, processes and/or markets	Regulations and market constraints	Impact on the natural environment
Basis of Strategy	Use incremental improvements to get environmental improvement	Transform organizational actions to address climate change	Avoid and mitigate regulatory and market risks	Protect and conserve the environment
Sources of Legitimacy	Previous organizational actions; cost avoidance	New revenue streams and approaches to improving environmental performance	Laws and regulations	Environmental stewardship
Sources of Expertise	Process/ operations experts; Environmental, health and safety experts	RandD, entrepreneurs; CSR/ Sustainability office	Government regulators; Compliance office; Finance	Environmental scientists and activists; CSR/ Sustainability Office
Logics of investment	Limited capital commitment; Process redesign focus	Capital committed to new and novel processes/ products	Capital committed to risk prevention	Capital committed to the environment
Role of the Environment	Cost	Source of competitive advantage	Risk and constraint	Finite resource that should be protected
Role of Business in Society	Minimize negative impact within financial constraints	Lead in finding solutions; Improving quality of life	Comply with regulation; perform strongly for shareholders	Protect the environment

Table 3.2 Examples of logics from sustainability reports

Logic	Example Quote
Efficiency	Reducing Energy Use and Associated Greenhouse Gas Emissions: In 2003, Baxter achieved a savings and cost-avoidance of approximately $3.9 million. On a per-unit-of-production-value basis, the company improved overall company energy efficiency an additional 3 percent from 2002 to 2003. Baxter, 2003
	The energy strategy for Inmarsat Global's principal place of operations in London continued to focus on our consumption of electricity. During 2009, the Business Environments Department delivered a 9.4% saving in electrical usage compared to 2008 which reduced our CO2 emissions by 302,897 kg. Further savings will be achieved in 2010 when the project to install the new high efficiency gearless passenger lifts is completed. Inmarsat, 2010
	Everyone needs to do their part to reduce greenhouse gas emissions. We are no exception. We are finding ways to continuously improve energy efficiency and lower our carbon footprint across our operations. Hennes Mauritz, 2009
Opportunity	Received Carbon Reduction certification from the Carbon Trust for FLEXBUMIN [Albumin (Human)] – the first and only albumin therapy in a flexible, plastic container, and the first and only medical product to receive this certification. Baxter, 2009
	We are one of North America's largest producers of natural gas — one of the cleanest burning fossil fuels (our portfolio is 78 percent gas-weighted). We believe we have an opportunity to help satisfy the growing North American demand for energy by supplying a cleaner burning transition fuel while new technologies emerge and renewable energy markets develop. Encana, 2006
	IBM's Global Innovation Outlook, which provides a forum for thought leaders from around the world to discuss key challenges facing business and society, is a perfect example of the creative steps needed to confront global problems like climate change. And IBM is moving forward with a groundbreaking initiative that seeks to harness and share intellectual property rights that advance environmental solutions. This effort has the potential to mine untapped value, unleash creative power and accelerate the development and dissemination of technologies that protect and improve the environment. IBM 2006

Table 3.2 (continued)

Logic	Example
Risk Avoidance	We consider climate change an important reason for why our business operates the way it does. There are many risks associated with climate change and the impact it has on business operations and particularly the cost of doing business. While our operations do not directly contribute any major source of change to our climate, we do recognize that our natural resource consumption is one area our business can increase sustainability. Ecologic Designs, 2008
	While these steps are important, our business and the planet still face considerable risks from climate change. Anticipated regulatory changes mean that we will face changing energy policies which may delay renewable energy investment and reduce or even remove renewable energy incentives. Our planet may also face permanent physical changes which could affect wind patterns and water availability or increase the likelihood of extreme weather events. Pacific Hydro, 2009
	After the flood on August 8th, 2009, "climate change" was officially included in our "performance and risk management" evaluation system. Significant risks are all listed in Chunghwa Telecom's annual operation plan and are subject to target monitoring and performance evaluation for constant verification and feedbacks. Chunghwa Telecom, 2009
Conservation	We have a responsibility to our customers and communities to be good stewards of the natural environment. That's why we're working to conserve natural resources, reduce emissions and increase efficiency, and develop advanced alternative and renewable energy solutions. Year after year, we strive for continual improvement on behalf of our customers, the environment and the future we share. Progress Energy, 2009
	Deforestation in the world is one of the greatest contributing factors to climate change, but the forest's significance in solving the problem has been overlooked. Trees are unique insofar as they are renewable and absorb carbon dioxide. The growth in SCA's well managed forests exceeds harvesting, which means that they absorb 2.6 million tonnes of carbon dioxide net on an annual basis. This almost corresponds to the carbon emissions from SCA's entire production. If all the forests in the world were managed in an equally responsible manner, we would be a large step closer to resolving the climate issue. SCA, 2009
	Energy conservation is a major component of IBM's climate protection program because the release of CO2 by utility companies that power our facilities represents the greatest potential climate impact from our operations. IBM, 2006

Efficiency

Under an efficiency logic, corporations focus on addressing climate change by improving the efficiency of their current processes. Environmental improvements are coupled with financial improvements as justification for their behavior. Corporations in this logic focus on incremental change that aligns with their current business processes. This logic is apparent in the quote below from Ecologic Designs that discusses their approach to climate change:

> Carbon credits are only a band-aid step towards a more sustainable solution, to build our own factory that we control. Spending money on offsets is not the best use of our limited funding. We choose to invest in making our current processes more efficient. Ecologic Designs, 2008

Ecologic Designs dismisses carbon credits as a short-term solution and instead focuses on improving the efficiency of their current processes. Similarly, CPFL Energia notes a long-term commitment to an efficiency logic as they highlight their focus on mitigating the negative effects of current processes and leveraging efficient operations.

> Even before climate change was on the global agenda, the CPFL Group was already investigating the overall environmental impact of its operations, developing strategies for mitigating the same and carrying out its operations with maximum environmental efficiency. CPFL Energia, 2009

Opportunity

A separate logic emerged around climate change as an opportunity for revenue generation by the corporation. This logic is characterized by a focus on innovation and new business opportunities that develop from addressing climate change. Further, there was often a focus on leadership and proactive management of climate change. The quote below, from Banco Sabadell, is an example of the opportunity logic.

> Banco Sabadell wishes to foster research and development of a sustainable energy model. It is with this goal in mind that the bank invests in and finances projects which use energy sources that are renewable and non-polluting. Since its first operation in this area in 1992, the group has provided the sector with funding, direct investment and brokerage services, placing it in a leading position in Spain. Banco Sabadell, 2009

The focus on research and development as well as investment in sustainable energy in this quote characterize the opportunity logic.

Risk Avoidance

Under the risk avoidance logic, companies situate actions to address climate change in response to current or potential regulations, market constraints and occasionally physical risk. They view climate change as a potential risk to their business – either because of regulatory limitations to business, market changes due to resource constraints, reputational damage, or increased natural environment disasters such as flooding. The example below from Shopright highlights that they are concerned about

future regulations and customer demands and therefore are considering climate change responses.

> The Group recognises the need to pay attention to the issue of carbon by developing an understanding of the magnitude of its carbon footprint, failing which it risks falling behind the general corporate response and compliance with possible future carbon-related legislation. The Group also risks potential reputational damage amongst customers and investors. Shopright, 2010

Conservation

The conservation logic focuses on the protection of the natural environment and corporate participation in this process. In this logic, companies refer to environmental issues broadly and take ownership as environmental stewards. This is shown in the logic below.

> The protection and conservation of native flora and fauna at our operational sites is of great importance to us. Biodiversity is vital to a healthy environment: it supports our food supply, can protect coastlines and limit erosion, helps to sustain fresh water supplies and can help to protect against the effects of climate change. Pacific Hydro, 2009

In this statement, Pacific Hydro refers to both local conservation at the operational sites and global issues such as biodiversity. There is an implicit acceptance of

the science that supports climate change and the outcomes that occur under climate change. Pacific Hydro also takes a position of responsibility to address these issues.

In the field that has emerged around the issue of climate change, there is not a dominant logic, but four distinct logics. We found that most companies used multiple logics in their sustainability reports as shown in Table 3.3. However, the overall distribution of the logics is not consistent across companies, with, for example, some having a greater focus on efficiency and others having a greater focus on opportunity. Corresponding to a companies' logic focus is the way they perceive the role of the environment. As shown in Table 3.1, in the efficiency logic the environment is viewed as a cost that must be minimized. Conversely in the opportunity logic the role of the environment is as a source of competitive advantage and new revenue streams. While the risk avoidance and conservation logics tend to compete, these logics have a more complementary view of the role of environment as a constraining resource. However, the risk avoidance logic focuses on how to protect the business from this constraint while the conservation logic focuses on how the company can protect this limited resource.

Table 3.3 Frequency of different logics by corporation

	Year	Pages	Count of Logics	Logics/ Page	Efficiency	Opportunity	Risk avoidance	Conserv-ation
GRI , Early Adopters								
Berkeley Group	2003	28	2	0.07	100.0%	0.0%	0.0%	0.0%
	2006	38	8	0.21	50.0%	12.5%	37.5%	0.0%
	2009	87	21	0.24	19.0%	23.8%	57.1%	0.0%
Clicks Group	2003	5	0	0				
	2006	4	1	0.25	0.0%	0.0%	0.0%	100.0%
	200	12	0	0				

	9							
	2006							
Hennes Mauritz	3	61	3	0.05	33.3%	33.3%	33.3%	0.0%
	2006							
	6	17	0	0				
	2006							
	9	167	3	0.02	66.7%	0.0%	33.3%	0.0%
GRI, Late Adopters								
Ecologic	2006							
Designs	8	52	3	0.06	33.3%	33.3%	33.3%	0.0%
	2006							
PacificHydro	9	44	9	0.20	0.0%	55.6%	33.3%	11.1%
	2006							
Vodacom	9	56	2	0.04	100.0%	0.0%	0.0%	0.0%
GRI and Fortune, Early Adopters								
	2006							
BancoSabadell	6	79	7	0.09	57.1%	28.6%	0.0%	14.3%
	2006							
	9	191	23	0.12	34.8%	52.2%	13.0%	0.0%
	2006							
K+S-2003	3	36	3	0.08	66.7%	0.0%	33.3%	0.0%
	2006							
	6	86	15	0.17	46.7%	20.0%	26.7%	6.7%
	2006							
	9	144	16	0.11	50.0%	25.0%	25.0%	0.0%
	2006							
Baxter	3	10	2	0.20	100.0%	0.0%	0.0%	0.0%
	2006							
	6	44	9	0.20	77.8%	11.1%	0.0%	11.1%
	2006							
	9	24	10	0.42	60.0%	30.0%	0.0%	10.0%
	2006							
SCA	3	74	8	0.11	50.0%	37.5%	12.5%	0.0%
	2006							
	6	70	29	0.41	41.4%	17.2%	34.5%	6.9%
	2006							
	9	78	42	0.54	35.7%	38.1%	21.4%	4.8%
	2006							
Encana	4	34	5	0.15	40.0%	40.0%	20.0%	0.0%
	2006							
	6	54	16	0.30	43.8%	37.5%	12.5%	6.3%
	2006							
	9	13	1	0.08	100.0%	0.0%	0.0%	0.0%
	2006							
IBM	3	132	2	0.02	50.0%	0.0%	0.0%	50.0%
	2006							
	6	76	14	0.18	7.1%	42.9%	21.4%	28.6%
	2006							
	9	50	14	0.28	50.0%	14.3%	0.0%	35.7%
GRI and Fortune, Late Adopters								
	2006							
AMR	9	65	9	0.14	66.7%	33.3%	0.0%	0.0%
Chunghwa	2006	83	14	0.17	7.1%	14.3%	78.6%	0.0%

Telecom	9							
Fortune, Early Adopters								
	2003	111	1	0.01	0.0%	100.0%	0.0%	0.0%
CPFL Energia	2006	173	4	0.02	25.0%	75.0%	0.0%	0.0%
	2009	173	7	0.04	71.4%	14.3%	14.3%	0.0%
	2004	41	0	0				
General Mills	2006	47	1	0.02	0.0%	0.0%	0.0%	100.0%
	2009	59	3	0.05	33.3%	33.3%	33.3%	0.0%
Fortune, Late Adopters								
	2010	5	1	0.20	100.0%	0.0%	0.0%	0.0%
Inmarsat								
Progress Energy	2009	16	6	0.38	16.7%	50.0%	16.7%	16.7%
	2010	31	5	0.16	60.0%	0.0%	40.0%	0.0%
Shopright								

Besides having multiple logics in different parts of the sustainability reports, some companies used multiple logics within individual statements about climate change. In the below quote from Berkeley Group, climate change is discussed as both a *risk* and *opportunity*.

> Climate change is at the top of the nation's environmental agenda. This presents both strategic risks and opportunities to us as a business, and is increasingly being studied by investors interested in the long-term effects of climate change on the value of businesses. Berkeley Group, 2006

As another example, Baxter refers to key aspects of the *conservation, efficiency, and opportunity* logics.

> Global climate change is harming the planet's web of life and the natural environment. Baxter demonstrates leadership by reducing emissions, supporting sustainable energy alternatives, promoting cross-industry initiatives, and engaging in public policy debate. Baxter, 2006

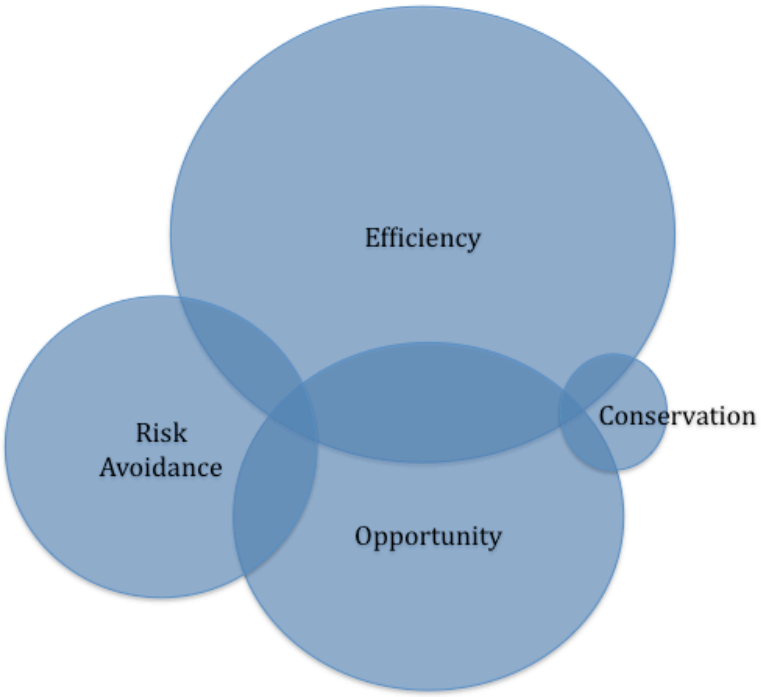
These co-occurrences were observed most often between the efficiency and opportunity logics. Even though the risk or conservation logics co-occurred at times with the efficiency and/or opportunity logics, they did not co-occur with each other. Table 3.4 shows the percentage of co-occurrence between each logic. Figure 3.2 depicts the logic landscape visually.

Table 3.4 Co-occurrence of logics within individual coded statements

	Total Counts	Co-occurrence (Percent of Total) 1. Efficiency	2. Opportunity	3. Risk avoidance	4. Conservation
1. Efficiency	129	-	12%	7%	4%
2. Opportunity	92	16%	-	10%	4%
3. Risk avoidance	75	12%	12%	-	0%
4. Conservation	23	22%	17%	0%	-

Note: this table is read across each row. For example, 12% of the 129 counts of efficiency logic co-exist with the opportunity logic, 7% co-exist with the risk avoidance logic, and 4% co-exist with the conservation logic.

Figure 3.2 Logic co-existence



The efficiency and opportunity logics show some co-existence both with each other and the other logics of risk avoidance and conservation, as shown by the overlapping part of the circles. The conservation and risk logics are exclusive of each other.
Note: The size of the circle represents the frequency of logic usage. The overlap represents co-occurrences of the logics within sustainability reports.

