

The Influence of Emotions on Strategic Decision-Making and Issue Interpretation in the Energy Industry

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[B]ooks can also provoke emotions. And emotions sometimes are even more troublesome than ideas. Emotions have led people to do all sorts of things they later regret - like, oh, throwing a book at someone else.

– **Pseudonymous Bosch, 2013**

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Elmar Friedrich

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Abstract

The rising awareness of the importance of climate change prevention and the preservation of the natural environment has led to changing social norms and political actions. The resulting changes in consumer preferences and new policies redefine the institutional landscape organizations operate in. Organizations respond to such sustainability-driven changes very differently, a phenomenon that gained attention by scholars in recent years. Yet, management research often focused on the rational nature of human agency and overlooked the influence of emotions. The objective of this dissertation is to research the effect of emotions on managerial risk perception and decision-making during times of upheaval in the organizational field¹ using the example of major energy utilities' responses to new energy policies. The dissertation is segmented into three studies that build upon another and address the following research questions: 1) What is the current academic discourse in the management literature on emotions?; 2) How do negative emotions over change affect the perception of senior executives of their organization and their ability to change it during upheaval in the organizational field?; 3) Which factors influence the strategic decision-making in major energy utilities in response to energy policy changes? The first study reviews the current literature on emotions in a sustainability-related context. The second paper is a theoretical contribution that draws on the stages theory of grief from the psychologist Küber-Ross and applies it on top management perception. The third study reviews the strategic responses of energy utilities to new energy policies and discusses factors influencing the strategic decision-making of organizational leaders in the energy industry. Researching the role of emotions during the change process of the German energy industry enhances our understanding of the effect of emotions on strategic decision-making and the interplay of emotions and risk perception along the evolution of new institutions, which has important implications for policymakers, practitioners from the energy industry and researchers.

Keywords: Renewable energies, emotions, stages theory of grief, strategic change, energy utilities, risk perception, content analysis

¹ “Organizational field” refers to the definition of Wooten and Hoffman (2008).

Zusammenfassung

Das zunehmende Interesse an und die steigende Bedeutung von Klimawandel und Umweltschutz waren Auslöser sowohl sozialer Veränderungen als auch politischer Maßnahmen. Die daraus resultierenden Veränderungen im Verbraucherverhalten und neue Richtlinien verändern die institutionellen Rahmenbedingungen für Organisationen. Organisationen reagieren auf solche nachhaltigkeitsorientierten Veränderungen sehr unterschiedlich - ein Phänomen, das in den letzten Jahrzehnten viel wissenschaftliche Aufmerksamkeit gewonnen hat. Die Forschung konzentrierte sich schwerpunktmäßig auf die Aspekte rationalen Verhaltens bei der Untersuchung der Ursachen von Unternehmensentscheidungen und ließ dabei emotionale Aspekte oftmals außen vor. Das Ziel dieser Dissertation ist die Untersuchung der Auswirkungen von Emotionen auf die Risikowahrnehmung der Unternehmensführung und auf ihr Entscheidungsverhalten in Zeiten des institutionellen Wandels, welche anhand der Reaktionen führender Energieunternehmen auf Veränderungen in der Energiepolitik untersucht werden. Die Dissertation ist in drei aufeinander aufbauende Studien eingeteilt, welche die folgenden Forschungsfragen adressieren: 1) Wie ist der aktuelle Forschungsstand zu Emotionen in der Management-Literatur?; 2) Wie beeinflussen negative Emotionen von Veränderung die Wahrnehmung des Managements von ihrer Organisation sowie ihre Fähigkeit, das Unternehmen an Veränderungen anzupassen?; 3) Welche Faktoren beeinflussen das strategische Entscheidungsverhalten führender Energieunternehmen als Reaktion auf Änderungen in der Energiepolitik? Die erste Studie analysiert den aktuellen Stand der Literatur zum Thema Emotionen in der Nachhaltigkeitsforschung. Die zweite Arbeit ist ein theoretischer Beitrag, der die Fünf Phasen des Sterbens der Psychologin Kübler-Ross auf das Verhalten von Topmanagern in Zeiten des Wandels im organisatorischen Umfeld anwendet. Die dritte Studie untersucht die strategischen Reaktionen von Energieunternehmen auf neue Vorschriften für die Energieindustrie und diskutiert Faktoren, die das strategische Entscheidungsverhalten von Führungskräften beeinflussen. Die Erforschung der Rolle von Emotionen während des Veränderungsprozesses der deutschen Energiebranche erweitert unser Verständnis von der Wirkung von Emotionen auf die strategische Entscheidungsfindung und vom Zusammenspiel von Emotionen und Risikowahrnehmung in Zeiten institutionellen Wandels und hat wichtige Implikationen für politische Entscheidungsträger, Manager in der Energieindustrie und Wissenschaftler.

Schlagwörter: Erneuerbare Energien, Emotionen, Phasentheorie des Sterbens, Strategischer Wandel, Energieindustrie, Risikowahrnehmung, Inhaltsanalyse

Introduction²

Background and Problem Statement

[I] am not an advocate for frequent changes in laws and constitutions. But laws and institutions must go hand in hand with the progress of the human mind. As that becomes more developed, more enlightened, as new discoveries are made, new truths discovered and manners and opinions change, with the change of circumstances, institutions must advance also to keep pace with the times.

– **Thomas Jefferson (1743 – 1826)**

The global energy industry is transforming. \$244 billion were invested in renewable energies worldwide in 2012 (UNEP, 2013). In Germany, the share of renewable energies constantly grew over the last decade to 25 percent of gross energy consumption in 2013 (BDEW, 2014). This change is driven by a rising awareness of the negative implications of climate change, changing social norms, and technological enhancements (Bird, Wüstenhagen, & Aabakken, 2002; Foxon et al., 2013). Governments in many countries support the transition from conventional to renewable energy sources and implemented energy policies to improve the economic viability of renewable energy investments (IPCC, 2011). Major energy incumbents play an important role in this change as they on the one hand belong to the largest emitters of CO₂, on the other hand they have the financial means, energy market expertise, and human capital to drive the transition in the energy industry. In Spain for example, Iberdrola, a major energy utility operating conventional energy power plants, in the mid-1990s decided to change its strategy and gradually shifted its investments toward renewable energies (Stenzel & Frenzel, 2008). As a result, Iberdrola became market leader in renewable energies in Spain and the largest operator of wind energy worldwide (Iberdrola, 2011). Yet not all energy utilities interpret renewables as an

² Please note that if specific reference is made to the papers, they are referred to as *first paper* (Russell and Friedrich, 2013), *second paper* (Friedrich & Wüstenhagen, 2014), and *third paper* (Friedrich, 2014). Several sentences of this chapter are drawn from the *first*, *second*, and *third paper* without explicit citation.

opportunity. In Germany, the four major energy utilities initially lobbied against new policies and denied market opportunities that resulted from new regulations and technological enhancements (Stenzel & Frenzel, 2008; Wüstenhagen & Bilharz, 2006). By 2009, the four major energy utilities only had a market share of 3.9 percent of the renewable energy market in Germany, while 96.1 percent were run by others, mostly private investors and small to medium size companies (IÖW, 2011). The phenomenon of diverging strategic reactions in response to an issue has been a field of scholarly inquiry and observed in organizations in the energy (Jacobsson & Lauber, 2006; Johnson & Jacobsson, 2001), technology (Aragon-Correa, 1998), oil and gas (Sharma, Pablo, & Vredenburg, 1999), and chemical industry (Hoffman, 1997).

Strategic issue interpretation literature offers a theory explaining the development of different organizational responses to an issue. Following this logic, the reaction of an organization in response to an issue depends on the interpretation of the issue as threat or opportunity by key agents within the organization (Dutton & Jackson, 1987; George et al., 2006; Jackson & Dutton, 1988). When interpreted as a threat, an organization is likely to take a defensive strategic stand (Jackson & Dutton, 1988; Sharma, 2000), as observed in the German energy industry (Stenzel & Frenzel, 2008). Respectively, when key agents within an organization interpret an issue as opportunity, they are more likely to pursue a proactive strategic response, as observed in the Spanish energy industry in response to the development and regulatory support of renewable energies. Research indicated that three factors influence an individual's perception of an issue as threat or opportunity: positive or negative emotional associations, gain and loss considerations, and perceived control (Dutton & Jackson, 1987; Jackson & Dutton, 1988; Sharma, 2000). While all three factors are important, more recent findings from neuroscientists indicate that especially emotional factors play an important role in decision-making processes and the interpretation of an issue (Bechara, Tranel, & Damasio, 2000; Bechara, 2004). Until recent, research of emotions received scant attention in management research (Campbell, White, & Johnson, 2003; Madlock, 2008; Huy, 2012; Voronov & Vince, 2012) and even scater attention in the corporate sustainability literature (Wright & Nyberg, 2012; Russell & Griffiths, 2008). The relative lack of research on emotions in management research means that studies of decision-making processes of top executives in organizations may have excluded a decisive factor (Ashforth & Humphrey, 1995; Barsade, Brief, & Spataro, 2003; Russell & Griffiths, 2008; Voronov & Vince, 2012).