There are also a few general trends in the data. Companies who were in both GRI and the Fortune 2000 generally had greater discussion of climate change ($p<1\%$, t-test of codes/report). Companies that were only in the GRI had a greater proportional focus on risk compared to the other companies ($p<10\%$)[4]. Across all companies, the focus on climate change was greater in 2006 and 2009 than in 2003 ($p<1\%$). The reports had a greater proportion of conservation logic in 2006 ($p<10\%$) than in 2003 or 2009. Further,

[4] This is likely due to GRI's emphasis on risk reporting and mitigation. For example, several GRI performance indicators (1.1, 4.9, 4.11 and EC2 respectively) require companies to disclose environmental risks, governance of environmental risks, application of the precautionary principle when addressing the organizations' approach to risk management and financial risks due to climate change (GRI, 2014).

while not significant (only p<15%), reports in 2009 were trending towards a greater proportion of risk logic.

DISCUSSION AND CONCLUSION

Our results reveal four logics often co-existing within corporate sustainability reports: opportunity, efficiency, risk avoidance, and conservation. Each of these logics focus attention and action on specific areas and, if a dominant frame, would limit which actions were considered to address climate change. For example, a company that operated only under the efficiency logic would focus on efforts that improved the efficiency of current technologies and processes and miss potential opportunities for new products or strategies.

The co-occurrence of multiple frames within individual reports provides the companies with a broader repertoire of potential actions (Swidler, 2001). For example, the efficiency and opportunity logics, when merged, allow a company to consider choices around both efficiency and innovation, rather than just one aspect. Given the critical nature of climate change, these multiple logics acting inclusively are an effective mechanism to enable corporations to address this issue. On the other hand, the risk and conservation logics are more exclusive and competitive and do not co-occur within statements in the reports (Table 4) and rarely co-exist within the full report (only 7 reports of the total, see Table 3). Therefore, actions such as environmental protection that are associated with the conservation logic would not be considered by companies associated with the risk logic.

Potentially, the emergent nature of the field of companies addressing climate change allows for this many logics to operate at one time. In this case, over time, a dominant logic, or more homogeneous merged logic, may develop. However, we believe this has not yet occurred. If this had already occurred, we would expect to have seen a consistent increase in one of the logics over the time frame of our study, and we did not see this change. In fact, the two most frequent logics, efficiency and opportunity, did not significantly change over this time. Instead we suggest that the pluralistic nature of this field – each company is part of multiple fields driven by different industries and geographies – enables companies to balance multiple logics. Further, the complexity, and ambiguity around climate change logics also provides more flexibility in corporate approaches and strategies. In other words, there is not one clear legitimate action and therefore companies have many options to consider that could be adopted without sanction.

Even so, three of the four climate logics, efficiency, opportunity, and risk aversion, appear to use accepted business norms, such as cost savings and innovation, to gain legitimacy. The conservation logic is the most unique and counter to the business norm of prioritizing shareholder returns. The lack of traditional business legitimacy may explain why the conservation logic is the least frequent. Despite this, we believe there are a few potential explanations for the prevalence of the conservation logic. First, companies facing regulatory or stakeholder scrutiny might take a stewardship approach and draw attention to actions that go beyond compliance to avoid harsher regulation or stakeholder pressure. It is also possible that the conservation logic reflects a distinction in leadership values or corporate culture, as is often the case in hybrid organizations that are mission

driven (Hoffman et al., 2011). These explanations also provide potential insight into why the risk and conservation logics tend to be mutually exclusive.

The level of corporate attention to climate change increased significantly between 2003 and 2006 and then remained relatively constant. This correlates with an increase in public attention and stakeholder demands for corporations to address climate change. It would be interesting to further evaluate how certain events and trends relate to corporate reporting. For example, reports in 2006, usually published in 2007, reflect a greater proportion of conservation logics than the other years. This could be in response to external attention on climate change such as the release of "The Inconvenient Truth," an increase in extreme weather related events such as Hurricane Katrina, and a Bush administration era emphasis on conservation. On the other hand, reports from 2009 reflect an increased focus on the risk logic. This correlates with a greater public contention and divide about climate change (Hoffman, 2011), as well as in the election of the Obama administration and the potential for new climate legislation. It is interesting that while the logics that underpinned corporate communications did change at this time, the total frequency with which they discussed climate change did not decrease. Thus, corporations are not reacting to broader conflict and debate around climate change by ceasing to address it in their sustainability reports.

What does this say about the future of corporate climate change logics generally and the role of organizations in legitimizing climate actions in the near future? As referenced earlier, during the period of our study the frequency of logics used in sustainability reporting changed, however the focus on climate change generally

increased, despite an uncertain future. Perhaps organizations might play the role of broker that Hoffman (2011) posits is necessary to bridge the public schism in beliefs about climate change? Already, corporations appear to avoid taking sides, and move away from the "skeptical" and "convinced" logics characterized by Hoffman (2011). Rather, corporations are both actively shaped by and shaping public opinion in a way that allows for the new, and multiple logics and the potential of a future in which companies are key actors in addressing climate change.

Limitations and Future Research

Our study is primarily qualitative and empirical in nature, and as such does have limitations. Primarily, we are limited by the small sample size from making statistical inferences. Furthermore, report length and structure varied by company. In particular, there was a shift to online reporting in the mid 2000s with shorter printed reports or summary reports available in pdf format. This means that we might have missed additional detailed information related to climate change included only in an online version of the sustainability report. We also encountered language barriers for certain reports that were not available in English and had to remove one report from our sample for this reason (Banco Sabadell was only published in Spanish in 2003).

In general, it is also important to acknowledge that there are limits to what we can surmise from sustainability reports as representing the deeper logics of the company. Certainly these reports are designed with a specific audience in mind, and uncertainty remains regarding whether reporting reflects actual firm behavior or represents a form of public relations or "ceremonial conformity" (Cerin, 2002; Kolk and

Pinkse, 2010; Fonseca, 2010). According to Matisoff et al. (2014; Delmas and Blass, 2010):

> Recent findings suggest that improved disclosure and management are correlated with higher toxic releases and lower environmental compliance, suggesting that improved disclosures may not correlate with improved environmental performance.

Interestingly, what appears to be more indicative of coupling is the dominant logic used in each report. It would be interesting to further examine in future studies whether reporters who espouse logics of opportunity are more likely to couple discourse and action as would be predicted by the study of Climate Leaders' participants.

Due to the small sample size for this study, we were also limited in our ability to evaluate the role of different organizational fields in influencing the most prominent logic for a company. It would be worthwhile to further explore whether the issue of climate change supersedes or influences other organizational fields. As Hoffman (1999) argues, it is useful in this case (as with other environmental cases such as in the U.S. chemical industry's evolving environmental practices) to conceptualize and analyze an organizational field as formed around the issue of climate change rather than on specific corporations, markets or technologies. However, each of the companies that address climate change is also situated in other organizational fields based on their industry, geography, etc. A larger scale study could explore if the field that forms around the issue of climate change affects how other organizational fields, such as industry and involvement in groups like GRI, influence climate change logics. Further, we observe these four logics across different geographies and a larger, quantitative study can provide

more insight into the effect of cross-national logics on corporate actions (Thornton and Ocasio 2008).

Now that this study has defined four logics that underpin corporate actions around climate change, it would be worthwhile to leverage larger, longitudinal datasets to more effectively evaluate how the logics interact over time. We propose that the efficiency and opportunity logics can be mutually supportive while the risk and conservation logics compete and conflict. More nuanced insight into how these logics emerged as climate change reporting was initiated and institutionalized would provide greater insight into how and when different logics compete or co-exist. A larger dataset might also illuminate other logics that did not seem to be present in this study and which might still motivate some climate action.

The GRI has been instrumental in the institutionalization of sustainability reporting (Etzion and Ferraro, 2010, Brown et al., 2009a); however it's effectiveness in broader goals of transparency and empowerment of stakeholders is still uncertain (Dingwerth and Eichinger, 2010, Levy et al., 2010). Because some companies develop a sustainability report but do not submit it to GRI, there is an opportunity to further evaluate what, if any, benefits companies gain by GRI participation and how it affects their climate performance. Bazillier and Vauday (2011) hypothesize that the issuance of a sustainability report without the submission to GRI acts as a form of greenwashing. Perhaps challenging this hypothesis, our study showed that non-GRI companies had a greater proportion of opportunity logic in their communications about climate change. If this corresponds to the actions that these companies take, this would

infer that GRI constrains focus on climate change away from innovation and opportunities, and that companies who do not participate in GRI may evaluate and implement more innovative approaches – or at least discuss them more in public communications. Studying the co-evolution of the GRI guidelines themselves and the logics observed in the sustainability reports could help provide insight around this. It would be interesting to use a larger scale study to understand more about how and when a third-party group, such as GRI, is critical for adoption and institutionalization of sustainability logics and when their actions may constrain corporate actions. For the time being, however, a finer grained ethnographic approach can yield further insights, and complement this analysis of how multiple logics related to climate change are formed, compete and transform over time within and amongst companies and how these logics are influenced by external organizations and translated into action.

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Chapter 4

Changing Corporate Cultures: Ford Motor Company's Response to Climate Change

INTRODUCTION

On October 5, 2000, in a move that surprised many people inside and outside of the company, Bill Ford, Chairman of Ford Motor Company and Ford family member, gave a speech at the fifth Annual Greenpeace Business Conference in London. Even more surprising than an automotive executive speaking at a Greenpeace[5] conference was the content:

> There is perhaps no more challenging an issue, and certainly none that is raised with as much frequency or passion in my discussion with environmentalists, than climate change.
>
> I am a businessman, not a scientist. We worked with uncertainty every day. The essence of business success is to reduce uncertainty to an acceptable level, and then to act. Competitive advantage comes from acting with good judgment in a situation where this is uncertainty and risk.
>
> So as a businessman I ask, what do we know about the risk? Is there

[5] Greenpeace is a prominent environmental non-governmental organization (NGO) known for their anti-corporate campaigns and actions. One of their most high profile corporate campaigns occurred in 1995, just five years prior to this speech, against Shell. As part of its campaign against ocean dumping, Greenpeace activists occupied the Brent Spar. Brent Spar was an oil platform that Shell planned to dump in the Atlantic Ocean after it was no longer operational (Greenpeace.org, 2014).

sufficient evidence to make a decision, to take action? The answer is absolutely yes.

Society's assessment may change in the future as the science develops, but the present risk is clear. The climate appears to be changing, the changes appear to be outside natural variation, and the likely consequences will be serious.

From a business planning point of view, that issue is settled. Anyone who disagrees is, in my view, still in denial. We at Ford Motor Company have moved on.

Ford's public acknowledgement of climate science and the need for action was exceptional at a time when the automotive industry and industry in general were taking an oppositional response to climate change. But fast forward to 2005; I was working in the Corporate Citizenship office in Dearborn, struggling with the fact that the company was plagued by an inconsistency of words and actions attracting criticism from external audiences and it was not until nearly 10 years later, in 2008, that the company published its "Blueprint" plan. By that time, I was working on a comment for the Journal Current Anthropology, summarizing elements of the Ford experience I had shared at the School for Advanced Research in Santa Fe (or SAR) when they collaborated with the Wenner Gren Foundation for Anthropological Research to host a seminar on "Corporate Lives: New Directions in the Corporate Social Form."

The 2008 Ford Climate Blueprint aligned these words with actions by committing Ford's largest climate impact, its products, to a climate stabilization curve of 450 parts

per million (ppm) of atmospheric carbon dioxide[6]. But before I consider whether Ford's actions have been dramatic or timely in the context of climate challenges, let me also note that this case raises several questions that are critical for understanding the role of the corporation in society. Among other central questions, what prompted Ford to step outside of industry norms and "break the silence" on the climate issue? Why was there initially a decoupling of Ford's words and actions? How, when and why did these words eventually become actionable inside the company? Why has Ford been able to respond to climate change when many companies still struggle to do so?

In this chapter I draw on institutional ethnography and institutional theory along with theories of corporate change to understand Ford's response to climate change over time, and its movement from symbolic to more substantive action. This chapter considers the evolution of Ford from within as it seeks to create environmental and social change while also creating long-term value for the company. Findings are used to develop a model of change that both expands and refines previous theory. Previous theories often view culture change related to sustainability "as the result of external jolts that lead to crisis and questioning" (Hoffman and Ocascio, 2000; Weick and Quinn, 1999), others have proposed more gradual shifts based on liminal experiences (Howard-Grenville, 2011). As discussed in the first chapter there is often a "say-do" gap, or decoupling, in corporate climate action and words; closing this gap and moving towards action is the next phase. I advance a model of change from decoupling to coupling, and symbolic to substantive action that is emergent, ongoing and pluralistic, resulting from multiple

[6] 450 parts per million (ppm) is the threshold for the atmospheric concentration of carbon dioxide recommended by the Intergovernmental Panel on Climate Change (IPCC) to avoid significant climate change, specifically a 2 degree Celsius temperature rise and corresponding ocean rising (IPCC, 2013). The Blueprint plan is described in detail in the results section.

interactions within the firm, with stakeholders, and external conditions that are characterized by friction.

I also examine the microdynamics and drivers of this change, from market opportunity to science, responding to Weber and Dacin's (2011 pg. 295) call for a "focus on microdynamics of institutions that will yield insights into the role of culture and institutional creation, maintenance and change."

This study also contributes to our understanding of corporate responses to climate change and why some companies go beyond compliance when responding to sustainability issues. We "know little about why individual corporations behave the way they do in the environmental context, about why some companies, but not others, choose to move beyond compliance, or what motivates them to do so" (Gunningham et. al 2003 pg. 135). Furthermore, there is considerable variation among company responses to climate change (Levy and Rothenberg, 2002) and these responses have undergone a transformation in recent years. Kolk, Pinkse and Levy (2008) describe this transformation, asserting that "until the 1990s business generally neglected the issue, but over the years firms moved from an oppositional political response toward preparation for a carbon-constrained future, displaying a wide range of strategies". Hoffman has emphasized that (2005, pg. 39): "Today, many companies still see climate change as a scientific or social issue. Yet, the reality is that it is becoming strategic in nature." While "the literature has devoted many efforts to categorize and describe the different types of organizational strategic responses to global warming, there is still a lack of understanding of the motives leading the firms to adopt such strategies and of how the institutional field

react to and reward these strategies" (Misani et. al 2012, pg. 10). And, these strategies are not always implemented.

This chapter first reviews the literature on institutional ethnography and change (a review of the literature on institutional theory and climate change can be found in the previous chapters), following this Ford as the setting, data collection and analytic methods are described. In the results section I present a model of change, which is discussed along with theoretical and practical implications of this study, future research suggestions and limitations in the discussion and conclusion.

THEORY

The theoretical foundations of this study lie at the intersection of cultural and institutional analysis. In this section, I provide an overview of the relevant literature focused on corporate ethnography and culture change. A review of the literature on institutional theory can be found in the previous chapters.

Ethnography as Method and Theory

At its core, "social anthropology is a body of knowledge about human societies and… can be used in a common sense way to solve social problems" (Pritchard, 1946, p. 92). This statement appears increasingly salient today as scholars from a variety of fields incorporate anthropological method into their work simultaneously challenging and redefining its scope and logic (Hardin 2011 b; G. E. Marcus, 1998; G. E. Marcus and Fischer, 1986). Foremost among these methods is ethnography. Classically defined, ethnography is "inscription" as the core of "thick description" (Geertz, 1973). Hardin provides a more detailed and nuanced definition: "Ethnography, as a word, combines two

significations of abstraction. One suggests the classificatory logics inherent in many human ways of organizing social worlds, and particularly those devised during western expansion in the latter half of the twentieth century (ethnic; ethnonyms; ethnology; ethnocentric). The other suggests the production of images and text (graphic; iconography; monograph) used to describe different cultural practices across the globe. Referring thus to a very basic practice of describing and interpreting social worlds, the term links anthropologists of various schools, within the subfield of social/cultural Anthropology, which is distinct from the discipline's other fields of archeology, linguistic anthropology and biological or physical anthropology" (Hardin 2012, p. 13).

In this sense, ethnography is both a method and theoretical framework with unifying focal elements including culture, power, meaning and practice (Emerson, Fretz, and Shaw, 1995; Hardin 2011 b). Its core unifying construct, culture, has many definitions. One useful definition provided by Geertz construes culture as a pattern of meanings represented and recreated through the actions and communications of members of a group (Geertz, 1973). Distinctive elements of ethnography include fieldwork, participant observation, extension of observation over time and space, extending from micro-processes to macro forces, and extension of theory, e.g. anthropologists don't start with theory (Abbott, 1992; Bernard, 2002; Burawoy, 2000; Emerson, et al., 1995). And, the goal of ethnographic fieldwork is often "indigenous meaning", e.g. understanding what the experiences being observed mean to the actors involved (Emerson, et al., 1995).

Ethnographies of actors beyond the traditional focal point of anthropological inquiry -"local communities"- are proliferating. The result is a multitude of institutional and multi-sited ethnographies taking as their point of departure fieldwork that is situated

within a particular organization (such as a high-technology or garment manufacturer) or linked through discrete cultural activities (such as bio-prospecting, genetic engineering and product liability law) respectively (Bamford, 2007; Hayden, 2003; Howard-Grenville, 2007; Jain, 2006; Uzzi, 1997). This is indicative of the ways in which anthropology "continues to become transformed into a tool increasingly critical for today's changing world. Two transformations continue to be central - the proliferating practices that constitute the doing of ethnography in this age of global change, and the increasingly interdisciplinary borrowing of its techniques." (Hardin 2012, p. 9).

Ethnographic monographs have moved from Malinowskiesque studies of villages and kinship-ties to institutional ethnography of the workplace, prison, and hospital (Burawoy, 2000). Multi-sited ethnographies have long been exploring the linkages of discrete economic and cultural activities such as bio-prospecting, genetic engineering and product liability law (Bamford, 2007; Hayden, 2003; Jain, 2006). An important purpose of these multi-sited ethnographies is to "efface the macro-micro dichotomy itself as a framing rhetoric for ethnography that seriously limits ethnography's possibilities and applications in the context of so-called postmodern conditions of knowledge" (Marcus, 1998, p. 35). However, it should be noted that some argue for the maintenance of the fine-grained ethnographic method, and see this transformation as regretful: "it is deeply unfortunate that some anthropologists have repudiated both anthropology's empirical roots and its historic mission of bearing witness to the richness and diversity of the non-western 'other'" (Lee, 1998, p. 46).

Corporate Actors as Ethnographic Actors

Business, and in particular corporate social responsibility (CSR) and sustainability practices, is one field among many that have adopted ethnographic methods. Management theorists point to the need to go beyond large-N studies to understand the contextual and cultural nature of organizational dynamics (Hoffman, 2001b; Howard-Grenville, 2007; Van Maanen and Barley, 1984). Yet the ethnography of corporate actors is still relatively young. Beginning in the 1970s applied anthropologists began working within corporations, while today the focus has shifted considerably to the analysis of emerging market and global environmental practices (Aguilera, 1996; Hardin, 2011 b; Hart, 2005; Howard-Grenville, 2002). This new phase reflects a nascent dialogue among anthropologists regarding the corporation as a social form, and a movement away from extreme views of the past critiquing or lauding corporate accomplishments. Indicative of this trend was the first jointly sponsored Wenner-Gren and School of Advanced Research seminar in August 2008 which brought anthropologists and business practitioners together to discuss corporate practices and forms and their role in society (Hardin 2012).

Themes in Contemporary Ethnography of Corporate Actors

Anthropology's focus on discourse in relation to practice uniquely positions it to enhance the management literature's historical focus on tools and techniques in several ways. As a form of cultural critique anthropology promotes self-critical reflection that promotes reexamination of taken for granted assumptions, and its methods reveal power struggles and expose rhetoric and sweeping generalizations about globalization, for example (Howard-Grenville, 2002; Latour, 2004). A recent cross-fertilization of anthropology and management in the literature reflects promising methodological and

theoretical approaches in the ethnography of corporations. Throughout these works there are several commonalities. The first is an emphasis on understanding the established cultures inside (and outside) of corporations and how to mobilize employees in the face of new sustainability challenges (Howard-Grenville, 2007; J. Van Maanen, 1988). The second is the influence of broad economic, market and social conditions on corporate actions- the flows and networks of global connections (Tsing, 2005; Ong, 2006;). Finally, these works often bypass the nation state, or even see culture as disconnecting from the state with the growing influence of the corporate form (Appadurai, 1997).

While the richness of the literature defies true thematic classification, approaches to the ethnography of corporate actors can be grouped into five themes reflective of their underlying aims: ethnography from within/ethnography of occupations; ethnography of new/ideal organizational arrangements; ethnography on the colonizing nature of the logic of efficiency; ethnography of identity and subject formation/issues of power; and ethnography of global connections.

Ethnography from within/ ethnography of occupations

The focus of this body of ethnographic works seeks to understand occupations and culture from within corporations, which has been obscured from view in the traditional management literature. Drawing on the foundational work of Margaret Mead for inspiration, VanMaanen's ethnographic work focuses on occupational communities such as the police force as an alternative to the organizational perspective. He argues that from an organizational perspective people are seen to regard careers in terms of mobility within Chandler's administrative hierarchy, and that each position is associated with prestige, power, etc. VanMaanen develops the occupational community as an alternative

frame of reference which is central to the individual's self-image and transcends divisional and hierarchical boundaries (Burawoy, 2000). Within this framework the organization can be viewed as "sets of sometimes issue-specific coalitions, each exhibiting varying degrees of stability and overlapping memberships" (Van Maanen and Barley, 1984, p. 335). As related to the corporate social responsibility movement, Conley focuses on the occupational community of CSR professionals "as an evolving global cultural entity, loose but coherent, and complete with its own rituals and language" (Conley, 2011; Van Maanen and Barley, 1984).

Mosse also directly abandons the conceptions of 'field' vs. 'home' (Hart, 2005). In a personal and self-reflective account of his work as a consultant for the Indo-British Rainfed Farming Project (IBRF) for rural Bhil communities in western India during the 1990s, Mosse seeks to unravel the relationships between aid policy and practice in a development context, e.g. "not whether, but *how* development projects work; not whether a project succeeds, but how 'success' is produced "(Mosse, 2005, p. 8). Fundamentally he is interested in interpretation, and characterizes the interactions of consultants, donor agencies, aid workers, and aid recipients through invocations and descriptions of "hidden transcripts" and "friction" (Mosse, 2005; J. Scott, 1990). Through an understanding of this complex web of perspectives Mosse comes to his central proposition: "development interventions are not driven by official policy, but by the exigencies of organizations and the need to maintain relationships" (Mosse, 2005, p. 103).

Of particular relevance to this study is previous work on corporate culture change and response to contentious issues (a nice overview of which is provided by Weber and Dacin (2011) in their introduction to a special issue on the cultural construction of

organizational life and therefore not provided here). Using in depth observation of the core group incorporating environmental considerations at a high-technology manufacturer, Howard-Grenville, focuses on the ways in which cumulative actions lead to environmental change. She argues that using a cultural lens to take an inward focus when assessing an organization's decisions to undertake environmental actions is important because organizational cultures are rarely monolithic or static, and therefore it is important to understand the various conflicting systems of meaning (Howard-Grenville, 2007). Several factors are believed to influence change: regulatory requirements, investor pressures, competitive pressures, institutional norms, technological innovation, and stakeholder/community demands (Hoffman 1999; Porter and van der Linde 1995; Reinhardt 1999). However, even when influenced externally, internal factors, e.g. culture, "shapes whether and how the external conditions are regarded as problems as well as the appropriate solutions" (Dutton and Ashford 1993 p. 398). According to Howard-Grenville (2007 p.11) "manager commitment, perception, leadership, organizational culture and subculture and structures all matter."

Ethnography of new/ideal organizational arrangements

Several recent ethnographies also explore the importance of ethnographic research to understanding new or "ideal" organizational forms and arrangements that emphasize inclusivity, and a shift from a focus on tools and techniques to ideology. Bostrom and Garsten remind us that in a globalizing world choosing between the 'make or buy' decision (e.g. transaction cost economics) popularized by Coase and Williamson is also about expanding or restricting the scope of accountability (Boström and Garsten, 2008). They focus on the ways organizations organize to meet demands of

accountability, and the process by which ideas about accountability are translated from discourse to organizational form through CSR practices (Boström and Garsten, 2008). Ethnographers have also explored issues of corporate accountability and expanding responsibility in relation to the aftermath of Bhopal and American injury law: "American injury culture is produced and consumed in a global economy, one in which injury an risk can also be outsourced to poorer nations who are willing to use pesticides and child labor" (Fortun, 1999, p. 3; Jain, 2006).

In an empirical test of Granovetter's conception of embeddedness, Uzzi draws on ethnographic fieldwork from 23 firms in the garment industry as well as statistical network analysis (Granovetter, 1985; Uzzi, 1996). He argues that there are varying degrees of embeddedness- and that one can be underembedded as well as overembedded. He concludes: "embeddedness increases economic effectiveness along a number of dimensions that are crucial to competitiveness in a global economy-organizational learning, risk sharing, and speed to market- perhaps underscoring the growing importance of embeddedness as a logic of economic exchange" (Uzzi, 1996, p. 94). However, there is a threshold: "optimal networks are not composed of either all embedded ties or all arm's length ties, but integrate the two" (Uzzi, 1996, p. 94)

In another industry level analysis, Howard-Grenville uses participant observation and interviews of the semiconductor manufacturing industry as it developed new rules for PFC emissions reduction. Her ethnographic work illuminates how actors and their interpretation of environmental challenges changed over time, and the resulting changes in industry and corporate rules and structures (Howard-Grenville, 2002).

Ethnography on the colonizing nature of the logic of efficiency

Recent ethnographic works focuses on the corporation as a colonizing social form. This body of literature explores how the logic of efficiency and the business case, signature of corporations, are "coming to colonize the goal of environmental conservation and sustainable development" (Hardin 2011). Ethnographers explore the ways in which environmental NGOs such as Wildlife Conservation Society or World Widlife Fund, and tribal governments such as the Royal Bafokeng Nation or the Seminole Nation, to use two examples, are and are not distinct from corporate actors (Comaroff, 2008; Cattelino, 2008; Hardin 2011). In the case of the Seminole Nation, Cattelino argues that cultural identity is maintained through market mechanisms such as casinos and the acquisition of the Hard Rock Café chain (Cattelino, 2008). Hardin (2011) problematizes the ways that environmental NGOs are displacing, emulating and collaborating with corporate actors to achieve conservation measures, and argues that these flows are reciprocally transformative of both sectors, in what she terms "collective contradictions" that belie the tension between commerce and conservation (Hardin 2011).

Not only are corporate norms and cultural forms perceptible in spheres previously deemed distinct from business, but they are also being, themselves, internally transformed. In direct reference to the management literature on institutional isomorphism, e.g. the tendency towards mimetic convergence with the goal of survival via the attainment of legitimacy, Welker and Wood focus on the "iron cage" of shareholder value in relation to socially responsible investment (DiMaggio and Powell, 1983; Welker and Wood, 2011). They ask if the adoption of business case rhetoric by the socially responsible investment community represents a convergence towards the traditional shareholder value logic of managerial capitalism (Welker and Wood, 2011).

Finally, Schwittay provides a multi-sited ethnography looking at how pressures from outside corporate structures come to bear on corporate cultures. Specifically, she chronicles how Corporate Social Responsibility initiatives (specifically Hewlett-Packard's e-Inclusion base of the pyramid program) in Costa Rica and HP's headquarters in Palo Alto, California to enable the extension of corporate forms as a framework for addressing issues of poverty in emerging markets (Schwittay, 2011). She critiques the base of the pyramid ("bop") strategy as marketization of poverty without attending to the underlying structure of poverty. Schwittay implies that these programs have a longer shelf life in powerpoint at HP than in reality leaving the reader to ask: what does this suggest about the bop strategy, and more generally our own apparent complacence with the spread of capitalism as a means to address societal problems? She argues that embedding poverty alleviation efforts within local cultural norms is crucial, and that as a result there is not a one-size-fits all bop program that companies can adopt (Schwittay, 2011).

Schwittay's points are hardly new; Stuart Hart, one of the original founders of the "bottom of the pyramid" approach devotes three chapters of his book Capitalism at the Crossroads to the topic of developing what he calls "native capability." And while such analysis does not consider the possibility that "natives" such as Seminole or Bafokeng might advance new modes of corporate structure and strategy, still it is fair to say that the interface of organizational studies, ethnography, and environmental sustainability remains underdeveloped relative to the promising overlap in the substantive concerns of scholars conducting empirical research within each of these intellectual niches, in order

to generate new conceptual frames. How such studies are shaped by or might shape deeper social theoretical traditions, is another question.

Ethnography of identity and subject formation/issues of power

Foucauldian notions of power/knowledge and subjectivity in relation to the diffusion of the corporate form also provide an important complement to more institutionally oriented literatures, allowing for the incorporation of questions about technology, material objects, relational power and social agency. Neo-institutionalist studies of management all too often neglect such broader, deeper concerns (DiMaggio and Powell, 1983; Foucault, 1977, 1979, [1978] 1991; Meyer and Rowan, 1977).

In an historical and legally based ethnographic analysis of different objects from cigarettes to airbags and hamburgers, Jain focuses on human object interaction and the privatization of interests in health and welfare. Her work takes seriously "the ways that commodity design harbors assumptions about sociality, behavior, and human action" and presents injury claims in light of their roles in governmentality (Jain, 2006 p. 4).

Ethnographic consideration of subjectivity is also unique in its consideration of non-human actors such as nature. Coronil's historical ethnography depicts the ways in which nature, and oil more specifically, is a driving force of state transformation and subjectivity in Venezuela because of its materiality (Foucault, [1978] 1991). Hayden explores the making of neoliberal subjects through a depiction of the public-private networks of bioprospecting and their various interactions with nature from roadside settings to markets and scientific labs (Coronil, 1997).

Ethnography of global connections

Often inseparable and intertwined with ethnography of subjectivity are ethnographies of global connections. The ethnographies are not focused on a single corporation, but rather take as their point of departure issues of globalization and the spread of capitalism. They are, therefore, pluralistic and comparative in nature examining simultaneously the general and specific, and the ways in which global and local identities are produced and reproduced (Hayden, 2003; Rees, 2001). General anthropological theories of global cultural processes focus on the tensions, disjunctures and convergences between economic, cultural and political sectors of globalization, often with attention to material elements and visible manifestations of these processes such as Disney or McDonald's (Appadurai, 1997 ; Fox, 2002). However, some anthropologists see such global ethnographies as a "theoretical impossibility" for a discipline and method founded on understanding human interaction, events, and the particular (Berger, 2002).

In *Rough Waters: Nature and Development in an East African Marine Park* Walley analyzes a "social drama" among Chole island residents, WWF, private investors and national government officials during the development of the Mafia Island Marine Park in Tanzania in the 1990s (Burawoy, 2000). Walley argues that through an understanding of conflict overt time power relationships are illuminated that challenge current assumptions about globalization: "In contrast to assumptions in commonplace narratives of globalization, the channels through which power came to be expressed in this contemporary international project-one overtly concerned with "community"-were not new " (Walley, 2004, p. 135). Rather Walley suggests that historical dynamics with international and national origins- through trade with India, Persia, and Indonesia, as well as Arab slave traders and German and British colonial rule-have been shaping community

life on Chole for centuries, just as they are shaping contemporary social drama (Walley, 2004).

Tsing suggests that the global and local are mutually constituted through friction that creates new forms of power and cultural identity. She defines friction as "the awkward, unequal, unstable and creative qualities of interconnection across difference" (Walley, 2004, p. 4). Her exploration of friction is grounded in a multi-sited ethnography that travels between rural communities in the rainforests of South Kalimantan, to Indonesian nature enthusiasts in the city, to international conservation NGOs and climate change modelers (Tsing, 2005).

Finally, in her ethnographic study of Malaysia, Ong proposes "graduated sovereignty" as a framework for understanding the transfer of authority from the state to private actors, and the ways in which this neoliberal system promotes hybrid forms of governance (Tsing, 2005). As an extension of this conceptual framework, Partridge examines ethical practices at a New York based high-end clothing firm to understand the ways in which "corporate power negotiates state sovereignty, and how it is producing subjects that are outside of the logic, responsibilities, rights, and participation implied by a nation-state centered citizenship" (Ong, 2006).