By building upon research findings on emotions and change and drawing on the strategic issue interpretation literature, this research aims to make two major contributions. Firstly, this dissertation connects insights from psychology and management research on organizational change to enhance our understanding of the implications of emotions on strategic decision-making processes within organizations. Secondly, I review the development of strategic responses of major energy utilities to renewable energies and embed the findings in the context of research on emotions and strategic issue interpretation. The studies that form this dissertation improve our understanding of the underlying cognitive processes during the formulation of a strategic response. This research makes a contribution to research, as to my knowledge it is the first study that theorizes about the effects of negative emotions over change in a sustainability-related context. The review of the strategic response of major energy utilities to renewable energies outlines important implications for practitioners in the energy industry and energy policymakers.

Objectives and Research Questions

The overall objective of this dissertation is researching the effect of emotions on the strategic reaction of major energy utilities in response to the emergence of renewable energies. Major energy utilities are an important part of the energy system. Besides their role as taxpayers and employers, they have the capabilities and resources to drive change in the energy system. However, studies have shown that many large utilities struggle with the adaptation of their business model toward a rapidly changing energy market (Stenzel & Frenzel, 2008; Jacobsson & Lauber, 2006; Johnson & Jacobsson, 2001). Confronted with political actions for sustainable and against conventional energy sources, changing customer preferences, disruptive renewable energy technologies, market liberalization, and changing social norms, large energy incumbents lose legitimacy and competitiveness in their markets. In response, many energy utilities developed a defensive stand and lobbied against renewables rather than exploring opportunities in the new market (Stenzel & Frenzel, 2008; Wüstenhagen & Bilharz, 2006). One theory that explains why organizations are unwilling or unable to adapt to a major change in their organizational field is path dependence (Sydow, Schreyögg, & Koch, 2009), which has already been used to explain the defensive strategic reaction of major energy utilities in response to the emergence of renewable energies (Lovio, Mickwitz, & Heiskanen, 2011; Stenzel & Frenzel, 2008). Path

dependence derives from the notion that established technologies, concepts and ideas become perceptually dominant with time, success, and experience of the persons connected to it (Baum & Silverman, 2001; Liebowitz & Margolis, 1995). It builds an internal barrier to switch to or create a new path as the prior choice and investment of personal, organizational or institutional resources hampers the move toward a new direction (Romm, 2006). Research on organizations that do not adapt to a major change in their organizational field has shown that such organizations tend to interpret a change in their market as threat rather than an opportunity (Staw, Sandelands, & Dutton, 1981). Moreover we have learned that one underlying factor for the interpretation of an issue as threat or opportunity is emotions (Jackson & Dutton, 1988; Sharma, 2000).

Drawing on insights from research on emotions and strategic issue interpretation, this cumulative dissertation investigates the role of emotions and other underlying drivers for diverging strategic reactions of major energy utilities in response to the evolution of renewable energies. I thereby aim to answer three impending questions: firstly, what is the current academic discourse in the management literature surrounding emotions (*first paper*); secondly, how do negative emotions over change affect the perception of senior executives of their organization and their ability to change it during upheaval in the organizational field (*second paper*); and thirdly, which factors influence the strategic decision-making in major energy utilities in response to energy policy changes (*third paper*). Table 1 summarizes the objective and current publication status³ of each paper.

³ Publication status at the 1st of August, 2014.

Table 1: Overview of research papers that make up this doctoral thesis

No.	Author(s)	Title	Focus and Objective(s)	Theoretical Foundation	Methodology	Publication Status
1	Russell Sally ^a , Friedrich Elmar ^{b, c}	Emotions in Green Organizations	A multi-level literature review of the role of emotions in a sustainability-related context	Psychological and managerial insights on emotions in organizations	Literature review	Accepted book chapter at <i>The Psychology of Green Organizations</i>
2	Friedrich Elmar ^b , Wüstenhagen Rolf ^{b, c}	Leading Organizations through the Stages of Grief: The Development of Negative Emotions over Environmental Change	Application of the stages theory of grief by Kübler-Ross (1969) on managerial responses to change, illustrated by the response of the German energy industry to renewable energies	Stages Theory of Grief, Risk perception, Managerial decision-making	Conceptual paper	Accepted at <i>Business & Society</i>
3	Friedrich Elmar ^b	Flipping the Switch: Strategic Responses of Major Energy Utilities to Policy Changes in Germany and Spain	Researching the interpretation of and strategic response to energy policy changes by four major energy utilities in Germany and Spain	Strategic issue interpretation	Comparative case study	Under review at <i>Energy Policy</i>

^a Sustainability Research Institute, University of Leeds, United Kingdom.

^b Institute for Economy and the Environment, University of St.Gallen, Switzerland.

^c First author is the main author of the research paper.

Together, these three studies form this cumulative dissertation with the title “The Influence of Emotions on Strategic Decision-Making and Issue Interpretation in the Energy Industry”. The research projects were kindly funded by the Nagelschneider Foundation – Researching Renewable Energies [Stiftung Nagelschneider – Erforschung Erneuerbarer Energien]. The knowledge gained in the papers is interlinked and builds upon each other. Consecutively I briefly review the background and objective of each study.

The *first study* is written together with Prof. Dr. Sally Russell at the University of Leeds, who is also the main author of the paper. It is a peer-reviewed and accepted chapter for the book “The Psychology of Greening Organization”, edited by Julian Barling and Jennifer Robertson. Our paper reviews existing research that has examined the role of emotions in an environmental context. Drawing on the framework developed by Ashkanasy (2003), we segment the study along five levels of emotions in organizations. The most micro-level of the model focuses on within-person emotions, followed by emotions at the individual-level. The levels then proceed through the meso-level including interpersonal and group level emotions, and finally the macro-level perspective of organizational level emotions. We outline the relevance of each level to the study of pro-environmental behavior in general and specifically in the context of sustainability-driven organizational change. The second and third studies draw upon the findings of this paper. Especially the second paper, which theorizes about the effect of grieving executives over environmental change, builds upon the extensive literature review of the first paper. It adopts Scherer’s (2001) definition of emotions and draws upon findings on the individual- and organizational-level. In the third paper, the research of the first study is reflected in the discussion, where I theorize about the critical role of emotions to explain the interpretation of an issue as threat or opportunity.

The *second study* theorizes about the effect of grieving of top executives in response to a significant event in their organizational field. The paper is written in cooperation with Prof. Dr. Rolf Wüstenhagen from the Good Energies Chair for Management of Renewable Energies at the University of St.Gallen and accepted for a special issue at the scientific journal *Business & Society*. In the paper we develop a metaphoric model that segments the emotional reaction of senior executives in response to a significant event along the five stages of grief as proposed by Kübler-Ross (1969). The findings are embedded in the literature on emotions and strategic change and illustrated through anecdotal evidence from senior executives in the

German energy industry. As the first study to theorize about the implications of grieving executives over sustainability-driven change, this conceptual paper adds an important dimension to the analysis of sustainability strategies.

The *third study* empirically investigates the diverging strategic reactions of major energy utilities in response to renewable energy policies. The paper is written alone and is under review at the journal Energy Policy. It builds upon previous research of Stenzel & Frenzel (2008) on the strategic reactions of major energy utilities in response to energy policy changes. Besides enhancing previous findings on the evolution of energy utility strategies, my research shows that strategies of energy incumbents not only differ between countries but also between energy utilities in one country. I therefore analyze the corporate communication and investments in wind energy of four major energy utilities in Germany and Spain. Drawing on strategic issue interpretation literature, I outline how the interpretation of an energy policy as threat or opportunity by senior executives in major energy utilities affects the strategic response of their organization. I discuss the underlying factors influencing the perception of an issue and especially the importance of negative and positive emotional associations. The study connects to the previous two by empirically analyzing the development of the strategic response of major energy utilities and discussing the importance of emotions.

Through my research I want to advance our understanding of the role of emotions in organizations along institutional changes and the interplay of emotions and the interpretation of an issue as threat or opportunity. The insights gained in this dissertation add to our knowledge about decision-making processes during times of upheaval in the organizational field. Understanding the role and significance of emotions during such a process may help organizations to better and faster address change, break-up path dependence, and innovate into new markets, resulting in a greater legitimacy and improved performance.

Theoretical Foundation⁴

In the following section, I briefly review the main research findings that form the theoretical foundation of this doctoral dissertation. The interplay and effect of these fields is researched in three studies of which the first is a literature review, the second a theoretical contribution, and the third a comparative case study. Several authors contributed to these fields from different perspectives. The most relevant studies are outlined in table 2.

Table 2: Overview of most relevant studies

Author	Research objective	Theoretical background	Level	Method	Main findings
Shepherd, Patzelt, & Wolfe, 2011	Grief-recovery after project failure	Psychology, Stages theory of grief	Individual level	Survey on grief-recovery	The grief-recovery process differs depending on the individuals' specific coping orientations.
Nigam & Ocasio, 2010	Effect of events on change in organizational logics	Institutional theory	Organization level	Inductive case study	After a disruptive event, an organization goes through a stepwise change process.
Stenzel & Frenzel, 2008	Researching the strategic response of energy utilities to renewable energies in three European countries	Resource based view, Inertia	Organization level	Interviews	The strategic reaction of energy utilities in response to renewable energies differs between countries, ranging from defensive to proactive strategic responses.

⁴ This is only a short summary of the main literature streams that are the basis for each of the three papers. Each paper additionally focuses on other theoretical fields that are relevant in the specific context. Please refer to the particular paper for more details.