Of particular relevance to this study are the themes of ethnography from within/ ethnography of occupations and ethnography of new/ideal organizational arrangements. The literature underlying each of these themes provides a useful departure point for understanding the process of change at Ford. While the other themes are less applicable, they also provide useful points of comparison and a discussion of corporate ethnography would not have been complete without acknowledging their presence.

SETTING AND METHODS

Ford Motor Company (referred to as Ford throughout this chapter) is one of the world's largest manufacturers of automobiles, and is ranked in the top 100 largest economies of the world (above many countries) generating annual revenue of $146.9 billion in 2013 (Institute for Policy Studies, 2000; Ford Motor Company, 2014). Headquartered in Dearborn, Michigan, Ford has 186,000 employees and operates 65 plants worldwide. The company's automotive brands include Ford and Lincoln, and it provides financial services through Ford Motor Credit Company (Ford Motor Company, 2014). Ford has historically defined itself as a manufacturer of cars and trucks, and in recent years as the originator of North America's best selling vehicle, the F-150. Ford was also instrumental in bringing the Sport Utility Vehicles (SUVs) concept to market, embraced by American consumers but criticized by environmentalists and safety activists.

Ford prides itself on a heritage of corporate social responsibility since its inception in 1903. Although some of his practices were considered controversial, Henry Ford, the company founder, is often recognized both as a technological and social innovator who provided affordable transportation for the masses. And, with this increased personal mobility came positive economic and social benefits like greater access to relatives, employees, raw materials, medical attention, and education. His implementation of a $5 per day wage in 1914 (almost double the pay of other auto workers) led to more satisfied and efficient employees on the line, as well as less turnover in the factories. Henry Ford is also credited with instilling a strong environmental ethic in the company,

for example by reusing wood shipping crates in the actual vehicle production. This has led to a corporate culture that sees itself as innovative as well as socially and environmentally conscience. In fact, in the early stages of the sustainability office's formation and work, employees frequently invoked the company's innovative origins and history of environmental and social values as guideposts for success. According to the former Director of the Sustainability Office, Deborah Zemke (2003), "At Ford, we believe that the thread which weaves across the past, present and future is corporate responsibility. Ford is a family, in every sense of the word, and our sense of social responsibility has always begun at home".

However, in conflict with the company's historical emphasis on corporate social responsibility is the fact that the company is also one of the most serious contributors to greenhouse gas emissions, releasing an estimated 300 to 400 million metric tons of carbon annually (Ford Sustainability Report, 2013)[7]. In general, automobiles are becoming increasingly associated with negative consequences such as increased pollution, congestion, greenhouse gas emissions, and accidents. By 2050 it is expected that there will be 2 billion cars on the road globally (nearly double the number of cars on the road today) exacerbating these problems (WBCSD, 2001).

Sustainability at Ford

Both because of the scale of its impact on contemporary rates of climate change, and its proactive history of action on sustainability matters, Ford provides an ideal setting

[7] This estimate includes emissions from Ford's facilities, current-year vehicles and emissions from all Ford vehicles more than one year old on the road. In 2010 the company emitted an estimated 342 million metric tons (Mmt) of greenhouse gas emissions. In more detail, 5 mmt of greenhouse gas emissions came from manufacturing facilities, 29 mmt came from new vehicles and 329 mmt came from vehicles on the road. Ford updates this estimate every 5 years, and plans to do so again in 2015. According to the company, "it is not possible to give a more precise value because of uncertainties in the number of Ford vehicles in the on-road fleet and how many miles these vehicles traveled." (Ford Sustainability Report, 2013)

to study why, when and how change is enacted in practice. A more detailed account of Ford's historical and contemporary sustainability and climate actions are discussed below in the results section. However, as a point of background knowledge it is useful to understand the quality of sustainability activities generally at Ford.

Ford's contemporary sustainability activities began with the creation of a sustainability office in 1999 by William Clay Ford Jr., great-grandson of Henry Ford and Chairman of the company. The office was originally known as the Corporate Citizenship office, and was primarily responsible for interfacing with Non-Governmental Organizations (NGOs), sustainability reporting, climate change and developing a human rights and HIV/AIDS program. The Corporate Citizenship office was located within Ford under a vice-president responsible for policy and philanthropy. In 2005 the office formally became the Sustainability office and subsequently reported to the newly appointed Senior Vice-President of Sustainability, Safety and Environmental Engineering. Internally this signified senior executive recognition of the growing importance of sustainability as well as a mainstreaming of the Sustainability office- e.g. alignment of the Sustainability office with the mainstream business organizations such as product development. The overarching objective of the Sustainability office is to incubate and deliver business solutions that add long-term value to society, the environment and the bottom line in addition to its original activities. Ford's own definition of sustainability is "a business model that creates value consistent with the long-term preservation and enhancement of environmental, social and financial capital" (Ford Sustainability Report, 2013). (However, based on interviews it is unclear whether this definition has real significance in daily practice).

Ford has been recognized as a leader in sustainability issues, and as a pioneer of sustainability reporting through the Global Reporting Initiative (GRI). Among several other awards, Ford was ranked first on Interbrand's prestigious list of the 50 Best Global Green Brands in 2014 for its innovative approach to sustainable manufacturing, as well as transparency and disclosure particularly in the area of sustainable manufacturing (Ford Motor Company, 2014). Ford gained the distinction of being the first automotive company to adopt a Human Rights Code of Working Conditions in 2003 and subsequently to endorse the United Nations Global Compact. Ford has also been listed on the Dow Jones Sustainability Index and FTSE4Good Index for nearly ten years[8]. Ford was also ranked as the most carbon efficient of the "big three" auto manufacturers based on Trucost calculations using the companies' carbon disclosures and calculations of their supply chain greenhouse gas emissions (Montoto, 2012).

Data Collection and Analysis

I conducted seven months of ethnographic research between September 2011 and March 2012. An ethnographic case study is well-suited to study Ford's response to climate change, as it is a complex and sensitive topic rife with the possibility for regulation and accusations of greenwash. Such case studies are useful for expanding and refining theory as well as revealing alternative explanations for company behavior (Yin 2003; Weick 2007).

I gained access to the Company through permission of senior personnel, e.g. gatekeepers in the Sustainability Office as well as legal permission through the Office of

[8] The Down Jones Sustainability Index and FTSE4Good Index are two of the most prominent socially responsible investment indices. They screen companies based on environmental, social and governance criteria prior to inclusion.

the General Counsel. Within the company I established myself in a participant-observation role with peripheral membership. I could not expect to be less than a peripheral member due to my previous work experience in the sustainability office at Ford. As a Ford employee from 2002 through 2007, I was an embedded observer, inextricably intertwined in the process as a result of my personal connections to my field of study. As with other "ethnographies from within," I aim to write a multi-positioned dissertation from the vantage point of someone who has worked inside Ford and the sustainability field. It is important to acknowledge that "mine is an interested interpretation, not a scientific judgment…ultimately, the objectivity of my analysis cannot be that derived from standing above the fray or of suppressing subjectivity, but rather that which comes from maximizing the capacity of actors to *object* to what is said about them (to raise concerns, insert questions and interpretations)" (Mosse, 2005 p.12). Therefore, I have circulated this draft to the key individuals involved in this project for critical comment and have incorporated their feedback in several cases. On a practical note, my previous experience at Ford and the formal and informal connections that I made during that time allowed me to gain trust and access that might have otherwise been difficult to obtain given the sensitive nature of the topic. Furthermore, I understand the issues in question intimately, and have a sense already of the internal tensions and debates on such issues. Through my previous experience I gained a deeply contextualized understanding of the company culture, key players and the issue which provided a useful vantage point for analysis.

Data were primarily derived from semistructured interviews, and supplemented with documents and meeting notes.

Semistructured Interviews:

During this period I conducted 30 interviews with 31 individuals (one interview included multiple individuals), as well as several follow-up conversations via email. I interviewed 21 Ford employees in the U.S. and Europe from offices including Sustainability and Vehicle Environmental Matters (SVEM); Environmental Health and Safety (EHS); Marketing, Governmental Affairs, Corporate Affairs, the Chairman's Office, Product Development, Supply Chain, Office of the General Counsel (OGC), Investor Relations and the Scientific Research Lab. Employees interviewed held positions at the level of manager, director, vice-president and chairman. In addition I spoke with four retired or past Ford employees. I identified key informants in a variety of departments that are core to addressing climate issues based on my previous experience at Ford as well as the recommendations of those interviewed. I also interviewed six external participants who have worked closely with Ford as advisors, consultants or interested Non-Governmental Organizations (NGOs) with sustainability and climate change experience. Interviews lasted between 45 minutes and 2 hours, and were on average just over an hour in length. Most interviews were conducted in person with the exception of participants who are located outside of Michigan or abroad. The tone of most interviews was relaxed, and very open. All interviews were taped (with the exception of two interviewees who requested not to be taped), and I took notes and then transcribed portions and included more descriptive, extensive notes at a later time. The focus of the interviews was on participant's roles and experiences related to the Company's climate change efforts over time. I asked interviewees several guided but open ended questions about their responsibilities related to climate change; whom they

worked with (inside and outside Ford) to address the issue; why, when and how climate became an actionable issue for them as individuals and for the company; and important climate related actions by Ford (see Appendix for a full list of guiding questions). To maintain anonymity and protect interviewees' identity, identifiers have been changed and quotes are only broadly associated with the interviewees position.

Meeting Notes:

Interviews were supplemented by attendance at bimonthly Global Sustainability Planning Team (GSPT) meetings from December 2011 to March 2012. The GSPT is a global group of managers and directors tasked with developing and implementing Ford's climate change and fuel economy strategy. Their work is significant because it is shared with a group of vice-presidents, the Sustainability Mobility Group (SMG), for decision making and alignment purposes and reported to the CEO, Alan Mullally, on a weekly basis at a Thursday morning meeting reviewing progress against the business plan, the Business Plan Review (BPR). Any additional matters requiring special discussion or attention are shared with the CEO at a separate Special Attention Review (SAR). My role during these meetings was as an observer; I took notes, and observed interactions and points of discussion or tension. Through these meetings I gained an understanding of the day to day work that was being done to address climate change including issues that were and were not going well, future plans and concerns and inter-departmental and regional dynamics.

Documents

I also collected and reviewed archival data including documents from interviewees as well as publicly available documents. Documents included all Ford

sustainability reports published since 1999, a Ford climate change report, Ford proxy statements, press releases, internal memos, presentations, email communication between Ford employees and between Ford employees and NGOs, speeches given by Ford executives and news articles. Documents were used to fill in historic or knowledge gaps in my data, and to check for consistency and accuracy among interviewees.

Theory development was an iterative process of moving between data and analysis (Staudenmayer et al. 2002). Initial analysis involved reading my interview notes and documents for recurring themes as well as listening to interview recordings. Further content analysis and coding was done using newer programs, along with the time honored inductive process of allowing themes to emerge from the data (Glaser and Strauss, 1967). I was particularly interested in themes related to processes and drivers of change related to climate related actions, and when these actions were perceived as substantive vs. symbolic. During the coding process, I also created a time line of key events based on interview feedback and a review of documents. The timeline includes significant internal and external climate change related events and actions at Ford. Clearly technology and technological innovation is an important component in Ford's climate change response, but I am not interested in exploring that here. Rather I will take the technology as a given, and look at the people and processes behind the climate related discourse and actions. I chose this as a point of departure because I would argue that the automotive technology largely exists to address climate change, making the behavioral and cultural aspects related to Ford's transformation more interesting for analysis.

RESULTS

Data analysis allowed me to observe at a fine-grained level, a process of change that was neither primarily motivated by external jolts nor comprised of mundane, everyday occurrences. (Hoffman 2001; Howard-Grenville, 2010). Although external factors do matter, and the processes that result in change eventually become and are even sustained by mundane events, it was not necessarily or initially so. Drawing on data examining why, when and how change was enacted at Ford, I developed a model in which friction emerged as a key element leading to change as depicted below in Figure 4.1. I also offer an account of how actions moves from symbolic to substantive through this change process. Interestingly the analysis reveals an inverse relationship between friction and substantive action. This suggests that symbolic actions early in the change process that do not yet reflect internal alignment around contentious issues such as climate change are likely to reveal themselves through the friction that they create. This relationship would be interesting to explore in future research.

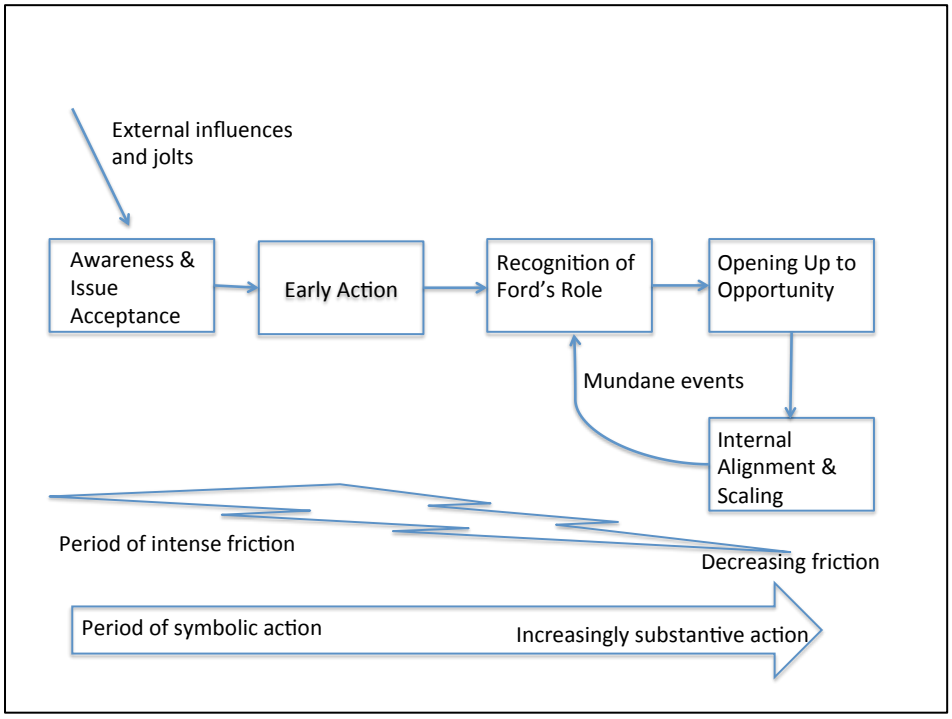
The model reveals how in the course of a decade a changing response to climate change was manifested through issue acceptance, early action, recognition of Ford's role, opening up to opportunity and eventually internal alignment around the issue coupled with scaling of solutions. Essentially the climate change went from a "nice to know" issue to one that was strategic and finally became an internalized part of the corporate culture. A myriad of external influences and occasional jolts are present throughout the change process from the beginning. These include market pressures, scientific understanding of the climate issue, consumers, the media, regulation or the threat of potential regulation and civil society or NGO influences (Hoffman 2001a; Howard-Grenville, 2010). For example, one such "jolt" was the increase of gas prices in 2008 to

nearly $4.00 a gallon which temporarily drove consumers to purchase smaller vehicles. However, these external influences have been explored elsewhere, and are not the real focus of this study. In the awareness and early action phases Ford began to accept the science of climate change, and respond to the issue through reporting and early goals (that were not connected with the company's broader priorities or strategies).

This phase was championed by the CEO and Chairman, Bill Ford and a small team in the then Corporate Citizenship Office, and was supported and externally validated by NGOs. This resulted in the greatest period of friction surrounding Ford's response to climate change, because actions were not connected directly to the company's products or operations. The result was internal resistance and external frustration because of the perceived disconnect between the company's words and actions. Eventually sophistication of scientific understanding and improved modeling led to a better understanding of Ford's contribution to and role in addressing climate change. Beginning in 2005 Ford began to calculate its contribution to greenhouse gas emissions every five years including facilities, current vehicles and all Ford vehicles on the road (Ford Sustainability Report, 2013). Complementing this scientific modeling, was a growing understanding of the market opportunities inherent in developing a product strategy based on a fleet of smaller, more fuel-efficient vehicles. This led to development of processes and governance structures that were aligned with corporate priorities and goals, and measured and reported against. At this point climate change had been internalized at Ford as part of the culture, and a continual refinement of Ford's role, opportunities and related alignment was supported by mundane or liminal events (Howard-Grenville, 2010). But to understand this process of change it is useful to start

from the beginning. Therefore I began my analysis with an examination of why, when and how climate change became an actionable issue at Ford. I also provide more detailed examples revealing the underlying mechanisms characterizing Ford's changing response to climate change below.