Wüstenhagen & Bilharz, 2006	Analysis of the renewable energy market development in Germany and the role of major energy utilities	Policy development	Individual and group level	Literature review	The development of a renewable energy market is driven by new policies and customer demand. Utilities develop different strategies in response to renewables.
Ashkanary, 2003	A multilevel perspective on emotions in organizations	Psychology, Organizational behavior	Multi-level perspective	Theory building	Emotions affect all levels within an organizations from within-person to organization-wide .
Shepherd, 2003	Grief process after business failure	Psychology, Emotions, Stages theory of grief	Individual level	Theory building	Business failure can cause grieving which can hamper learning from it.
Sharma, 2000	Organizational interpretation of and response to environmental issues	Strategic issue interpretation	Individual level	Interviews	Managers perceive environmental issue as threat or opportunity, which in turn affects the organizational response.
Hoffman, 1999	Organizational evolution and change	Institutional theory and new institutional theory	Organization level	Content analysis	Describes change stages of organizations in response to institutional changes
Jackson & Dutton, 1988	The interpretation of an issue as threat or opportunity	Managerial decision-making	Individual level	Survey on strategic decision-making	Managers interpret issues as threats and opportunities, managers react more sensitive to threats than to opportunities.

Source: Own research

Consecutively I briefly summarize the key theories that build the backbone of this dissertation and discuss how and where emotions and decision-making are linked.

Emotions and Strategic Decision-Making

In 2000, Bechara, Tranel, and Damasio published their results on experiments with neurological patients that suffered from brain damage and could not process emotional information normally. They found that individuals make decisions not just by evaluating the consequences and their probability of occurring, but also and even sometimes primarily at an emotional level (Bechara, Tranel, & Damasio, 2000; Bechara, 2004). Their findings underline the significant and at times decisive role of emotions in our decision making process. Until recent, the influence of emotions on management research has been largely overlooked (Elfenbein, 2007; Voronov & Vince, 2012). Emotional factors received scant attention to explain strategic decision-making processes or phenomena like path dependence or inertia (Campbell, White, & Johnson, 2003; Madlock, 2008; Huy, 2012; Voronov & Vince, 2012) and many of the few researchers who used emotional concepts have arguably been engaged in “rhetorical devocalization” of emotions (DiMaggio, 1988, p. 3), thereby missing a potentially decisive factor (Elfenbein, 2007; Voronov & Vince, 2012). Upcoming issues, for example a new policy or disruptive technology, trigger an emotional response by organizational leaders. Drawing on insight from strategic issue interpretation, senior executives can interpret an issue or event as threat or opportunity (Dutton & Jackson, 1987; Jackson & Dutton, 1988). The underlying cognitive evaluation whether an issue is perceived as threat or opportunity is influenced by three factors: Gain and loss considerations, perceived control, and negative and positive emotional associations. Drawing on insights from neurological studies (cf. Bechara, 2004), I argue that especially emotional factors influence the interpretation of an issue. Research has shown that the decision-making of individuals is stronger influenced by a perception of an issue as threat than opportunity (Jackson & Dutton, 1988, Kahneman & Tversky, 1979). The perception of an issue as threat can also result in strong negative emotions toward the issue. In a study by Zell (2003), it was found that change processes in organizations can trigger negative associations and be linked to the stages theory of grief (Kübler-Ross, 1969). By studying the response stages of terminally ill patients to awareness of their impending death, Kübler-Ross identified five distinct psychological stages of grief: denial, anger, bargaining, depression, and acceptance. The concept is widely accepted among clinicians and the general public (Downe-Wamboldt & Tamlyn, 1997), even though it has yet to be validated in empirical testing (Maciejewski et al., 2007). The application of psychological

individual-level theories on management phenomena can enhance our understanding of the process of decision-making and change (Bowman, 1982; Shimizu, 2007; Staw, Sandelands, & Dutton, 1981). It helps to explain the behavior of executives when confronted with high risks and changes in the organizational field. The stages theory of grief was more recently introduced in management research. Foremost Shepherd et al. produced an impressive body of research, studying grief recovery of self-employed after business closure (Shepherd, 2003), grief recovery after the loss of a family business (Shepherd and Kuratko, 2009), the learning process from grief recovery (Shepherd, Patzelt, & Wolfe, 2011) and the grief process after failed corporate entrepreneurship (Shepherd et al., 2009).

This dissertation interlinks the findings on strategic issue interpretation and research on negative emotions over change. I argue that both streams are closely intertwined as the perception of an issue as threat is connected to negative emotions, which in turn could lead to the proposed grieving process. They are connected by perceptual and emotional factors, two aspects that gained limited attention in these fields (Sydow, Schreyögg, & Koch, 2009; Sharma, 2000; Voronov & Vince, 2012; Bechara, Tranel, & Damasio, 2000). Sydow, Schreyögg, and Koch (2009, p. 702) note “beyond discourse, however, reflecting path-bounded practices often requires addressing the emotional side of inertial organizational patterns as well”. Burgelman and Grove (1996) find that the emotional attachment of senior executives to a business, practice, product, or service is connected to inertial behavior. More broadly, the notion of economic relational seems to be predominant in management research while the influence of perceptual and emotional factors is largely overlooked (cf., Campbell et al., 2003; Madlock, 2008; Voronov & Vince, 2012). Research on path dependence and strategic issue interpretation indicates that the perception of an issue as threat or opportunity by senior executives influences an organization’s likelihood to become path dependent (George et al., 2006). The interpretation of an issue as threat can lead to a defensive strategic response (Sharma, Pablo, & Vredenburg, 1999). As shown by Sydow, Schreyögg, and Koch (2009), a defensive strategic response to change is also an important element of path dependence. The connection between the two streams is the predominance of perceptual and emotional factors, which influence the interpretation of a policy as threat or opportunity and respectively an organization’s likelihood to become path dependent. I argue that path dependence is a result of a managerial issue interpretation as threat. I further argue that this is a self-enforcing alliance as companies that are already inbound in their actions are more

likely to interpret a policy change in their field as threat. I discuss the link between both researches in all three studies.

The first paper outlines how negative emotions are connected to the interpretation of environmental issues like climate change as threat. The second paper applies the stages theory of grief on managerial decision-making during upheaval in the organizational field. We develop a model that outlines how negative emotions over change affect a leader's perception of the organization's position in the market and his/her ability to change the organization respectively. In the second study we also discuss how the interpretation of an issue as threat connects to negative emotions over change and implications for further research on the two streams. The third paper empirically researches how the interpretation of energy policies in four major energy companies differed and how this difference is translated into a proactive or defensive strategic response to the emergence of renewable energies. I discuss how emotions affect the perception of an issue as threat or opportunity and how these findings contribute to research on decision-making and phenomena like path dependence or inertia in an industry.

Research Framework

As previously mentioned the three studies that form this cumulative dissertation are intertwined and build upon each other. Following a deductive research approach, the first paper reviews the literature, the second develops the theory, and the third empirically researches previous findings. Figure 1 illustrates the connection of the different studies and how they contribute toward explaining the strategic response of energy utilities to renewable energies.