Figure 4.1 Model of Change



While many companies espouse concern over climate change today, and have climate strategies and goals, Ford has been recognized within the automotive industry as a pioneer and leader for its climate change response. Ford's response to climate change is notable especially when compared to its industry peers and General Motors in particular. Both Ford and GM occupy a similar market identity, geography and face similar regulatory pressures and so would otherwise be expected to respond similarly to issues such as climate change (Davis and Greve 1997; Hoffman 2007; Marquis 2003; Marquis

et al. 2007; Zuckerman 1999). During the 1990s, Ford, and the rest of the auto industry acted as climate deniers and skeptics, and largely used debates over science and economics to block climate action related to the Kyoto Protocol. However, within the course of a decade Ford had begun to take a notably different stance. Ford became the first auto manufacturer to recognize the science of climate change and leave the Global Climate Coalition (GCC), an industry coalition lobbying against climate science, and eventually developed a product plan linked to climate stabilization. (A more detailed description of this event and a timeline of events is included in the appendix.) Several employees remarked about this change, and it is summarized nicely in this quote:

> There has been a transformation…you always have degrees of believers [in climate change]. You now have a company of people who believe that the way we do business today is part and parcel of who we are and what we stand for while that never used to be a general feeling…people thought working for Ford was special because of a sense of giving back to the world, and that hasn't gone away but it has become more robust by looking at process and production as something that we can truly develop in a way that is industry leading in a thoughtful way that prevents the kind of pollution and waste that took place in the past. In a matter of a decade we've done almost a 180 in our thinking and approach [to climate change].—Ford manager

So why did Ford take this unique position in relation to its industry peers, and industry in general? There are some motivating factors that function as drivers in Ford's

changing stance towards climate change. Interviewees described several drivers of Ford's changing stance towards climate change. The top drivers are internal alignment/governance structures, leadership, market competitiveness, science and the influence of non-governmental organizations (NGOs). These drivers are described in detail below, along with a table including all of the drivers mentioned by interviewees and counts for the frequency of mentions (see Table 4.1).

Table 4.1 Drivers of Change

Driver	Count	Percent
Internal alignment/governance structures	19	63%
Leadership	19	63%
Market competitiveness	17	57%
Science	14	47%
NGO influence	14	47%
Potential regulation/regulation in Europe	11	37%
Global focus	7	23%
Cost of vehicle ownership	3	10%
Vehicle CO2 performance	2	6%
Energy efficiency	2	6%
Investors/shareholder resolutions	1	3%

Tied as the most important motivators of change, are the related drivers of internal alignment/governance and leadership (63 percent). Interviewees mentioned the necessity of leadership on the climate issue at the CEO level as well as the importance of the directorship of the sustainability office.

> We brought in people who were more far-reaching and less traditional. We changed the management. We brought in people with a global picture, people who had a better understanding of the globe and about global

responsibility and global battle grounds. You can look at Alan [Mulally, CEO], and Jim Farley [Executive Vice-President and President Europe, Middle-East and Africa] coming in at the very top…and I think this makes a big difference. It is very different from people in 2006 saying 10 miles per gallon is okay…Jim Farley and Alan have allowed people to challenge assumptions more and that is an important piece.—Ford manager

In 2006 you have the arrival of Alan Mulally and you have a chairman and CEO who are likeminded, so you have most senior level of management pulling in the same direction. That let Alan turn Derrick Kuzak [Global Product Chief] and PD [product development] loose using scientific modeling developed cooperatively between BP, us and NASA using variables for economic, atmospheric modeling and we created inputs for the light duty segment from light truck to b cars…we started doing scientific analysis to find out what does our contribution need to be to stabilize 450 ppm by 2050.—Ford manager

The good news in the directorship of this [sustainability] office is that you had Debbie [Zemke] who broke a lot of ground and eggs…then Niel [Golightly] starts enhancing relationship and he's a good communicator and then you go to John [Viera] who has experience at core of business and he knows the challenges…so when we make the commitment to talk science and technology you have the guy (the director) to do that.—Ford manager

> Different leaders [in the sustainability office] at different times made a big difference…Debbie [Zemke] was willing to take the arrows at the time. Niel [Golightly] came in and was a great collaborator and communicator on a common agenda. And then John [Viera] came in who had credibility with the research and development world. We lacked engineers on the team, We were trying to raise issues without enough of a technical underpinning. –Former employee

However, interviewees also repeatedly mentioned that leadership alone was not enough, and that real change did not happen at Ford until this leadership was supported with a strong governance structure for addressing climate strategy and implementation. Several participants reflected on the way that climate change was now integrated into job descriptions, product plans and daily operations where it had previously been project based and ad hoc.

> In 2008 when Alan [Mulally] appointed me and put sustainability in the job title it solidified that this was mainstream and real. [Describing the governance structure]…The sustainability mobility governance we took over in 2009 as part of trying to get this integrated into the company…We meet twice a month reviewing proposals [for climate progress and implementation]. We also look at anything related to CO2 plan, zero emission vehicles, fuel economy…We review all of these things and get buy in. From there we have a marketing and PR and community relations plan…We also have governance at board level where we meet…So have top of house and every day operational governance.-- Ford executive

> The change of my role, shows also the change and power in climate change over time at Ford. I started 3 years ago reporting to corporate communications and now things have become more central. We have green, quality, smart and safe pillars…"Green" is becoming more important for us so it is my job to describe the green vehicle and manufacturing piece. It used to be more project based and is now more integrated.—Ford manager

Mentioned as the second most important driver of climate response was market competitiveness (57 percent). This is not surprising as the importance of opportunity as a predictor of coupling is noted in the first study, and the logic of opportunity was prevalent in our study of sustainability reports. Opportunity as a driver has also been noted in other studies (Hoffman, 2007; Howard-Grenville 2010). In this circumstance employees noted the ways in which market opportunity spurred action, and how the company's product plans were based on being competitive in a market what now valued fuel efficiency. Employees also noted the importance of "selling" climate change internally as a business issue.

> The bigger driver [for climate action] was competitive advantage and fuel economy was a differentiator… and fuel economy translates into CO2. We could market fuel economy. –Ford director

> Now there is more science behind climate change and we've figured out that its good for business…We aren't just saying these things to keep NGOs and Sister

> Pat quiet we're doing it because if we do it it will help the business and be good for shareholders. It all comes back to economics.—Ford manager

> Before every 3 months would have a new plan, and there is still some churn…but now that commitment [to climate change and fuel economy] is internalized and we are going to be fuel economy leaders. We own it and we deliver it, we've simplified the metrics. Now we are tracking a critical few metrics…The [Blueprint] Plan is not just fuel economy, its just fixing the business.—Ford manager

> Bill Ford was the biggest driver…but the biggest enabler that encouraged people to listen was couching it [climate change] in business terms.—former Ford executive

Science and NGO influence are mentioned as the third most important driver of Ford's response to climate change (47 percent). Interviewees described how Ford's climate strategy is science based, and how science had guided strategy formation based on a goal of contributing the company's fair share towards stabilization of atmospheric concentrations of carbon dioxide.

> Ford's [climate action] was not driven by regulation…There are 3 things that drive CO2 strategy…science and stabilization, the competitive set and what customers need in terms of fuel economy and policies and regulation… By

science driving us it guarantees that we are competitive…because our goal is to be a fuel economy leader.—Ford executive

We are not moving due to legislation, we are moving on our own ground. Our path is more driven by our internal research with a glidepath for all regions…We know what is reasonable and needed and we are working towards that, and if we are ahead of legislation so be it, and if legislations is tougher we would wonder if it is needed. [Defining "reasonable and needed"]…temperature should not be increased more than 2 degrees, which means 450 so it is scientifically based.—Ford manager

The basis of the [Blueprint] plan was a high level management decision that we should bring together people in policy and research and product and manufacturing to get together to figure out what we should do about climate change, and what would be a rational targets. That was in early 2000…We looked at CO2 targets adopted by government bodies and there was quite a range of 450 to 550 ppm being discussed as reasonable targets to avoid the worst impacts of climate change…so initially we thought of adopting targets in that range. In the end we settled on 450 ppm and that is what the Blueprint is based on…Choosing 450 ppm is a scientific decision really…a lot of organizations have adopted a target of no more than 2 degrees Celsius [temperature increase] above pre-industrial and that is the basis of our thinking as well. And the precise amount to avoid a 2 degrees rise is still uncertain…a lot of organizations think that if we

stabilize at 450 we will avoid this…At current it is 391 ppm, and it used to be 280…It is a reasonable target of what needs to be done and that target might need to be adjusted up or down. It may turn out that we need to have a higher number or a lower number. But at least for this decade, for right now 450 is a reasonable target.—Ford manager

This [Blueprint] plan is different because of its scientific basis…It was an effort from a few of us to do the work and look ahead and convert scientific information into practical planning.—Ford manager

Despite periods of conflict, NGOs were cited as providing important external perspective, research, inspiration, resources and knowledge necessary to address climate change. Employees also stated that it is unlikely that one company or even one sector alone will deliver climate change solutions, and therefore working in partnership with NGOs has become increasingly important.

As much as I hate to admit it the 1-2 punch that the NGOs gave us was effective…East coast [NGOs] had more constructive dialogues while the west coast [NGOs] were campaigners…I'll never forget a conversation with Dan Becker [Sierra Club Director] …We were sipping on a cup of coffee…I asked "Why do you always pick on us?" and he said: "We throw a rock at GM and hear nothing back. But you're more rewarding to pick on."—former Ford executive

They [NGOs] wouldn't be getting the reaction they got [if they didn't have any

influence]…where there is smoke there is fire…they were creating friction and heat…Although its tempting to say we didn't need that much stress and conflict to change…-- former Ford manager

When we were developing scientific model we brought in technical NGOs to validate what we are doing. We used the technical NGOs to see if our assumptions were right. They also gave credibility and enhanced our image by endorsing our [Blueprint] plan. They were a player in court of public opinion.—Ford manager

NGOs were helpful in signaling to us that the issue [climate change] had importance and was likely to be long lived and bringing the pressure. Even though we were making all of this money on SUVs and trucks we had to keep an eye on where this was going.—former Ford executive

Its [engagement with NGOs] had a tremendous impact…When we had the first stakeholder engagement in 2000 we invited outside NGOs…We hardly knew these people but after spending 3 days with them we made climate change, human rights policy as 2 critical objectives that Bill [Ford] endorsed…So from the very beginning they made an impact. I think the reason why we were so successful [was this engagement]…I think that's really important. I've been in this company for 28 years, we look at this as car guys. If we didn't meet with these people we would think they [customers] wanted muscle cars.—Ford manager

The process of change described above, occurred over the course of more than a decade, however Ford's initial awareness of climate change began in the 1970s. The timeline in Appendix 4.3 provides some of the key dates and milestones related to Ford's climate change actions along the journey. Prior to 2008, most of these events represent important although incremental steps characterized by decoupling and frequent internal and external friction. In 2008 Ford publishes its "Blueprint Plan" and its actions move from symbolic to substantive as climate strategy and discourse are finally linked with product performance. (A more thorough account of how this occurred is offered below).

A few examples, discussed in detail below, provide insight into how the process of change occurred at Ford. The common theme throughout these examples is the often intense friction that transpired along the way, leading to a model of change as described above. Particularly in the early days of Ford's climate response (beginning around 2000 as described in the timeline), this change was characterized internally as a battleground between departments, and between Ford of Europe and North America. Externally conflict with NGOs and regulators was also common. This friction resulted from the uncomfortable tensions created internally as response to climate change was counter to the company's institutional inertia. However, beginning around 2006, climate change is seen as an important competitive global battle ground and a strategic imperative. At this time there is also increasing alignment between Ford's strategy and external conditions such as demand for smaller vehicles and concerns regarding fuel economy driven by the price of gasoline. Employees commented on the difficulty of the process, and its antagonistic nature.

> We had a real cultural problem on our hand that needed to change in addition to vehicles. We needed to make more sustainable vehicles and also change the mindset and roles as it related to sustainability.—External interviewee

> I don't want to make it seem too negative here…but to me I don't want to seem like Ford has got climate change and it's a no brainer. It has been a very tortuous journey and process…We are doing ourselves a disservice if we paint it as easy or evolutionary…Its been a battle every step of the way, but its true that the company is embracing the need to be more fuel efficient because of market demands, and we have changed our brand so green is part of brand DNA.—Ford manager

> But we've come such a long way both in addressing the issue [climate change] and how we talk about it and work with it…Its tremendous to see the sophistication that has developed around that process and how its become such an acceptable way of how we think. People have done an admirable job of making it work well within the company, whereas early on it was antagonistic.—Ford manager

I elaborate on a few events from the timeline above as characteristic examples, or perhaps they are more appropriately referred to as "battles," from different phases of the change process. Examples are from the period of the corporate citizenship office's founding, Ford's decision to leave the Global Climate Coalition (GCC), the publication

of Ford's first Corporate Citizenship Report, early fuel economy goals and standards and finally the formation of the "Blueprint Plan."

Awareness: Sustainability Office Formation

As described above, the office that is primarily responsible for climate change and more broadly sustainability strategy and implementation at Ford is the Office of Sustainability and Vehicle Environmental Matters. This office was created and championed by Bill Ford shortly after he became Chairman in 1999. The first director of the Office, Deborah Zemke (2003), described his motivation in these terms:

> He recognized that corporate responsibility was no longer about Foundations and charitable donations. They are important, of course, and Ford is a committed leader in philanthropic activities. But Bill saw corporate responsibility as who we are, what we offer in the marketplace and how we conduct our business.

The office began as the Corporate Citizenship Office reporting to the Vice President of Governmental Affairs, and later became the Sustainable Business Strategies Office which reports to the Vice President for Sustainability, Environment and Safety Engineering. Today the Vice President for Sustainability reports directly to the CEO, so the office continues to enjoy a direct connection to company executives.

The office began to address climate change with the help of external advisors following a stakeholder dialogue in which climate change was addressed as one of the top three issues that stakeholders were most concerned to see Ford address. Deborah Zemke (2003) describes this process as a painful but important turning point for the company:

> Late in 1999, we asked John Elkington's company, SustainAbility, to help assess our strengths, weaknesses, and long-term risks in the context of Sustainable Development and CSR. Part of the process involved exposing senior Ford leaders to a cross-section of stakeholders--it led to some unusual gatherings and the discussion was not without its pain! But the lessons learned, and fed back to the board in 2000, were a turning point for us.

From the beginning, the four full-time employees in the office encountered tensions working within the company despite the support they were receiving from Bill Ford. Several quotes from employees illustrate how the office operated, and how the employees in the office perceived their role within the company during these early days as "internal activists" with "one foot in the company and one foot out" (Gelhaus, 2003). They viewed their primary role as looking for signals of societal change that would impact Ford. Many of these signals were "read" through relationships with external advisors and NGOs. One of the former managers in the office described the relationship with NGOS: *"*they are like a canary in a coal mine- a signal for change. We want to give them the legitimacy they deserve*"* (Gelhaus, 2003).

As internal activists, or tempered radicals, the employees often found themselves at odds with other offices and particularly with the policy, or Governmental Affairs Office (ironically since they reported to the same vice president) that was reticent to endorse any changes that would lead to the "slippery slope" of increasing fuel economy standards (Meyerson and Scully, 1995). The director describes these early days as "less a straight journey than a jagged trail." The tension became so severe that the director of the

office was often accused of siding with NGOs at the expense of the company, and eventually was asked to retire. However, because she was willing to "walk the plank," she broke significant ground and raised awareness of the climate issue that paved the way for future directors to focus on connecting the climate issue to the business.

> We had a healthy tension...what we had was a situation where we had advisors coming in and telling us where the industry should be heading…Debbie walked the plank because she was at the end of her career. She was getting painted into that corner as well, "you're aren't looking out for the business"…but she was more reading weak signals and putting together evidence…The other crazy dynamic was Bill Ford…his name is on the building, he's a visionary but couldn't do it [drive climate action] because the company was so big and of all of the politics and fiefdoms—former Ford manager

> We [the sustainability office] were a grain of sand in the oyster…we were the irritant…Our relationship with the business was making the point of view of the scientists and NGOs of the east coast—former Ford executive

Early Action: Leaving the global climate coalition

Some of the early actions of the sustainability office were regarded internally as difficult changes for the company, however as the Director, Deborah Zemke (2003) says the real difficulty (and associated conflict and decoupling) came during the process of following through.

> Some major shifts in our thinking on Climate began in 2000:We announced that we accepted the science of Climate Change and would address the issue responsibly and proactively. We withdrew from the Global Climate Coalition—the first auto company to do so. We signed up to CERES and its principles of environmental responsibility. We published an initial assessment of our Greenhouse Gas emissions not only for our plants but also for our products which are the principal source of our Climate impact. Those changes were relatively easy compared with the follow-through.

I will examine briefly the decision to leave the Global Climate Coalition. As described previously, the GCC was an industry coalition focused on fighting the science of Climate Change, and specifically making sure that no action was taken on the Kyoto Protocol. However as new scientific evidence emerged, the company, and in particular, Bill Ford became uncomfortable with the GCC's position. Ford's decision to leave the GCC made it the first auto company to do so, and it's departure was followed shortly by General Motors and Chrysler. The group subsequently became defunct. As described by a former executive, the move was not without controversy:

> The issue of the [Global] climate coalition evolved. There was a lot of skepticism early on and a lot of uncertainty. The CEO, Alex Trottman, was not convinced it was an issue. Even if you were convinced it was not clear what the policy action should be. Given the seriousness of the problem there was uncertainty about what policy actions to take. In terms of how Ford changed, the science started to

> become more clear…Ford's management started to get concerned that GCC was on wrong side of the issue…Bill ford becoming chairman was a big factor, because he was uncomfortable with the old view [of climate change]….We waded into that and to extricate ourselves externally was hard… It was not hard to change internally. It was hard to change externally because of politics. We had to tell politicians and a lot of Senators felt that they had gone out on a limb and now we were sawing off the limb…When we announced it [leaving the GCC] that was the end of the GCC. –former Ford executive

From an external perspective this time period was also full of tension:

> Early on these conversations [about climate change] were fairly adversarial…During that time all auto makers were part of the Global Climate Coalition. That was the state of things during the Kyoto period. I have one anecdote…by the mid90s I was based in DC and making regular trips to Detroit…There was one striking plane ride home for me…The plane was full of auto lobbyists…I thought if this plane went down the world would be a better place…there was a lot of hard ball lobbying…--External interviewee

Role Recognition: Reporting

Two important moments in Ford's evolution towards recognizing its role in addressing the climate challenge manifested themselves as (often bitter) conversations regarding SUV fuel economy.

Ford released its first sustainability report (then corporate citizenship report) in 2000. (As an important point of context, prior to this time Ford had been relatively silent on the issue of climate change, and a seventy page internal report examining environmental issues facing the company first mentioned climate change on page 58). The report featured a fairly innocent looking two-page spread discussing the environmental and safety concerns associated with SUVs. The result, however, was viewed internally as a "media firestorm" with coverage in the *Economist* and *New York Times*. While the report had been circulated to executives for review, for most it sat on their desk and went unnoticed until after its publication attracted media attention. Subsequently the Director of the office was called in front of the executives and board for what she called a "public flogging" (Zemke, 2003). As described by one employee, the initial process of reporting was "bumpy" and the sustainability office itself was seen as "an annoying nat in the company:"

> It [reporting] was hard at first because people didn't really understand our [sustainability] office. Information was largely seen as proprietary and they didn't understand why we were interested, it was bumpy—Ford manager

> I started in February of 2000 and in May of that year at our annual meeting we put that [discussion of SUV environmental impacts] into our first sustainability report…The process [for reporting] was very rudimentary and challenging. We

were like an annoying nat in the company…It was 2 pages out of 100 plus pages in the report questioning the greenness of SUVs,,,The New York Times did an article in the paper the next morning saying Ford was questioning itself. This largely brought attention to our office and it was bumpy and a less ideal way of bringing attention…although it was ultimately effective in forcing a lot of attention on the office and forcing recognition [of climate change] even if in a stressful way…In hindsight its something that in some ways has to happen in big organization to draw attention to issues that are considered important and that we should be focused on even though they are seen as more societal issues…but you can't separate yourself as a global company from these societal issues because they are part of business—Ford manager

Early reporting was also important because it was through the reporting process that Ford first calculated and shared its estimated contribution to greenhouse gas emissions as mentioned above. And by 2006 the company published a standalone climate change report in response to a shareholder resolution (which was eventually withdrawn). This marked an important turning point where climate change now became less threatening and something that could be spoken about internally according to interviewees.

That [climate change] report was a turning point in the industry in terms of making climate change less threatening…Before there was no way that "cockimamy" theory of climate change was good for the industry. The turning

> point was that you can talk about climate change without world falling apart.—former Ford executive

Fuel Economy Goals and Standards

Another important moment in the early stages of Ford's recognition of its role was its first goal aimed at addressing climate change. Ford's "25 in 5" goal was a commitment to reduce fuel economy of SUV's by 25 percent in five years by 2005. This was later followed by a "hybrid commitment" to increase production of hybrids to 250,000 by 2010. However, as recounted by employees these commitments were not tied to the business or measurable performance objectives, and they were ultimately not met.

> [Ford received] so much attention for setting the target and then criticism for missing it…People were mad internally because it didn't reflect internal culture and goals and priorities…It may have been ahead of consumer demand—former Ford manager

Despite their visionary nature, the effect of not meeting the 25 in 5 goal was deteriorating credibility among NGO's, government and employees with little improvement in fuel economy or climate change emissions. This began a series of years of strained relations between NGOs and the company due to perceived greenwashing, including tense conversations over increasing fuel economy standards and a series of campaigns. Several of these campaigns personally attacked Bill Ford, including a full page *New York Times* ad featuring Bill Ford with a Pinocchio nose.

> That [25/5] was such a disaster not because Ford failed to keep the 25/5

commitment…It was because of the way we communicated that we weren't going to keep commitment. If we had gone around to all the NGOs to talk to them about why we were falling short it would have made a difference…we could have gotten them all onboard….but some PD guy in a off hand way at an auto show mentioned this…--Ford manager

A lot of NGOs hung [Ford's] reputation on 25/5…as soon as we pulled the plug in a clumsy way that put them in an untenable position with their constituents.—former Ford executive

Opportunity and Alignment: Blueprint Plan

A markedly different example is that of the development of Ford's Blueprint Plan. Development of the plan involved moving beyond Ford's recognition of its role in addressing climate change, into recognition of the opportunities involved and eventually implementation beginning with the establishment of governance structures and scaling of technology. The Blueprint Plan is aligned with Ford's goal of contribution to climate stabilization (at 450 ppm) and is based on modeling of vehicle contributions to emissions as well as market and regulatory trends (Ford sustainability Report, 2013). The process for developing this plan is described by an executive.

We were able to come up with CO2 targets in near, mid and long term and it was really that that set up what we needed to deliver with out product. We are aiming for 30 percent improvement in CO2 performance by 2020 from a 2006 baseline,

> and 80 percent by 2050. The research team came up with the CO2 targets based on IPCC. We worked with a cross functional team of PD [product development], planning and researchers and the sustainability office to say if we know targets which technologies could we put into our vehicles and what are the projected costs of those technologies.—Ford executive

This structure and accountability for implementing the plan is supported by Ford's sustainable mobility governance team. Broadly described it is a portfolio approach comprised of multiple technologies. This team includes a manager and director level group, the Global Sustainability Planning Team (GSPT), which reports to a vice president level group, the Sustainable Mobility Governance (SMG). Progress towards the Plan is shared with the CEO at weekly Business Plan Review (BPR), meetings.

> The important thing is in regions where we have regulations it [the Blueprint Plan] allows us to plan longer term. It is about "what are we for" instead of what are we fighting…If regulations don't align than at least we have an anchor, if regulations get more stringent than it becomes more onerous… [Previously] We had just been so busy with planning the next 2 or 3 years, and meeting CAFE… we never had anything that was 5 years out more…I likened it to my 8 year old who hadn't learned to ride a bike yet because he kept looking at his feet.—Ford manager

While there is occasionally friction over regional performance (particularly in Asia Pacific where rapid growth is accompanied by a lack of regulation) this plan has been embraced internally. It has also been shared and widely supported by the external

community including policy makers, NGOs and socially responsible investors.

> There was a shift in how staff was approaching it [climate change]…people who had previously been confrontational were able to develop working relationships…It is a very ambitious plan… I have some technical nitpicking on assumptions about biofuels, but it is a useful sophisticated analysis.—External interviewee

Following the development of this product plan, Ford has also developed a plan to address the carbon dioxide emissions from manufacturing which represent 2 percent of Ford's overall emissions contributing to climate change. An employee describes how Ford's actions were driven by opportunity, and how in some cases implementation of this plan even involves requiring actions that may not meet the typical one year payback period for energy efficiency projects.

> Last year we developed a global CO2 strategy [for manufacturing], we got a team from around the world to look at opportunities and what competitors were doing and arrived at a CO2 glidepath. We looked at stabilization at 450 ppm and worked with RIC [Ford's research center]. The goal is 30 percent per unit improvement from 2010 to 2025 and 70 percent by 2050. We developed a strategy and reviewed with every vice president of manufacturing globally…we're building a lot of plants right now, so why be short sighted?Ford's payback for a normal project is 1 year, on rare occasions an exception will be made and a 2 year [payback] will be done. Energy efficiency criteria will typically meet a 1 year

payback but sometimes we just require. –Ford manager

Collectively, this analysis also provides insight into when corporate actions are symbolic vs. substantive. In this context I define substantive action as that which scientifically based in climate stabilization and connected to corporate strategy, core business practice and products. I compared the way that actions were described and climate response was enacted (or not) prior to and after 2006. As seen in the timeline and described by an interviewee, 2006 was an important year and marked the point when Ford's climate response became strategic.

> 2006 was a turning point…Initial acceptance [of climate change] was driven pretty brilliantly by Debbie [Zemke] like calculating total use emissions of Ford fleet…Debbie made many enemies but put this in global context…awareness and initial acceptance [of climate change] really began in 2000 but was not actionable really until 2006…at that point it shifted from reputational, and "nice to know" to strategic…it [change] has to be slow in industry where 3 years [to develop a product] is fast and 5 to 7 years is normal.—External interviewee

Table 4.2 provides indicators of symbolic and substantive actions based on interviewees characterization of Ford's actions over time. This table can be read as a kind of "diagnostic test". For example actions are more likely to be symbolic if they are risk driven or regulatory driven, while they are more likely to be substantive if they are opportunity or science driven.

Table 4.2 Indicators of Symbolic vs. Substantive Action

Symbolic	Substantive	Quote or Example
Risk driven	Opportunity driven	See quotes above regarding opportunity and market competitiveness
Regulatory driven	Science driven	Before 2004 it [addressing climate change/fuel economy] was all about regulations… Regulatory environments were the historic driver…not to go a great deal beyond compliance because it added cost and consumers did not value it.—Ford executive
Primarily a function of corporate communication	Reflected in job responsibilities and embedded in day to day operations throughout company	It [Blueprint Plan] became embedded into capital allocation, and our strategic plan…its embedded into day to day operations- That's when you know you've gone from research to reality.—Ford executive
Not aligned with corporate goals, priorities or strategy (or these are lacking all together)	Aligned with corporate goals, priorities and strategy	[Initially] Reporting was not aligned with corporate goals.—Ford manager
Lack of governance	Clear governance structure	See quotes above regarding governance
Not measured or reported	Measured and reported	See quotes above regarding reporting.

One of the most telling "tests" of the substantive nature of Ford's climate action post 2006, is that employees repeatedly confirmed that Ford would adjust its strategy and continue to "do its share" to meet climate stabilization goals even if scientific consensus later suggested that 450 ppm was not enough. When asked, "Would Ford considering

adjusting its plan to meet a 350 or 400 ppm goal if needed?" employees responded affirmatively.

> If someone came back and said 400 or 350 ppm was compelling we would take a look. Now at least we have the tools to understand how it would translate to business and if we could remain in business. I guess at that point we would have some grounds to challenge the policy makers to say we think for our industry to be what people want it to be, you have to look at other sectors like air travel and power generation. –Ford manager

> This [450 ppm] is institutionalized, there is a process in place and we are doing something. It [progress toward the Blueprint plan] gets reviewed every week by top executives especially if it is red [meaning off track]. If another IPCC report comes out we will adjust the 450 ppm number. We have a process in place, which makes adjusting easier. This is different from 25/5 because its not a separate plan, it's the plan.—Ford executive

However, Ford's climate response and "Blueprint Plan" is not without its critics. Interviewees mentioned concerns that Ford's plan does not include embedded carbon dioxide in the vehicle materials, and is highly reliant on consumer preferences rather than trying to drive market demand.

> I do think the company is committed to the Blueprint, but if the price of oil went down to $2 gallon how much effort would be put into this? Would we put more

effort into trucks? We have gone from the Excursion to CO2 strategy in a short time.--Ford manager

Finally, it is also interesting to briefly describe interviewee demographics, as climate change is a topic that elicits a variety of strong personal reactions. Interviewees spanned the spectrum of viewpoints on climate science. Some participants were self-described as having a personal passion for the issue while others claimed relative ambivalence. As well as being part of their job description, those with a personal passion for the issue were addressing climate change through actions in their personal life. Ambivalence was characterized by the attitude that as long as addressing climate change and fuel economy were good for the business and there was consumer demand than it could not hurt. Others believed climate change was happening but were not worried because it wouldn't have material impacts in their life and/or they didn't have children. I only interviewed one climate skeptic who believed climate change was happening, but was not convinced it was primarily from human causes. A few quotes bring these demographics to life.

Climate change is definitely happening, and I am really happy that we have as a company a clear statement that addresses climate. In the south of Europe you already see that especially in Spain the summers are really hot and dry and it is really obvious that something is changing. I have two children, I explain to them something is happening. I am also purchasing green energy, but not for the heating system. I am heating my house with renewable resources, simply wood…It is something I think about when I purchase other goods, for example I

don’t need strawberries in winter.—Ford manager

I personally switched my electricity provider to one with 100 percent renewable electricity. I am biking to the office…At work you have a contribution, but also needs to be personal.—Ford manager

I have a passion for this [climate change]…Capitalism can’t survive unless it internalizes externalities. The only way mankind can survive if we factor in consequences now and in the future. I want my kids and grandkids to live in a world that is socially equitable…I do act as though CO2 is important to me but I don’t drive most fuel efficient vehicle.—Ford manager

I can only approach it [climate change] from what I read in the media and it suggests strongly that it is happening…I don’t question that there seems to be enough opinion that it is real…At the end of the day where I’m coming from is if we can do the right thing for customers and the environment than doing it for whatever reason is okay.—Ford manager

I’m not worried about climate change because it won’t have a material impact in our lives and I don’t have kids.—Ford manager

I think climate change is happening. I’m not convinced that it is solely caused by human interaction…If you look at localized weather last winter it was really cold.

> I'm a little skeptical because we've had periods of warming in other times…I'm waiting for more definitive view on things…The other view is…It makes dollars and cents to pay attention to this [climate change]. Because if you're not you're going to pay for it with lost customers and you can't stay in business with lost customers.—Ford manager

DISCUSSION AND CONCLUSION

Bill Ford is often quoted saying, "a good company delivers excellent products and services, a great company delivers excellent products and services and strives to make the world a better place." This analysis illuminates the internal conflicts and tensions and the sometimes protracted process of change involved in this "striving."

This chapter both offers a theory of change, and chronicles Ford's response to climate change and how and why over the course of a decade the company moved from issue acceptance, to recognition of their role and finally opening up to opportunity and scaling of solutions while moving from symbolic to substantive action throughout the process. The change model that emerges is characterized by friction, as well as indicators of substantive and symbolic action that builds upon and refines previous theories (Hoffman 2001a; Howard-Grenville, 2010).