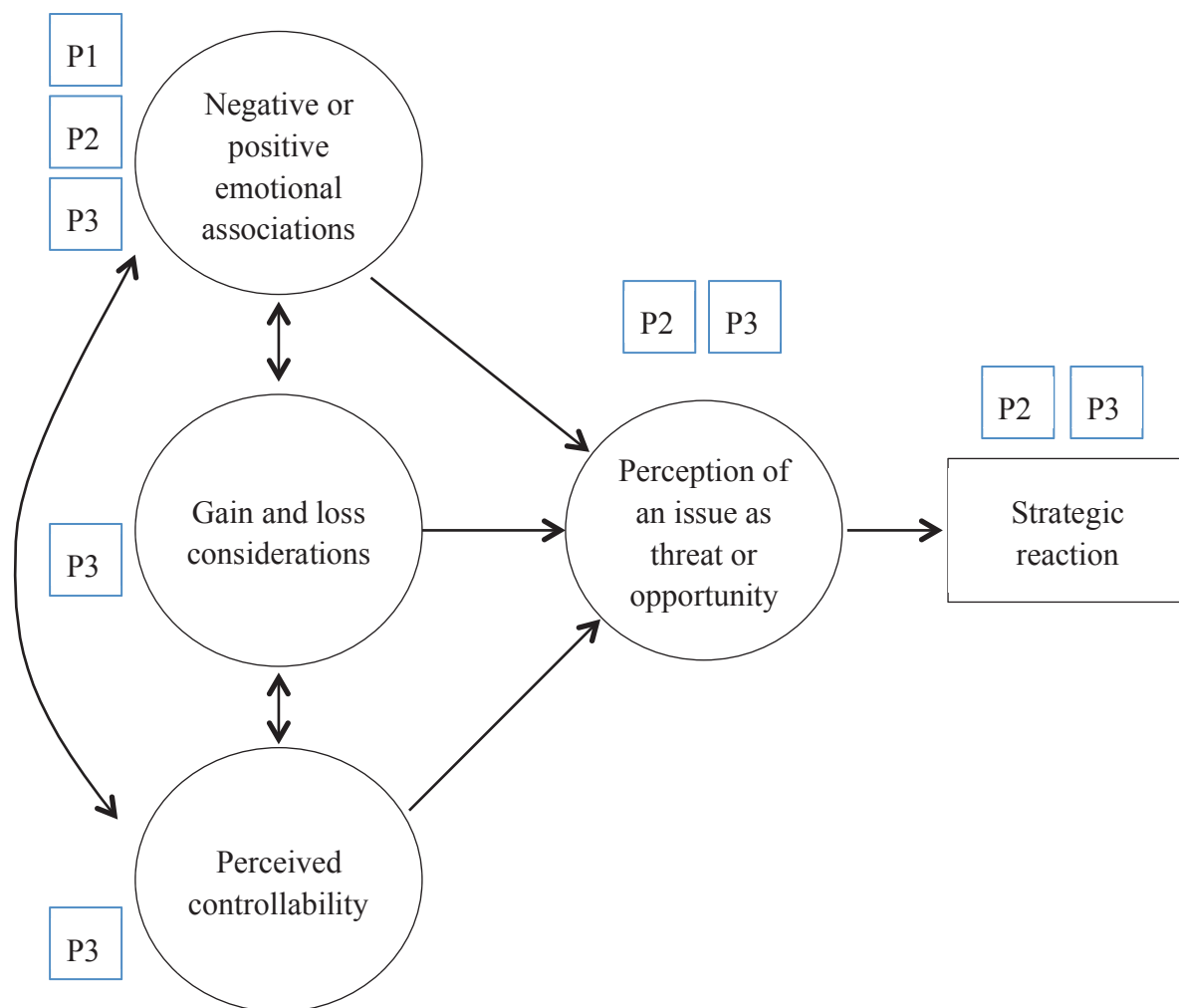


Figure 1: Research framework in the context of strategic issue interpretation
Source: Own illustration. Based on Sharma, Pablo, and Vredenburg (1999).

To illustrate how each paper contributes to the understanding of the factors influencing the strategic reaction of an organization in response to an issue, I illustrate the contribution of each paper along the findings of Sharma, Pablo, and Vredenburg (1999), who research the underlying factors influencing the interpretation of an environmental issue as threat or opportunity. The three studies connect to different aspects of the research on strategic reactions to change. One element aligning all three studies is the notion of negative and positive emotional associations. The first study introduces and defines emotions and outlines how our feelings and actions are interlinked. The second study researches the evolution of emotions over an issue from negative toward more positive emotional associations and respectively a more opportunity-driven strategic response. The third paper empirically researches the

strategic response of major energy utilities and considers all aspects of the work of Sharma, Pablo, and Vredenburg (1999). It reviews different strategic responses of energy utilities and discusses the decisive influence of emotions on the interpretation of an issue. Consecutively I outline the methodology behind each study, which further outlines the interconnection of the three papers.

Methodology

This dissertation methodologically follows a deductive research approach (cf. Whetten, 1989; Colquitt & Zapata-Phelan, 2007). Theory building allows describing and explaining a process or sequence of events (Mohr, 1982; DiMaggio, 1995), while theory testing allows validating the proposed idea (Popper, 1965; Hempel, 1966). The *first paper* is an extensive review of the literature on emotions in management research. The *second paper* builds upon these findings and develops a theoretical framework that theorizes about the effect of negative emotions over change and illustrates the model with anecdotal evidence from the German energy industry. The *third paper* empirically researches the strategic reactions of major energy utilities in response to the emergence of renewable energies. It draws upon the findings of the first two papers and empirically validates the theory by outlining the link between the negative perception of an issue and a defensive strategic response.

The *first paper* reviews the literature on emotions and forms the theoretical foundation of this dissertation. We review the relevant literature and segment our findings along a multi-level framework developed by Ashkanasy (2003). The paper does not gather or analyze data.

The *second paper* researches the influence of emotions on managerial decision-making with a specific focus on the German energy industry. This decision was made as previous studies outlined the defensive strategic reaction of major German energy utilities in response to renewable energies (Stenzel & Frenzel, 2008; Kivimaa & Kautto, 2010; Wüstenhagen & Bilharz, 2006). Based on the literature review of the first paper, the second paper develops a model that outlines the development and implications of negative emotions over an issue over time. The research is illustrated with anecdotal evidence, which is derived from publically available information in interviews and statements of leaders in the German energy industry. The data in this paper is not comprehensive and its only purpose is to illustrate the idea developed in

this conceptual paper. In the discussion section we outline different approaches to empirically test the model.

The *third paper* is an empirical study that analyses the corporate communication and investment strategy of major energy utilities in Germany and Spain and aims to validate parts of the theory developed in the second paper. Through a content analysis (cf. Weber, 1990) of the corporate communication of four major energy utilities in Germany and Spain between the years 1998 and 2011, I empirically validate the importance of perceptual elements on the interpretation of an issue and the respective organizational response. I apply a coding scheme around the terms renewable energy and wind energy. The analyzed documents include annual reports, sustainability reports, financial reports, operations reviews, corporate governance reports, and legal statements. The data of the content analysis was reviewed and cleansed to exclude statements that were irrelevant for the strategic analysis, for example “annually renewable insurance policies”. A content analysis of corporate reports sheds light on issues concerning a firm and its strategic direction (Bowman, 1984), which allowed me to shed light on the development of diverging strategic responses within the energy industry.

Through a combination of theory building and theory testing, this dissertation aims to provide a solid ground for further work on the role of emotions for managerial decision-making and risk perception during times of change in the organizational field.

Overall Findings and Implications

This dissertation summarizes three studies researching the strategic response of major energy utilities to the emergence of renewable energies, with a focus on the underlying factors influencing the perception of renewables by senior executives and the strategic response of their organizations. I emphasize on the importance of emotional factors in the strategic decision-making of senior executives and develop a theoretical model that conceptualizes the evolution of emotions from denial to acceptance in response to an environmental issue over time and the effect of the different emotional stages on managerial decision-making and risk perception. Most fundamentally, the evidence emerging from these studies suggests that emotions are an important and so far overlooked factor in managerial decision making and significantly influenced the strategic reaction of energy utilities in response to the emergence of renewable energies.

The findings are embedded in the literature, draw upon previous studies and make important implications to the research on strategic decision-making, managerial risk perception, and phenomena like path dependence and inertia. Based on the findings of this research and drawing on findings from path dependence and strategic issue interpretation research, I argue that both streams are closely intertwined.

The *first paper* reviews the literature on emotions in a sustainability related context. The findings are structured along the multi-level framework developed by Ashkanasy (2003) and outline the current academic discourse around emotions in an environmental context. Our findings outline that research in this field is scarce, especially on an organizational-level. We define an agenda for future research and call for studies investigating the role of emotions in decision-making and risk perception of senior executives in response to environmental issues.

The major contribution of the *second paper* is the development of a conceptual framework outlining the effect of negative emotions over change on a key agent's perception and ability to change. We draw on psychological findings on grieving and adapt the stages theory of grief by Kübler-Ross (1969) on management research. The study illustrates the theory with anecdotal evidence from senior executives in the German energy industry in response to the emergence of renewable energies. The study makes important contributions to the research of decision-making processes and enhances our understanding of phenomena like path dependence and inertia in a sustainability-related context. We also discuss implications for the industry and policymakers and outline how to empirically validate the concept in further research.

The *third paper* aims to empirically research the reactions of German and Spanish energy utilities in response to renewable energy policies. I therefore review the development of the wind market and the policy landscape in Germany and Spain and analyze the corporate communication of four major energy incumbents in both countries. The findings indicate that the interpretation of an issue as threat or opportunity by senior executives in these companies influenced the strategic response of their organizations to renewable energy changes. The results are an enhancement of previous studies on strategic change in the energy industry (Stenzel & Frenzel, 2008; Wüstenhagen & Bilharz, 2006) and contribute to our understanding of the phenomenon of organizations that pursue opposing strategies in response to a similar change in the institutional field. The study discusses implications for practitioners and policymakers and calls for further research studying the role of emotions in the interpretation of an issue as threat or opportunity.

The dissertation aims at contributing to the work of academics, practitioners in the energy industry, and policymakers.

Firstly, the research of the effect of emotions on managerial decision-making in response to sustainability-driven change in the organizational field has implications for academics. The importance of emotions on managerial decision-making is not just a hypothesized effect but proven in medical trails. Bechara, Tranel, and Damasio (2000) researched the decision-making processes in neurological patients that could not process emotional information normally. Their findings show that risks are not evaluated based on the consequences and their probability of occurring, but often primarily at an emotional level. While the role of emotions has implications on different research streams and fields, it is particularly important for sustainability-related research (Wright & Nyberg, 2012; Russell & Griffiths, 2008), which is often illustrated in emotionally loaded political and public discourses surrounding environmental issues. By researching the role of emotions in managerial decision-making in response to the emergence of an environmental issue, this research makes an important contribution by enhancing our knowledge about the underlying drivers behind environmental strategies of organizations. Specifically, the first paper summarizes the current discourse in the literature on emotions in sustainability-related researches and discusses implications on current and future research. The second paper applies the stages theory of grief by Kübler-Ross (1969) on managerial decision-making and risk perception and illustrates it by reviewing the strategic reactions of major energy utilities to the emergence of renewable energies in Germany. To my knowledge, it is the first study that discusses the influence of negative emotions over sustainability-driven change in management research. If validated by further research, the study has important implications on different research streams including managerial-decision making, risk perception, path dependence and inertia, and organizational change. The third paper draws upon research on the managerial interpretation of an issue as threat or opportunity, which is influenced by positive and negative emotional associations. The paper links research on strategic issue interpretation and path dependence to insights from psychological research on emotions, thereby combining different research streams and outlining future research directions.