While some argue that this change process and Ford's response to climate change was business as usual, this is different than other corporate initiatives because of its significant generative impact internally as well as on an industry level. Because Ford's (and the auto industry's) products are its largest contribution to greenhouse gas emissions and reducing greenhouse gas emissions is therefore tied at its core to Ford's products they

were simultaneously creating new, inescapable "rules of the game" for the industry (Friedman, 1970, p. 126). The most notable example of which was the moment when Ford became the first automotive company to leave the Global Climate Coalition signaling that they were done fighting over the science of climate change. Within months General Motors and Chrysler both left the GCC as well, essentially meaning the end of the group. Ford's commitment to improve the fuel economy of its SUVs (although ultimately not achieved) was also met with similar commitments and press releases from other automotive companies promising to do the same or better. Internally addressing climate change substantively has had a generative impact on the company as well, allowing the company to credibly address other sustainability challenges such as human rights, conflict minerals and water internally and amongst its industry peers. According to an executive:

> I'm really proud of the progress we've made in the last few years and how people see sustainability as part of the company. It has allowed us to look at human rights, water, congestion, minerals…There is a lot more work to do in the future and having the opportunity to lay it out gives us a good view of the future…It is broader than climate change… its the triple bottom line, environmental, social and economic.—Ford executive

For practitioners in the sustainability field, this case represents a study of the early stages of the transformation of corporate America with respect to climate challenges (Hoffman, 2001b). Ford's actions signal a level of transparency and responsiveness that was previously unprecedented by corporations, particularly on contentious issues such as

climate change. If this trend is applicable in nature across sectors and future social movements, it might inform implementation of future climate legislation and voluntary initiatives as well as sustainability issues more broadly. For example, it suggests that governments, NGOs and investors should focus their attention on leading companies that are responding to climate change to affect industry change. It also suggests that when it comes to encouraging substantive climate responses, that market opportunity, science and NGO influence will have a greater impact than threats of risk. For those intrapreneurs or "tempered radicals" working from within to create change, this study emphasizes the importance of leadership support, developing governance structures and speaking in the language of business opportunity rather than risk (Meyerson and Scully, 1995).

This study also builds on the work of the previous chapters. This analysis provides a better understanding of the mechanisms and tensions underlying decoupling and logics, and how these affect performance leading to substantive or symbolic action. It leads to the questions: what logics does Ford prescribe to over time? And, are certain logics associated with decoupling? Based on this analysis, we see Ford move from logics of conservation and risk to an opportunity logic over time corresponding with a more substantive response to climate change. This suggests that risk and conservation logics are more likely to be associated with decoupling, while an opportunity logic is likely to be associated with coupling or substantive action. This would be an interesting area for future research.

Limitations and Future Research

Ethnographic work is well suited to understanding complex, dynamic and sensitive topics such as corporate response to climate change. However, there are

methodological limitations. This study does share several of these limitations, leading to interesting opportunities for future research. First this study examines a single organization and issue. While this close attention to context in a single setting reveals underlying mechanisms and tensions it does impact generalizability. Future studies could compare multiple issues or look across similar organizations to better understand changing corporate response to sustainability issues such as climate change.

Sampling problems in ethnographic fieldwork can result from the nonrandom selection of a small number of subjects. It is also difficult to generalize results based on small sample sizes. I maximized variability in sampling through investigation of multiple employees' perspectives on climate response from varying departments and managerial levels, as well as retired and past employees. Interviews with external participants and observers of the change also provided additional perspective. Future research could involve interviews or surveys with employees in other similar companies, and/or with additional employees at Ford. Semi-structured interview results are also susceptible to reactivity among interviewees, particularly on sensitive topics such as climate change and green washing. There is also the problem of receiving selective information from informants. To check for bias I examined alternative explanations to my interpretations through colleagues, feedback from respondents and by searching for negative evidence. I attempted to avoid bias by establishing or building upon previous rapport with company employees to minimize reactivity, looking for inconsistencies between informants, and checking informants reports against available company records (Singleton and Straits, 1999).

It would also be interesting to examine the generative capacity of this change process and its rippling effect internally on the way other sustainability issues are addressed as well as the way the industry was impacted. Drawing on ethnography in conjunction with large sample network data would allow for an analysis of the effects of tie content and structure on institutional change. More specifically, combining these methods would provide a better understanding of the structure and quality of social ties among organizations, and how these ties shape access to opportunities for innovative institutional change, such as response to climate change (Uzzi, 1996). And, by linking organizational and field level analyses, I would also expect that a more substantive response to climate change will reflect the dominant institutional logics, e.g. belief systems, as shaped by institutional entrepreneurs in the climate change field (Hoffman, 2001b). Furthermore, the use of two dissimilar methods allows for triangulation and strengthens the ability to compare and interpret the results of both the network analysis and ethnographic fieldwork[9] (Singleton and Straits, 1999).

Conclusion

As atmospheric concentrations of carbon dioxide continue to rise and scientists report that the we are crossing new thresholds of global temperature rise (IPCC, 2013), the elephant in the room remains: Are Ford's actions enough? And do they make Ford a "sustainable" corporation?

[9] Triangulation describes how the "use of multiple, independent approaches to a research question can enable an investigator to 'zero in' on the answers or information sought" (Egon G. Guba and Yvonna S. Lincoln, 1982; Singleton and Straits, 1999).

While significant, it is likely that given the scope of the challenge Ford's current climate actions can only be considered incremental improvements. This is a reality that the company has begun to acknowledge in recent years. Bill Ford recently gave a TED talk on the topic of sustainable mobility, and has been quoted as saying: "After 100 years of evolution, the automobile industry is on the edge of a revolution, responding to the increasingly urgent need for new mobility solutions that have dramatically lower environmental impacts" (Ford, 2011). Is this an overly optimistic view of the industry, or is Ford yet again in the early stages of change? The salient question then is to what extent (and how quickly) the company can embrace a transformation to a post-Fordist Ford focused on providing sustainable mobility solutions[10], rather than continuing to view itself primarily as a provider of cars and trucks?

[10] Mobility is "principally a means of improving accessibility", although it is not the only means of improving accessibility (WBCSD, 2001). For mobility to be sustainable it must improve accessibility with minimal negative environmental, social, and economic consequences. The World Business Council on Sustainable Development has defined sustainable mobility as "the ability to meet the needs of society to move freely, gain access, communicate, trade, and establish relationships without sacrificing other essential human or ecological values, today or in the future" (WBCSD, 2001). To a certain extent, what actually constitutes sustainable mobility can differ depending on location (Octopus, 2006; MTE, 2004; WBCSD, 2001).

Appendix 4.1 Ford Interview Questions

Interview brief:

- Recording and notes
- Consent form signed
- Date
- Time
- Length of Meeting
- Location of meeting
- Name of participant
- Title
- Department
- Tone of meeting

Semi-structured interview sketch

Your role and network, or the people you work with…

1. What is your role at Ford, and how does it relate to climate change?

2. With whom do you work directly on climate issues at Ford? With whom do you work directly outside of Ford? Who do you benchmark? e.g. for creation of products/services, for strategic advice or for policy implementation, etc.?

3. To whom do you turn for advice, new ideas, new information, research, inspiration, resources, knowledge, etc?

4. How has engagement with other organizations regarding climate change transformed or altered Ford's internal practices and perceptions?

5. What are the outcomes/consequences of Ford's engagement with multiple organizations related to climate change? When are they advantageous? disadvantageous? …e.g. power, information, diffusion, altering markets

6. How often does the topic of climate change come up in meetings? Executive meetings? Examples of recent meetings…

Firm Identity, or how people view Ford…

7. When it comes to climate change, how do you see Ford? Your colleagues? E.g. what is

the general firm attitude towards climate change? How has this changed over time? Are there multiple views of Ford?

8. When it comes to climate change, how is Ford seen by people outside the company for instance environmentalists? Policy makers? Customers? Shareholders? Investors? Regulators? Others? e.g. leader, laggard, technology focused, leadership driven, scientifically driven, etc? Are there multiple views?

9. Why do people see the company in this way? E.g. Leadership, employees, external stakeholder pressure, affiliations, lobbying?

10. How and why has this view of Ford changed over time? And, who has impacted this change?

Firm Actions…

11. Why, when and how climate became an actionable issue for them as individuals and for the company? Timeline, key milestones?

12. Current climate related actions by the firm? As they relate to your job in particular…Important past actions? Planned, future actions?
    a. Nature of these actions: time commitment, resources, linkages to overall firm strategy and goals and sustainability strategy and goals, incentives, top-down or bottom-up, influence of leadership, competitors, investors, regulators, consumers, NGOs, science, other stakeholders, etc.?

13. How is the possibility of climate related action impacted by relations with other organizations?
    For example…How important is it to publicly report on climate change commitments and progress? What is the impact of reporting? How does GRI/CDP affect the possibility for action related to climate change?

14. Are Ford's climate actions symbolic or substantive? How has this changed over time?

15. How is Ford's "Blueprint" different than "25/5"?

16. Do you believe Ford will meet its goals this time for 450 ppm? What if the goal is reduced to 350 or 400 ppm?

17. How do you reconcile what lobbyists were doing while Bill ford was saying what he is saying about being a sustainability leader?

18. Why was ford able to get out ahead on Human Rights instead of Climate Change? What is the difference between these issues?

19. What is the impact of the recent financial difficulties of the auto industry on Ford's climate change work?

20. What does change in governance both with your position and Board name change mean?

21. Who championed EV? Bill Ford was hybrid escape…

Personally…

22. Do you, *personally*, believe climate change is happening? Is it human related? Will sea level rise? Temperature change?

23. How worried are you, *personally*, about climate change?

24. Are you, personally, doing anything to limit the effects of climate change?

25. Where do you go for your information on climate change?

26. Do you trust scientists? Policy makers? Companies?

27. Will climate change impact the economy? Ford?

Demographics…(only if you are comfortable answering)

28. Sex

29. Age

30. Political affiliation

31. Length of time at Ford

32. Can I come back with additional questions?

33. Other people to talk to?

Appendix 4.2 External/NGO Interview Questions

Interview brief:

- Recording and notes
- Consent form signed
- Date
- Time
- Length of Meeting
- Location of meeting
- Name of participant
- Title
- Department
- Tone of meeting

Semi-structured interview sketch

Your role and network, or the people you work with…

34. What is your role as it relates to Ford, and how does it relate to climate change?

35. With whom do you work directly on climate issues at Ford?

36. How has engagement with other organizations regarding climate change transformed or altered Ford's internal practices and perceptions?

37. What are the outcomes/consequences of Ford's engagement with multiple organizations related to climate change? When are they advantageous? disadvantageous? …e.g. power, information, diffusion, altering markets

Firm Identity, or how people view Ford…

38. When it comes to climate change, how do you see Ford? Your colleagues? E.g. what is the general firm attitude towards climate change? How has this changed over time? Are there multiple views of Ford?

39. When it comes to climate change, how is Ford seen by other people outside the company for instance environmentalists? Policy makers? Customers? Shareholders? Investors? Regulators? Others? e.g. leader, laggard, technology focused, leadership driven, scientifically driven, etc? Are there multiple views?

40. Why do people see the company in this way? E.g. Leadership, employees, external stakeholder pressure, affiliations, lobbying?

41. How and why has this view of Ford changed over time? And, who has impacted this change?

Firm Actions…

42. Why, when and how do you think climate became an actionable issue for them as individuals and for the company? Timeline, key milestones?

43. Current climate related actions by the firm? As they relate to your job in particular…Important past actions? Planned, future actions?
    a. Nature of these actions: time commitment, resources, linkages to overall firm strategy and goals and sustainability strategy and goals, incentives, top-down or bottom-up, influence of leadership, competitors, investors, regulators, consumers, NGOs, science, other stakeholders, etc.?

44. How is the possibility of climate related action impacted by relations with other organizations?
    For example…How important is it to publicly report on climate change commitments and progress? What is the impact of reporting? How does GRI/CDP affect the possibility for action related to climate change?

45. Are Ford's climate actions symbolic or substantive? How has this changed over time? Why is Ford's "Blueprint" different than "25/5"?

46. Do you believe Ford will meet its goals this time for 450 ppm? What if the goal is reduced to 350 or 400 ppm?

47. How do you reconcile what lobbyists were doing while Bill ford was saying what he is saying about being a sustainability leader?

48. Why was ford able to get out ahead on Human Rights instead of Climate Change? What is the difference between these issues?

49. What is the impact of the recent financial difficulties of the auto industry on Ford's climate change work?

Personally…

50. Do you, *personally*, believe climate change is happening? Is it human related? Will sea level rise? Temperature change?

51. How worried are you, *personally*, about climate change?

52. Are you, personally, doing anything to limit the effects of climate change?

53. Where do you go for your information on climate change?

54. Do you trust scientists? Policy makers? Companies?

55. Will climate change impact the economy? Ford?

Demographics…(only if you are comfortable answering)

56. Sex

57. Age

58. Political affiliation

59. Length of time at Ford

60. Can I come back with additional questions?

61. Other people to talk to?

Appendix 4.3 Timeline of Key Climate Change Related Events at Ford

Date	Event	Notes
late 1970s	Awareness of climate change begins in research divisions at Ford	Climate change does not penetrate the Board room; Ford's primary concern is local air quality and Corporate Average Fuel Economy (CAFE) pressures. Helen Petrauskas, Ford vice president is quoted saying, "Climate change did not require a step function change in strategy" (Levy and Rothenberg, 2002).
1970s	Ford is a climate denier at this point in time	
Late 1980s to early 1990s	Ford becomes a climate skeptic at this point in time; Executives in the Ford research lab are characterized as climate critics however a few employees in the research lab are beginning to look into climate change seriously	
1989	Ford hires a climate scientist	
early 1990s	CEO, Alex Trotman emphasizes high cost of action in the face of uncertainty regarding climate change	This quote from a Ford manager is indicative of the view of climate change accepted throughout the company at this time, "We have followed the science as a company and we would like to see more science and less hot air! What we'd like to see is good science driving good policy." (Levy and Rothenberg, 2002)

	Ford joins the Global Climate Coalition (GCC)	Gas is $1 gallon; consumers are not concerned about fuel economy and want larger vehicles; Action on climate change is unlikely in the U.S. as the Senate is unlikely to ratify Kyoto (and the GCC is lobby against Kyoto ratification).
1993	Car talk committee convened	Car talk is a committee of NGOs and automotive companies coming together to try to reach a consensus on CAFE policy; No consensus is reached during this period
November 1998	Deborah Zemke, Director, and Bill Ford, Chairman, begin working on a "corporate citizenship" agenda. Corporate Citizenship office is subsequently created	The agenda includes principles, engagement, transparency, accountability for Ford's impact in the world. Deborah has a background in Human Resources (HR) and ultimately becomes Director of the Corporate Citizenship Office
December 1998	Deborah Zemke, Director, and Bill Ford, Chairman, meet with Bob Massie, head of Ceres	Signals beginning of dialogue with NGOs. At this meeting Ford agreed to eventually endorse the Ceres principles and become a pilot test company for the Global Reporting initiative. (For several years Ford had received a shareholder resolution requesting endorsement of the Ceres Principles. The company resisted because of its stance on climate change and it did not want to issue an environmental report).
January 1999	Ford leaves GCC	Leaving the GCC was a major step to signal that Ford was going to stop fighting over the science of climate change. GM and Chrysler followed ford in leaving the GCC.
April 2000	Bill Ford speech at Ceres conference: Ford endorses the Ceres Principles	