Secondly, the studies that form this dissertation have implications on the work of practitioners in the energy industry. From an institutional theory perspective, one of the main drivers for organizational transformation is gaining legitimacy (Desai, 2011;

George et al., 2006; Puffer and McCarthy, 2011; Suddaby and Greenwood, 2005). Weber (1978) defined legitimacy at a collective-level as “validity”, meaning that the norms, beliefs and values are perceived as legitimate. Sustainability-related issues increasingly affect social norms and political actions (Bird, Wüstenhagen, & Aabakken, 2002; Foxon et al., 2013), which in turn lead to changing customer preferences and new regulations. Leaders need to address these environmental issues and change the company respectively in order to maintain legitimacy and ultimately ensure the survival of their organization (North, 2005). The second and third study of this dissertation review the strategic response of leaders to a decisive event in their organizational field, the emergence of renewable energies, and the consequences of their actions for their organization. The second study theorizes about the effect of grieving leaders on their perception of the organization’s position in its market and their ability to strategically change the organization respectively. If proven in further research, the study demonstrates the potential threat of grieving leaders for their organization as it hampers their ability to adapt to new intuitions, which threatens the competitiveness and over time the survival of the organization. Drawing on findings from bereavement services, we discuss how organizations can identify, address, and prevent grieving of senior executives. Leaders and organizations can learn from these findings and select and prepare their leadership team for times of upheaval in the industry. In the third study I research how different strategic interpretations of an issue affect the organization’s position in a market over time. The data is derived from four comparative case studies of German and Spanish energy utilities, which outlines very different strategic responses to the emergence of renewable energies. Practitioners can learn about the factors that influence their perception of an issue as threat or opportunity. I further outline considerations for the selection process of a leadership team during times of change and how an organization can develop an opportunistic view toward sustainability-driven change. Besides selecting a leader with the right background and experience for times of change in an industry, the study underlines the importance of developing resources and capabilities in a new business field at an early stage in order to interpret a consecutive societal and political move toward a new industry as business opportunity.

Thirdly, the second and third paper outline important implications for energy policymakers. Firstly, the findings of the dissertation underline the influence of policies on an industry. The second and third study review the effect of new energy policies on the development of the market. Favorable renewable energy policies led

Germany and Spain to become two of the largest markets for wind and solar energy and triggered a significant growth in clean energy sources, thereby contributing to a more environmental and climate friendly way of energy production and reducing nuclear hazards. Beyond a review of the implications of energy policies on the market, both studies outline why corporate responses to energy policy changes differed so widely. In the third paper I discuss how policy makers can influence the underlying factors leading to the perception of an issue as threat or opportunity. I argue that policymakers should aim for support from major industry players to increase the legitimacy of their actions and make the companies use their resources and capabilities to achieve the policy goals. I recommend outlining potential opportunities for the industry and the irreversible nature of the policy to increase investment certainty. Thereby, energy utilities can develop renewable energy capabilities and their leaders a greater feeling of control. This could change their perception of an issue and lead to a more opportunity driven organizational response.

Overall Limitations and Suggestions for Further Research

The studies that form this conceptual dissertation have a number of shortcomings, which I will discuss in the following section. The *first paper* is a literature review analyzing the researches on emotions in a sustainability-related context. While the paper lays a solid foundation for the consecutive studies, the major shortcoming is the lack of tangible results. Neither are hypotheses derived as a result of the literature review nor new theories developed. While we summarize the most important studies in this field, we could not include all findings on the field of emotions due to the many contributions to this field from different disciplines. We might therefore have excluded a decisive factor in our research. That said, we believe that the summary of the current research in this burgeoning area outlines directions for future research and will spark further interest in this field.

The *second study* is a conceptual paper, which comes with some natural limitations. Foremost, we do not test the developed theory. The conceptual model is derived from an extensive literature review, yet it is based on some basic assumptions that need to be challenged in future research. We assume for example that grieving in a management context over a major negative event in the organizational field has some similarities to the grieving of an individual in response to a personal life-changing event. Another major limitation of our findings is the lack of validity of the stages

theory of grief, which forms the conceptual foundation of our work. While many practitioners acknowledge the applicability of the model in their work, research could not find sufficient empirical support for the model (Maciejewski et al., 2007). We understand our work as an early contribution to an emerging field and call for research to empirically test and possibly refine the model.

The *third paper* is empirical in nature and analyses corporate reports of four major energy utilities through a content analysis. While this is a valid approach to derive insights on the strategic direction of an organization (Bowman, 1984), the reviewed data has a number of limitations. During the researched timeframe from 1998 to 2011, the four case companies changed their reporting a number of times, which challenged the comparability and validity of the results. The sample of reports had to be cleansed as several years had a structure and content that was very different from previous years. The result had to be further cleansed to exclude references to renewable energies without relevance for the strategic analysis, for example weather events affecting renewable energy sites. Furthermore, reports in two different languages including Spanish and German had to be reviewed. While two researchers that were fluent in these languages reviewed the data, certain contexts might have been misinterpreted. Despite these limitations, the content analysis overall clearly outlined a strategic shift toward renewable energies with the exception of Endesa, which sold most of its renewable energy after being acquired in 2007.

A general remark limiting the contribution of this research is the choice of an institutional theory perspective as underlying management theory for this dissertation. While other studies adopted this perspective when researching phenomena related to organizational change (cf. Desai, 2011; George et al., 2006; Hoffman, 1999; Newman, 2000; Puffer & McCarthy, 2011; Suddaby & Greenwood, 2005) and also addressed the role of emotions in this field (cf. DiMaggio, 1988; Voronov & Vince, 2012), other theoretical perspectives could shed further light on the research of emotions in a sustainability-related field. Other obvious perspectives are a resource based view or agency theory to research how key agents make decisions and how organizations transform. I call for further research studying the underlying factors influencing decision-making and risk-perception during times of upheaval in an organizational field to broaden our knowledge on the role of emotions in a management context.

In conclusion, the studies in that form this cumulative dissertation enhance our understanding of the underlying factors influencing the strategic reactions of major energy utilities in response to the emergence of renewable energies. The findings have

important implications for practitioners in the energy industry, energy policymakers, and academia and will hopefully spark further research on the underlying factors of strategic decision-making in an environmental context.

References

- Aragón-Correa, J. A. (1998). Strategic proactivity and firm approach to the natural environment. *Academy of Management Journal*, 41(5), 556-567.
- Ashforth, B. E., & Humphrey, R. H. (1995). Emotion in the workplace: A reappraisal. *Human Relations*, 48(2), 97-125.
- Ashkanasy, N. M. (2003). Emotions in organizations: A multi-level perspective. In F. Dansereau & F. J. Yammarino (Eds.), *Multi-level issues in organizational behavior and strategy* (pp. 9-54). Amsterdam: JAI.
- Barsade, S. G., Brief, A. P., & Spataro, S. E. (2003). The affective revolution in organizational behavior: The emergence of a paradigm. In J. Greenberg (Ed.), *Organizational Behavior: State of the Science* (2nd ed., pp. 3-50). Mahwah, NJ Lawrence Erlbaum.
- Baum, J. A., & Silverman, B. S. (2001). Complexity, attractors, and path dependence and creation in technological evolution. *Path dependence and creation*, 1, 169-209.
- BDEW (Bundesverband der Energie- und Wasserwirtschaft). (2014, January). Energiebilanz 2013. Retrieved January 15, 2014, from <http://www.bundesregierung.de/Content/DE/Artikel/2014/01/2014-01-13-bdew-energiebilanz-2013.html>.
- Bechara, A., Damasio, H., & Damasio, A. R. (2000). Emotion, decision making and the orbitofrontal cortex. *Cerebral Cortex*, 10(3), 295-307.
- Bechara, A. (2004). The role of emotion in decision-making: evidence from neurological patients with orbitofrontal damage. *Brain and Cognition*, 55(1), 30-40.
- Bird, L., Wüstenhagen, R., & Aabakken, J. (2002). A review of international green power markets: recent experience, trends, and market drivers. *Renewable and Sustainable Energy Reviews*, 6(6), 513-536.
- Bowman, E. H. (1982). Risk seeking by troubled firms. *Sloan Management Review*, 23(4), 33-42.
- Bowman, E. H. (1984). Content analysis of annual reports for corporate strategy and risk. *Interfaces*, 14(1), 61-71.
- Campbell, K. S., White, C. D., & Johnson, D. E. (2003). Leader-member relations as a function of rapport management. *Journal of Business Communication*, 40, 170-194.

- Colquitt, J. A., & Zapata-Phelan, C. P. (2007). Trends in theory building and theory testing: A five-decade study of the Academy of Management Journal. *Academy of Management Journal*, 50(6), 1281-1303.
- Downe-Wamboldt, B., & Tamlyn, D. (1997). An International Survey of Death Education Trends in Faculties of Nursing and Medicine. *Death Studies*, 21(2), 177-188.
- DiMaggio, P. (1988). Interest and agency in institutional theory. In L. Zucker (Ed.), *Institutional patterns and organizations: 3–22*. Cambridge, MA: Ballinger.
- DiMaggio, P. J. (1995). Comments on "What theory is not". *Administrative Science Quarterly*, 391-397.
- Dutton, J. E., & Jackson, S. E. (1987). Categorizing strategic issues: Links to organizational action. *Academy of Management Review*, 12(1), 76-90.
- Elfenbein, H. A. (2007). Emotion in organizations: A review and theoretical integration. *The Academy of Management Annals*, 1, 315-386.
- Foxon, T. J., Pearson, P. J., Arapostathis, S., Carlsson-Hyslop, A., & Thornton, J. (2013). Branching points for transition pathways: assessing responses of actors to challenges on pathways to a low carbon future. *Energy Policy*, 52, 146-158.
- George, E., Chattopadhyay, P., Sitkin, S. B., & Barden, J. (2006). Cognitive underpinnings of institutional persistence and change: A framing perspective. *Academy of Management Review*, 31(2), 347-365.
- Iberdrola (2011). *Iberdrola Annual Report 2010*. Bilbao.
- IPCC (Intergovernmental Panel on Climate Change). (2011). *Special Report on Renewable Energy Sources and Climate Change Mitigation*.: Intergovernmental Panel on Climate Change.
- Hempel, C. (1966). *Philosophy of natural science*. Englewood Cliffs, NJ: Prentice-Hall.
- Hoffman, A. J. (1997). *From heresy to dogma: An institutional history of corporate environmentalism*. San Francisco: New Lexington Press.
- Hoffman, A. J. (1999). Institutional Evolution and Change: Environmentalism and the U.S. Chemical Industry. *Academy of Management Journal*, 42(4), 351-371.
- Hoffmann, V. H., Trautmann, T., & Schneider, M. (2008). A taxonomy for regulatory uncertainty-application to the European Emission Trading Scheme. *Environmental Science & Policy*, 11(8), 712-722.
- Huy, Q. N. (2012). Emotions in strategic organization: Opportunities for impactful research. *Strategic Organization*, 10(3), 240-247.

- IÖW (Institut für ökologische Wirtschaftsforschung). (2011). *Anteil der Erneuerbaren Energien am deutschen Strommix 2009*. Berlin: Institut für ökologische Wirtschaftsforschung.
- Jackson, S. E., & Dutton, J. E. (1988). Discerning threats and opportunities. *Administrative Science Quarterly*, 370-387.
- Jacobsson, S., & Lauber, V. (2006). The politics and policy of energy system transformation—explaining the German diffusion of renewable energy technology. *Energy policy*, 34(3), 256-276.
- Johnson, A., & Jacobsson, S. (2001). Inducement and blocking mechanisms in the development of a new industry: the case of renewable energy technology in Sweden. *Technology and the Market, Demand, Users and Innovation*, Edward Elgar, 89-111.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica: Journal of the Econometric Society*, 263-291.
- Kivimaa, P., & Kautto, P. (2010). Making or breaking environmental innovation? Technological change and innovation markets in the pulp and paper industry. *Management Research Review*, 33(4), 289-305.
- Kübler-Ross, E. (1969). *On Death and Dying*. New York, NY: Macmillan.
- Liebowitz, S. J., & Margolis, S. E. (1995). Path dependence, lock-in, and history. *Journal of law, economics, and organization*, 11, 205.
- Lovio, R., Mickwitz, P., & Heiskanen, E. (2011). 15 Path dependence, path creation and creative destruction in the evolution of energy systems. *The Handbook of Research on Energy Entrepreneurship*, 274.
- Maciejewski, P. K., Zhang, B., Block, S., & Prigerson, H. G. (2007). An empirical examination of the stage theory of grief. *Journal of the American Medical Association*, 297(7), 716- 723.
- Madlock, P. E. (2008). The link between leadership style, communication competence, and employee satisfaction. *Journal of Business Communication*, 45, 61–78.
- Mohr, J. (1982). *Explaining organizational behavior*. San Francisco: Jossey-Bass.
- Nigam, A., & Ocasio, W. (2010). Event attention, environmental sensemaking, and change in institutional logics: An inductive analysis of the effects of public attention to Clinton's health care reform initiative. *Organization Science*, 21(4), 823-841.
- Popper, K. R. (1962). *Conjectures and refutations* (Vol. 192). New York: Basic Books.

- Romm, J. (2006). The car and fuel of the future. *Energy Policy*, 34(17), 2609-2614.
- Russell, S., & Griffiths, A. (2008). The role of emotions in driving workplace pro-environmental behaviors. In W. Zerbe, N. M. Ashkanasy & C. E. J. Härtel (Eds.), *Managing Emotions in the Workplace* (pp. 83-107). New York: M.E. Sharpe.
- Scherer, K. R. (2001). Appraisal Considered as a Process of Multi-Level Sequential Checking. In K. R. Scherer, A. Schorr & T. Johnstone (Eds.), *Appraisal Processes in Emotion: Theory, Methods, Research* (pp. 92-120). New York and Oxford: Oxford University Press.
- Sharma, S. (2000). Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy. *Academy of Management Journal*, 43(4), 681-697.
- Sharma, S., Pablo, A. L., & Vredenburg, H. (1999). Corporate Environmental Responsiveness Strategies The Importance of Issue Interpretation and Organizational Context. *The Journal of Applied Behavioral Science*, 35(1), 87-108.
- Shepherd, D. A. (2003). Learning from business failure: Propositions about the grief recovery process for the self-employed. *Academy of Management Review*, 28(2), 318-328.
- Shepherd, D. A., Covin, J. G., & Kuratko, D. F. (2009). Project failure from corporate entrepreneurship: Managing the grief process. *Journal of Business Venturing*, 24(6), 588-600.
- Shepherd, D. A., & Kuratko, D. F. (2009). The death of an innovative project: How grief recovery enhances learning. *Business Horizons*, 52, 451-458.
- Shepherd, D. A., Patzelt, H., & Wolfe, M. (2011). Moving forward from project failure: negative emotions, affective commitment, and learning from the experience. *Academy of Management Journal*, 54(6), 1229-1260.
- Shimizu, K. (2007). Prospect theory, behavioral theory, and the threat-rigidity thesis: Combinative effects on organizational decisions to divest formerly acquired units. *Academy of Management Journal*, 50(6), 1495-1514.
- Staw, B. M., Sandelands, L. E., & Dutton, J. E. (1981). Threat-rigidity effects in organizational behavior: A multilevel analysis. *Administrative science quarterly*, 26(4).
- Stenzel, T., & Frenzel, A. (2008). Regulating technological change: The strategic reactions of utility companies towards subsidy policies in the German, Spanish and UK electricity markets. *Energy Policy*, 36(7), 2645-2657.

- Sydow, J., Schreyögg, G., & Koch, J. (2009). Organizational path dependence: Opening the black box. *Academy of Management Review*, 34(4), 689-709.
- Voronov, M., & Vince, R. (2012). Integrating emotions into the analysis of institutional work. *Academy of Management Review*, 37(1), 58-81.
- Weber, R. P. (Ed.). (1990). *Basic content analysis* (No. 49). Sage.
- Whetten, D. A. (1989). What constitutes a theoretical contribution?. *Academy of Management Review*, 14(4), 490-495.
- Wooten, M., & Hoffman, A. J. (2008). Organizational fields: Past, present and future. In R. Greenwood, C. Oliver, R. Suddaby, & K. Sahlin (Eds.), *The Sage handbook of organizational institutionalism*: 130–147. London: Sage.
- Wright, C., & Nyberg, D. (2012). Working with passion: Emotionology, corporate environmentalism and climate change. *Human Relations*, 65(12), 1561-1587.
- Wüstenhagen, R., & Bilharz, M. (2006). Green energy market development in Germany: effective public policy and emerging customer demand. *Energy Policy*, 34(13), 1681-1696.
- Zell, D. (2003). Organizational change as a process of death, dying, and rebirth. *The Journal of Applied Behavioral Science*, 39(1), 73-96.

First Paper

Emotions in Green Organizations

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Abstract

In this chapter we argue that emotions play a critical role in determining pro-environmental behavior both within and outside the workplace. Using Ashkanasy's (2003) multi-level model of emotions, we illustrate how emotions influence organizational greening at all levels of analysis, from the most fundamental level that includes fluctuations in day-to-day emotions of all employees, through to the shared emotional experiences of organizational members that make up the emotional climate of the organization. Specifically, we examine pro-environmental behavior research that occurs at the five levels of: within-person, between-persons, interpersonal interactions, group-level, and organizational-level. A recurring theme throughout our review is the interrelatedness of emotions and pro-environmental behavior across all of the levels of analysis. Indeed, while we have attempted to categorize extant research into each of the levels, it is clear that most of the research we review could be considered to span multiple levels. Thus, our review illustrates the dynamic nature of emotions and the interrelatedness of emotional variables across all levels of analysis. We describe the implications for future research and practice and note that there is a need for future research to develop further in the exploration of emotions at macro-level analyses. Particularly we suggest that research that examines how emotions progress from the individual to the organization and vice versa will be important in advancing understanding of how emotions affect organizational greening.

Keywords: Emotion, Affect, Sustainability

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Introduction

In this chapter we argue that the role of emotion in greening organizations deserves further attention and is a fruitful area for further research. Research in the broader management literature has clearly demonstrated how organizations are inherently emotional places (Ashkanasy & Ashton-James, 2005; Elfenbein, 2007; Voronov & Vince, 2012), yet far fewer studies have examined the relationship between emotions and organizational greening (Russell & Griffiths, 2008). Scholars such as Fineman (1996, 1997) and Pratt and Dutton (2000) have suggested that environmental issues are likely to be more emotional than other types of issues within organizations. Yet the relative lack of emotion-based research has meant that research in organizational greening may not have kept pace with theoretical and empirical developments in the wider organizational literature (Ashforth & Humphrey, 1995; Barsade, Brief, & Spataro, 2003). In this chapter we review what research has been conducted to date with the aim of setting an agenda for future research in this burgeoning area.