May 2000	First Corporate Citizenship Report issued at Annual Shareholder Meeting in Atlanta.	The report led to what Ford called a "media firestorm" including articles in the *New York Times* and *Economist* because of two pages describing safety and environmental issues related to SUVs.
June 2000	Deborah Zemke, Director, reports to the President's Strategy Council (the PSC included CEO, Jac Nasser and top executives) on Corporate Citizenship Strategy; subsequently updates Environmental and Public Policy Committee (EPPC) of the Board of Directors	This is the start of the company's substantive discussions on climate change; Ford also begins climate modeling this year
July 2000	Jac Nasser, CEO, announces that Ford is committing to improving the fuel economy of its SUV fleet by 25% over 5 years	
August 2000	Stakeholder dialogue to set strategic priorities for corporate citizenship	Three issues were highlighted: human rights, climate change, and influencing Wall Street to take a longer term view of the importance of these issues. The dialogue makes news in the *Wall Street Journal* and *New York Times*. This also marked the beginning of the crisis over the Firestone tires on Ford Explorers that consumed the company for many months.
October 2000	Bill Ford gives a major speech at Greenpeace Annual Business Conference in London "breaking the silence" on climate change	

October 2000	Ford, BP and Princeton develop Climate Mitigation Initiative partnership for long term climate solutions	
December 2000	Deborah Zemke provides year-end review and 2001 action plan to PSC	Jac Nasser, CEO asks: "Is climate change a major environmental issue for Ford?"
2000	Ford gives $25 million to Conservation International to establish a Center for Environmental Leadership in Business	Bill Ford serves on the Center's executive Board
June-October 2001	Series of presentations by Deborah Zemke, Director, to the PSC and EPPC of the Board on the strategic importance of climate change; Half-day executive offsite is also held to discuss approach to achieving greenhouse gas reductions	Focus of the presentations: "Setting Ford's Strategic Direction for Climate Change" and "Why Climate is a critical, urgent issue for Ford"
October 2001	Bill Ford becomes CEO	Environmental Quality Office manager notes the difference of Bill Ford's approach to environmental issues, "There is a new sheriff in town"

October 2001-March 2002	Ford and Alliance of Automobile Manufacturers fighting increase in CAFE standards	Damaging to Ford's reputation amongst NGOs; Ford begins to face campaigns from Sierra Club focused on the company's "lack of technological progress over the course of its 100 years" (the campaign claims that Ford has not improved fuel economy since the Model T); Ford's commitment to the Ceres Principles is questioned and Bill Ford makes a personal trip in July 2002 to Ceres to reconfirm Ford's commitment to environmental performance
May 2002	Product Development gives a presentation to the Office of the Chairman and Chief Executive (OCCE) stating that little progress has been made to reduce greenhouse gas emissions and little is projected over the next 5-7 years	
June 2002	Ford delays release of 3rd corporate citizenship report due to CAFE and Sierra Club conflicts	
July 2002	Ford announces it will stop producing the Excursion (Ford's largest SUV that is disliked by the environmental community because of its poor fuel economy and related greenhouse gas emissions)	Ford later announced in October 2003 that it would continue to produce the Excursion raising questions of trustworthiness amongst the NGO community
September 2002	Ford included in the Dow Jones Sustainability Index and FTSE4Good for the first time; Ford also responds to the	This marks the beginning of Ford's interaction with the investment community on the topic of climate change and sustainability in general

	CDP (formerly the Carbon Disclosure Project) for the first time	
March 2002	Ford becomes an early participant in carbon markets.	Ford is one of the first companies to join the U.K. Emissions Trading Scheme. Ford, along with the City of Chicago and 11 other companies, also founds the Chicago Climate Exchange (CCX) in 2003. Both of these are voluntary programs. In 2005 Ford begins participation in the mandatory EU Emissions Trading System.
December 2002	Ford receives a shareholder resolution on climate change from Sister Patricia Daly from the Interfaith Center on Corporate Responsibility	Ford worked with ICCR to get the resolution withdrawn; Sister Pat told the media "Ford set a new standard in transparency and corporate governance"
April 2003	Ford states that it will not meet its "25 in 5" SUV commitment at New York Auto Show	NGOs are disappointed and mad
May 2003	Ford begins to face campaigns from Rainforest Action Network (RAN) and Bluewater Network because of CAFE positioning and failure to meet "25/5" commitment	These campaigns include full-page ads in the *New York Times* of Bill Ford with a pinocchio nose and coffins claiming that Ford's vehicles are resulting in deaths due to our reliance on foreign oil and resulting conflict in the Middle East
July 2003	Bill Ford sends a memo to vice-presidents asking them to develop mid to long term strategies for climate change	

2004	Niel Golightly appointed Director of the Sustainable Business Strategies Office (formerly the corporate citizenship office)	Niel has a background in communications within Ford, as well as working in the Chairman's office with Bill Ford.
	The Hybrid Escape (Ford's first hybrid vehicle) is released for the 2005 model year to North American markets	Development of the hybrid is championed by Bill Ford however receives resistance internally from the marketing department
	Ford and United Auto Workers begin lawsuit in California and Vermont related to regulation of CO2 (AB1493).	
2005	Ford executives go to California for an NGO dialogue with RAN and Bluewater Network regarding their campaigns targeting Ford's environmental performance	
	Ford receives another shareholder resolution on climate change from Sister Patricia Daly from the Interfaith Center on Corporate Responsibility.	Ford worked with ICCR to get the resolution withdrawn based on publication of a climate change report
2006	Standalone report on climate change published	Publication of this report was a turning point because it made climate change "less threatening" by focusing on the business case for climate action
2007	Ford joins U.S. Climate Action Partnership (USCAP), an industry coalition proposing policy solutions to climate	The group recommends a cap and trade program, but is defunct by 20011 due to lack of political appetite for climate legislation

	change.	
	John Viera appointed Director of the Sustainability Office	John was previously an engineer within product development. Before coming to the sustainability office he was the Chief Engineer for the Expedition and Navigator (two of Ford's least fuel efficient vehicles)
	Sue Cichke named Group Vice President of sustainability appointing directly to CEO Alan Mulally	This appointment signals important changes in leadership and governance related to sustainability at Ford
2008	Ford publicly shares its "Blueprint Plan" for doing their share to stabilize carbon dioxide at 450 ppm	The Blueprint Plan is science based strategy that is supported by vehicle technology and alternative powertrain and fuel actions. This plan was reviewed by NGOs and policy makers during its development and was well received
	Ford climate scientists give presentation about how to respond to climate skeptics	
	Board of Directors Environmental and Public Policy Committee (EPPC) committee changes name to Sustainability Committee	This change reflects "the evolution of its responsibilities and the company's challenges and opportunities" (Ford Sustainability Report, 2013)

2009	Creation of new governance structures at the executive and managerial level to oversee strategy development and implementation of the Blueprint Plan	The senior level team, Sustainable Mobility Governance (SMG), is led by the Vice President of Sustainability and reports to the CEO on a weekly basis. The managerial level group is called the Global Sustainability Planning Team (GSPT) and reports to the SMG.
2010	Ford announces manufacturing climate strategy	Ford's goal is to reduce greenhouse gas emissions from manufacturing facilities by 30 percent per vehicle produced from 2010 to 2025, based on the company's stabilization commitment
2011	President Obama announces "One National Plan" aimed at increasing fuel economy of vehicles and reducing greenhouse gas emissions	The new standards require an average fuel economy standard of 35.5 miles per gallon (mpg) in 2016 and projected 54.5 mpg by 2025. This plan is supported by Ford, the UAW, the environmental community and state governments. It represents a compromise after the legal battles beginning in California over regulation of greenhouse gas emissions from vehicles and grants the Environmental Protection agency more authority for the first time (previously the National Highway Traffic and Safety Administration (NHTSA) was the sole authority on fuel economy)
2008-present	Implementation and progress towards Blueprint Plan	

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Chapter 5

Conclusion

Returning to the central question and the title of this dissertation, the findings from these studies suggest that while change has occurred and corporate responses to climate change are rapidly shifting towards substantive action, there is still much myth and ceremony. In other words, legitimacy is still being sought and created via myths and ceremonial activities, including the creation of corporate narratives that fit within larger socially accepted scripts related to climate change (Meyer and Rowan, 1977).

The first study in this dissertation articulates when firms are likely to decouple climate change discourse and actions through an examination of Environmental Protection Agency Climate Leaders participants. In the second study I build upon the first study and on existing work related to logics, using sustainability reports to examine the underlying logics of corporations addressing climate change. Finally, I present a case study of Ford Motor Company and their journey from symbolic to substantive climate change response to better understand the mechanisms and tensions underlying such change. Findings are used to develop a model of change that is emergent, ongoing and pluralistic, resulting from multiple interactions within the firm, with stakeholders, and external conditions that are characterized by friction.

Together these studies make both theoretical and practical contributions. Broadly, the studies in this dissertation contribute to previous theories in the body of institutional theory relating to decoupling, symbolic action and the formation of logics as well as the theories of institutional ethnography. Individual theoretical contributions are discussed in the previous chapters. Collectively they inform our understanding of how climate change has become a legitimate business issue and how companies are (or are not) addressing this issue.

Throughout the dissertation the themes of science and market opportunity are pervasive motivating factors that predict substantive climate action, while risk and regulation tend to be more indicative of decoupling. This provides a more nuanced understanding to previous work that has found that companies are shifting their focus from risk management to exploring new green business platforms (Hoffman, 2007). This suggests that companies are opening up to the possibility of innovation and market opportunity driven by climate change and responding with action, whereas previously risk and the lack of regulation created an uncertain climate that drove symbolic response. This might explain the prevalence of myth and ceremony related to corporate response to climate change, as much of the early discussion of climate change was presented as risk and threats of imminent regulation instead of presenting business opportunities. It is only recently that the tone of the conversation has really changed to focus on these opportunities. These findings also make it even more surprising that climate change remains such a politically divisive issue in the U.S. given the scientific consensus on the topic, and that corporations are espousing the opportunities related to climate change and asking for legislation on the topic to "level the playing field."

These findings also provide additional insight into different forms of myth and ceremony. Interview findings from the Climate Leaders and Ford studies suggest that there is a distinction between myth and ceremonial activity that is greenwashing (i.e. an intentionally deceptive public relations exercise) and symbolic (i.e. necessary, and important although incremental climate action). While greenwashing is an extreme form of myth and ceremony and definitely occurs, symbolic responses to climate change appear to be more common and often results from difficulty following through on climate goals and strategies. Corporate practitioners mentioned that they were unprepared for the scale of the challenge related to responding to climate change and the amount of institutional inertia that they were up against. The former director of corporate citizenship at Ford was told, "Deb, I don't know if you are just naïve or courageous" by a colleague characterizing her efforts to drive climate action (Zemke, 2003).

Considering an organizational perspective is of particular importance when studying contentious social issues such as climate change. During the twentieth century organizations, and corporations more specifically, became the dominant structure in society (Perrow, 1991). According to Perrow, " organizations are the key to society because large organizations have absorbed society. They have vacuumed up a good part of what we have always thought of as society, and made organizations, once a part of society, into a surrogate of society (Perrow, 1991 p. 726). By examining a present day environmental issue with urgent significance and policy implications given the contribution of industry to climate change, this study responds to calls for organization theory to address contemporary societal issues, and to link such studies to policy and education (Gladwin, 1993; Padro, 2014; Stern & Barley, 1996).

Future Research

Future research might consider a network analysis examining the relationships of firms, their suppliers and other stakeholders in the organizational field of climate change. The current trend is towards a networked organizational form with diffuse boundaries, and hybrid governance schemes including diverse networks of public and private actors are proliferating (Cashore, 2002; G. F. Davis & McAdam, 2000; R. W. Scott & G. F. Davis, 2006; W. R. Scott & G. F. Davis, 2006b). In addition, more firms are looking beyond their own boundaries, beyond what they control directly to what they influence, to better understand climate impacts, risk and opportunities within their supply chain. Furthermore, it is estimated that supply chain greenhouse gas emissions can contribute a significant amount of a firms' total emissions. For example, Trucost calculates that Ford's supply chain contributes 87 percent of its total emissions (Montoto, 2012). An analysis beyond the organizational level, might also illuminate the formative and sustaining roles that climate networks are playing in corporate response to climate change and how they are encouraging substantive action at the field level.

A large scale, quantitative examination of corporate reporting and performance using sustainability reports and responses to the CDP[11] (formerly the Carbon Disclosure Project) could also provide insight into the topics of decoupling and indicators of substantive vs. symbolic action, as well as providing interesting industry and geographical comparisons (CDP, 2014). Prior research has found a correlation between

[11] CDP asks companies to disclose greenhouse gas emissions, risks, opportunities and management strategies in a publicly available questionnaire posted to their website. The CDP began with 35 institutional investors with $4 trillion in assets in 2000, and has grown to 767 institutional investors with over $92 trillion in assets in 2014. They have also expanded their focus over this time beyond climate change to a focus on water, supply chain and forest (CDP, 2014).

public disclosure of environmental performance and actual environmental performance Cho and Patten 2007; Clarkson et al., 2008; Patten, 2002; Reid and Toffel, 2009). However, uncertainty still remains regarding whether reporting reflects actual firm behavior or is merely an act of public relations (Kolk and Pinkse, 2010; Fonseca, 2010; Cerin, 2002). Moving beyond this debate, it would be worthwhile to further examine, as I have done in this dissertation, not whether but *when* and *why* reporting reflects coupling of discourse and action. Such research could examine a number of interesting questions: Which companies are likely to have better climate performance? Do CDP participants have more substantive climate performance? Does stakeholder engagement impact climate disclosure and performance (e.g. is engagement symbolic or substantive)? How does a firm's view of climate science impact disclosure and performance? Does disclosure improve performance over time (e.g. do companies who have been reporting longer have improved climate performance)?

It would also be interesting to link this large scale examination of disclosure and performance to climate logics. In particular, it would be useful to understand what climate logics companies prescribe to over time and whether and how certain logics are predictors of decoupling. Based on the study of Climate Leaders participants and the Ford case study this is relevant because opportunity drives substantive action. Therefore, those companies espousing an opportunity logic should be more likely to take substantive action, while those with a dominant risk logic should be more likely to demonstrate decoupling and symbolic action.

Finally, expanding the findings from these studies to other sustainability issues would be a significant contribution to the literature. For example, does decoupling of climate discourse and action also predict decoupling of other sustainability issues?

Additional future research arising from this dissertation, and limitations are discussed in the previous chapters alongside their corresponding study.

Implications

The primary findings of this dissertation, namely that a belief in climate science and market related opportunities related to climate change are driving substantive climate action, provide hope that the corporate sector is finally becoming an important part of the solution to addressing climate change. And this optimism and belief in opportunities seems to be growing in the corporate sector. During the recent events of Climate Week business was optimistically outspoken calling for carbon pricing either through carbon tax or cap-and-trade, committing to halting deforestation by 2030 and others to 100 percent renewables for their operations by 2020 (Makower, 2014). This is good news as we approach the United Nations Climate Change Conference in Paris in 2015, and the next round of negotiations towards a framework that would limit global warming to below the IPCC recommended 2 degrees Celsius, where a strong message from business to government and policy makers is crucial.

But is there room (or time) for this seemingly unbounded optimism as the climate is passing new thresholds and population growth (an important driver of greenhouse gas emissions) is expected to reach 9 billion by midcentury? The level of greenhouse gases in the atmosphere reached a record high in 2013, and 2014 is on track to be the hottest year on record according to the World Meteorological Organization's annual Greenhouse Gas Bulletin, and the IPCC has concurred with an assessment of unequivocal warming (IPCC,

2013; World Meteorological Organization Greenhouse Gas Bulletin, 2014). And, perhaps more importantly, will this optimism lead to real and sustained climate action?

These remain open question, and important areas for future inquiry. While business is responding in a markedly different fashion to climate change compared to even a decade ago, there is legitimate concern that corporate actions are still generally necessary but incremental and insufficient. More specifically, without carbon pricing and binding global agreements every industry goal or action related to climate change is viewed positively even if it really belongs more in the "ceremonial conformity" or feel-good category rather than reflecting substantive action. (And this is not surprising as companies are operating in a climate of risk and uncertainty without such agreements, and findings of these studies suggest that risk often tends to predict symbolic action and decoupling). As expressed by Frances Beinecke, president of the Natural Resources Defense Council (Makower, 2014):

> The total of what has to happen is so significant — we need a global compact, we need national-level policies — that knitting together each of the private sector policies just isn't enough to meet the challenge [of climate change].

At this juncture, therefore, research examining climate change as a cultural issue is particularly relevant. This dissertation then is a call for a continued focus on problem-centered research on sustainability challenges such as climate change.

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