For the purposes of setting a clear research agenda, we use Ashkanasy's (2003) integrated multi-level framework of emotions in organizations as a starting point to review relevant research and literature. Ashkanasy suggests that emotions in the workplace can be categorized according to the five levels at which they occur. The most micro-level of the model focuses on within-person emotions, followed by emotions at the individual-level. The levels then proceed through the meso-level including interpersonal and group level emotions, and finally the macro-level perspective of organizational level emotions. We argue that this framework provides a useful foundation for our chapter and it allows us to examine current research as it relates to each level of analysis. In the following section we set the context of the chapter by first defining emotion. We then review current research that examines emotion at each level of analysis and identify the relevance of the level to the study of pro-environmental behavior in general and then specifically to the organizational context. In the final section of the chapter we outline the challenges and opportunities of studying emotion as it relates to the psychology of greening organizations and in doing so we aim to set an agenda for future research that is both innovative and impactful.

Defining Emotion

Throughout this chapter we use the term emotion to describe an intense reaction to an event (Frijda, 1986; Scherer, 2000, p. 152). Although there is ongoing debate on how emotion should be defined, this definition captures the predominant scholarly point of view that emotions are a reaction to an event, and are strong in intensity (Briner & Kiefer, 2005; Frijda, 1993; Izard, 1991). Throughout the chapter we predominantly use the term emotion rather than other affective constructs, such as mood, or affect, as it is the object specificity of emotion that is of most relevance when discussing emotion and environmental issues. In contrast to emotion, moods are diffuse, lack object specificity, and are generally less intense (Forgas, 1994; Scherer, 2000). Moods can be described as operating "...more in the background, with lower intensity" (Briner & Kiefer, 2005, p. 286). Alternatively, affect is commonly used as an umbrella term for all affective phenomena (Briner & Kiefer, 2005; Elfenbein, 2007) and therefore lacks the specificity that is implied by the term emotion.

Elfenbein (2007) describes the emotional experience as a process that begins when an individual is exposed to an emotion-eliciting stimulus. The individual then registers the stimulus for meaning, leading to the experience of a feeling state as well as physiological changes. Elfenbein argues that this process of experiencing emotion has consequences for attitudes, behaviors, and cognitions, as well as for facial expressions and other emotionally expressive cues. The relationships that Elfenbein describes between emotional experiences, cognition and behavior are particularly important in the context of greening organizations.

Scholars have suggested that emotions activate and prioritize behaviors by signaling action readiness – a concept that links different emotions with different behavioral responses (e.g., to run away in fear, or to fight in anger) (see, Frijda, 1986; Izard, 1991). Lazarus (1991) suggests that emotional experiences trigger specific automatic responses that lead to a state of action readiness. These behavioral tendencies have a strong adaptive function, helping the individual to adjust to or to shape the changing environment (Elfenbein, 2007; Frijda, 1986; Lazarus, 1991).

Cognition is another important component of emotion (Elfenbein, 2007). The most widespread view is that emotions result from cognitive appraisals made following an event that is of major importance to the individual (Lazarus, 1991; Scherer, 2000). Lazarus (1991) and Scherer (2000) suggest that events are appraised in relation to different dimensions that may include an individual's personal values, goals, or social

norms. These appraisals serve as an information processing mechanism that helps distinguish the relevance and importance of events or information (Scherer, 2000).

Level 1: Within-Person Emotions

The first level of Ashkanasy's (2003) multi-level model is the within person level. Individuals' emotions have been shown to fluctuate over time (To, Fisher, Ashkanasy, & Rowe, 2012; Weiss & Cropanzano, 1996), with fluctuations day-to-day as well as from moment-to-moment. By including this level of analysis, Ashkanasy takes account of the dynamic nature of emotion and the fluctuations that occur within individuals. We agree with Ashkanasy and suggest that it is important to consider variations at the within-person level of analysis and the subsequent impacts that these fluctuations may have on behavior. Indeed, as noted in our introduction, emotional reactions to environmental issues can take many forms and they may differ depending on the cognitive appraisals that individuals ascribe to specific issues.

More recent theories of emotion take account of within person fluctuations in emotion, including affective events theory, or AET (Weiss & Cropanzano, 1996) and the affect infusion model (Forgas, 1995). Affective events theory posits that emotional states at work are determined by the daily hassles and uplifts that are experienced in working life. These experiences generate specific emotional reactions that are hypothesized to influence subsequent behaviors and actions. The affect infusion model is focused more specifically on positive emotions. Fredrickson (2003) suggests that the experience of positive emotion broadens an individual's scope of thoughts and possible actions and builds their personal resources. It is posited that the result of this process leads individuals to demonstrate greater engagement in alternative and positive workplace behaviors.

The work of Bissing-Olson, Iyer, Fielding and Zacher (2013) is the first study of which we are aware that has sought to specifically examine within person fluctuations in emotion and their effect on pro-environmental behavior. This study is an important development in the field and clearly demonstrates how fluctuations in emotion can influence individual pro-environmental behavior. Using a diary-based method, Bissing-Olson et al. (2013) were able to capture fluctuations in emotional expressions over the course of 10 days. The authors challenge the assumption of previous research that individuals express emotions consistently from day to day and that pro-environmental behaviors are performed routinely. Bissing-Olson and colleagues

examined the degree to which daily positive affect and pro-environmental attitude predicted two different types of pro-environmental workplace behavior; namely task related and proactive behaviors. Their results revealed that employees were more likely to carry out their required work tasks in environmentally friendly ways when they felt calm, relaxed, and content, providing evidence that emotional states do indeed influence pro-environmental behavior at work. Another unique and interesting conclusion from this study is that the emotions that predicted environmentally friendly behavior were not necessarily directed toward environmental issues; rather, incidental emotions about any target were shown to influence pro-environmental behaviors in the workplace.

Based on the research on within-person emotions it is clear that emotions vary from day-to-day and even from moment-to-moment (Bissing-Olson et al., 2013; To et al., 2012). Indeed, at one moment we may experience sadness and the very next moment we may feel joy or hope or elation (Ashkanasy, 2003). While research to date has demonstrated that there is variation at this level, little is known about how these variations may affect pro-environmental behavior in general and in the workplace specifically. Bissing-Olson and colleagues (2013) extend our understanding of this phenomenon, but more needs to be done. Indeed, there is little known about how negative emotions affect pro-environmental behavior, nor is it clear how discrete emotions at the within-person level may affect subsequent behaviors and decision-making.

Level 2: Emotions Between Persons

Although emotions have been shown to fluctuate within individuals, Ashkanasy (2003) notes that there are some elements of emotion that can be described at the between-person level. Emotions at this level of analysis can also be described as individual differences. Traits are one example, whereby individuals demonstrate trait emotion as a general personal disposition to be in a long-term positive or negative affective state. Past research has shown that trait affect plays a small role in determining personal outcomes in organizational settings (Fox & Spector, 2000; Staw & Barsade, 1993). Within the pro-environmental literature much work has been conducted on between person variables, or traits, and their influence on behavior, however the focus of these studies has tended to be dominated by attitudinal and

cognitive variables rather than the affective determinants of behavior (e.g., Bamberg & Möser, 2007; Steg & Vlek, 2009). There are however, some notable exceptions.

First, Kals, Schumacher and Montada (1999) found that pro-environmental behavior, or nature protective behavior as they term it, could not be sufficiently explained using a purely rational-cognitive approach; rather, they found that both positive and negative emotions serve as predictors of nature protective behaviors. Pooley and O'Connor (2000) also examined emotion as an antecedent of motivation and found that the inclusion of both cognitive and affective variables as antecedents for environmental attitudes greatly improved the strength of their model predicting pro-environmental behavior.

Other researchers have considered more specific discrete emotion experiences. For example Bamberg, Hunecke, and Blöbaum (2007) examined the role of guilt in the formation of personal norms and subsequent public transport use. In a large-scale field survey, they found that feelings of guilt were caused by an awareness of the negative environmental impacts of car use. This emotion then led to an obligation (or personal norm) to use public transport, a more “environmentally friendly” mode of transport. Contrary to their expectations, however, they also found a direct, negative relationship between guilt and behavior. They suggested a possible explanation of the direct effect could be that feelings of guilt may paralyze the ability to act. The evidence suggests, however, that paralysis is subverted in the presence of strong personal norms (Bamberg et al., 2007).

Within a workplace context, Giacalone and his colleagues (Andersson, Giacalone, & Jurkiewicz, 2007; Giacalone, Paul, & Jurkiewicz, 2005) have also demonstrated the importance of emotion. In these studies, Giacalone et al. (2005) and Andersson et al. (2007) demonstrated that the emotions of hope and gratitude had a significant impact on self-reported corporate social responsibility (CSR). Although not measuring pro-environmental behavior *per se*, the measures of CSR used in these two studies integrate pro-environmental behaviors as a dimension of CSR. The results from these studies showed that respondents who reported greater levels of hope and gratitude also reported a greater sense of responsibility for employee and societal issues. If CSR is taken as an approximation of pro-environmental behavior, these findings suggest that positive emotions can lead to greater engagement in pro-environmental behavior, a finding congruent with results at the within person level of analysis (Bissing-Olson et al., 2013).

Emotions have also been shown to be important in determining a career choice in organizational greening. Vining (1992) for example showed that positive emotional affinity for nature was a strong motivational force for individuals who entered careers in environmental and resource management. Similarly, Kearins and Sharma (2007) also found emotion to be an important factor in driving sustainability careers.

Another aspect of the between persons level is the trait of emotional intelligence (Ashkanasy, 2003). Although the trait of emotional intelligence is yet to be studied in depth in relation to organizational greening, it may be important in understanding greening behavior. Defined as an individual's capacity to deal with emotions in everyday life (Ashkanasy, 2003, p. 24), emotional intelligence is a relevant variable that can impact behavior, but it is not a direct measurement of emotional expressions or experiences.

Research studies by Egri and Herman (2000) and Andersson and Bateman (2000) hint at the importance of emotional intelligence for those individuals who are involved in organizational greening. Egri and Herman (2000) investigated the concept of *emotional maturity*, rather than emotional intelligence, although the two constructs do have similarities. What Egri and Herman found was that emotional maturity was a significant factor in predicting the environmental leadership success of not-for-profit organizations, but not in for-profit organizations.

The work of Andersson and Bateman (2000) may also suggest that emotional intelligence is important in determining the success of environmental champions. In their study of environmental championing behavior, Andersson and Bateman found that the most successful champions were those that were able to sell environmental issues in a way that was aligned with the organizational context or paradigm. In other words, those individuals who were most successful in selling environmental issues were also those who were aware of the emotional climate of the organization and were able to sell their environmental issues accordingly.

The studies described in this section demonstrate the importance of emotion as a driver of pro-environmental behavior. Research has shown that both positive and negative emotions are important (Kals et al., 1999; Pooley & O'Connor, 2000) and that discrete emotions can lead to differential effects on pro-environmental behavior (Andersson et al., 2007; Bamberg et al., 2007; Giacalone et al., 2005). While these studies certainly add to knowledge of the role of between person emotions and pro-environmental behavior, more research is needed. Vining and Ebreo (2002) for

example, suggest that additional research on self-conscious emotions such as pride, shame and guilt, may be particularly important for future research.

The evidence of emotion at this level also shows that emotional intelligence may be important in determining the success of environmental champions (Andersson & Bateman, 2000; Egri & Herman, 2000). Without strong empirical data to support this proposition, however, this relationship remains speculative. Therefore, future research that examines the relationship between emotional intelligence and championing success would be valuable in advancing this area of research.

Level 3: Interpersonal Interactions and Emotions

The third level includes the emotions of interpersonal interactions and this involves the communication of emotion. At this level of analysis emotions can be considered a relational phenomenon and they are therefore the central tenants of literature on emotions in organizations. Ashkanasy (2003) suggests that emotions at this level of analysis serve as the links between Levels 1 and 2 (at the micro level) and Levels 4 and 5 (at the group and organizational levels). As such, Level 3 of the model can be considered a meso-level construct (Rousseau, 1985).

Emotion is an essential element of communication and it has been shown to be an important signal of message importance or relevancy (Clore, 1994). Non-verbal emotions that are displayed via facial expressions, voice tone, and body language have also been shown to indicate the importance of a message (Ekman, 1982). Thus the communicative function of emotion is critically important (Ashkanasy, 2003).

Evidence from environmental psychology suggests that valence and intensity of emotion in environment-related communication has an impact on pro-environmental actions. For example, Lord (1994) grouped emotions according to their valence (either positive or negative), and demonstrated that both positive and negative messages have a significant impact on pro-environmental action and attitudes. In his experimental study of recycling behavior, he found that those messages that were positively framed tended to engender positive attitudes, belief in the recycling message, and inducement of pro-environmental action. However, contrary to his hypotheses, he found that negatively framed appeals were also an effective means of increasing recycling behavior. Such findings suggest that both positive and negative emotions can be inducements of pro-environmental action.

Vining (1987) has also conducted experimental research using variables of emotional communication. In this case, however, she did not test the valence of emotion, but, rather, the intensity. In her study she presented scenarios where participants were forced to decide for or against a development application based on the environmental information they were given. Vining found that individuals presented with information using a “hot” emotional style were more likely to be make a pro-preservation decision, compared to those who received information that was less emotive, or “cool”. Based on these findings, it is possible that the intensity of emotion (hot or cool) is likely to impact on the pro-environmental actions of individuals.

More recent work has tended to focus on climate change communication. O’Neill and Nicholson-Cole (2009) for example, demonstrated that fear-inducing representations of climate change were effective in attracting attention, however, they were ineffective in motivating genuine personal engagement in pro-environmental behaviors. Rather, they found that non-threatening imagery that links to individuals’ everyday emotions and concerns tended to be most engaging.

Wright and Nyberg (2012) researched the responses to climate change from another interpersonal perspective. Their study focused on the role of corporate sustainability specialists as intermediaries, or ‘emotionology workers’, acting between the social discourse and the organizational contexts (Wright & Nyberg, 2012). Wright and Nyberg drew on the work of Stearns and Stearns (1985, p. 813) in describing emotionologies as the “attitudes or standards that a society, or a definable group within a society, maintains towards basic emotions and their appropriate expression” and the “ways that institutions reflect and encouraged these attitudes in human conduct” (Wright & Nyberg, 2012, p. 1562). Wright and Nyberg found that sustainability professionals are key agents in the design and implementation of a positive emotionology towards an environmental issue.

Opatow and Weiss (2000) also studied the development of emotions in response to an environmental challenge. With respect to the threat of global warming, they showed how individuals avoid being informed about an inconvenient issue. They noted that the “denial of self-involvement minimizes the extent to which an environmental dispute is relevant to one's self or one's group . . . By casting themselves as "clean" and insignificant contributors to pollution, they assert their nonrelevance to environmental controversy" (Opatow & Weiss, 2000, p. 485). Opatow and Weiss showed how an emotional reaction, the denial of self-involvement, can influence the perception of an

environmental threat within a (sub) group of individuals, leading to neglecting the appropriate and socially demanded group response.

At this level of analysis we note a tendency for researchers to examine emotions according to either positive or negative valence, with very few exceptions (cf., O'Neill & Nicholson-Cole, 2009; Wright & Nyberg, 2012). Contemporary emotions scholars (Briner & Kiefer, 2005; Elfenbein, 2007; Gooty, Ashkanasy, & Gavin, 2009; Seo, Feldman Barrett, & Jin, 2008) have made the point that it is no longer sufficient to study emotion in terms of just positive and negative affective valence. This is because discrete emotions with a particular affective valence (e.g., anger and sadness are both examples of negative affect) may have differential effects. We argue that the study of discrete emotions is of utmost importance in understanding the effect of emotion on behavior across all levels of analysis, but particularly in relation to communication which has to date been dominated by research on positive or negative emotions. Indeed, while the research we have described has demonstrated that emotional communications can influence pro-environmental behavior, much less is understood about the differential effects of discrete emotions.

Level 4: Group Level Emotions

Groups can be defined as “a collection of two or more people who work with one another regularly to achieve common goals” (Schermerhorn, Hunt, & Osborn, 2001, p. 174). Although groups interact on a dyadic and collective basis they also add an additional layer of complexity to relationships and emotions. Ashkanasy (2003) therefore considers groups as a separate level to the dyadic interactions described at Level 3. Research on emotions and organizational greening often explores individual-level emotions with relatively little attention paid to phenomena at the more macro levels of the group or organization. Indeed, our literature search returned a distinct lack of research that was particularly relevant at the group level of analysis. Yet, as noted in Ashkanasy's model (2003), emotions at the group and organizational levels are also important foci for research in this domain.

There is, however, some research to suggest the importance of groups for sustainability issues, particularly in relation to how groups or subcultures can affect the depth and diffusion of pro-environmental change within organizations. For example, Howard-Grenville (2006) found that subcultures can influence how organizational members interpret problems and set agendas and strategies for

resolving them. Similarly, Linnenluecke, Russell and Griffiths (2009) showed that the dominance of bureaucratic subcultures within an organization led to a focus on economic dimensions of sustainability. This research demonstrates how members of a subculture understand and enact sustainability within their organization in line with the dominant subculture of the organization. While these studies do not directly measure emotion they do demonstrate how the collective understanding of a group can influence the course of action taken in response to environmental or sustainability related issues.

Although research on organizational greening at the group level is scant, there is one study that is particularly relevant. Welcomer, Gioia, and Kilduff, (2000) demonstrated how emotion affected two groups in their negotiation of a significant environmental problem. Welcomer et al. (2000) studied communications between the developers of a hazardous waste facility and the community who would be located near the facility. In their analysis of positive and negative emotions of stakeholder groups they found that emotionality was an important dimension in the discourse between communities and corporations. They found that the dominant negative emotionality expressed in the community's discourse clashed with the rational discourse of the developers, resulting in poor communication outcomes. This study highlights how the emotionality of an environmental issue can cause communication between groups to break down, ultimately leading to the disruption and breakdown of communication between two groups.

Although research at the group level was scant, the evidence does suggest that group level emotions play an important role in the collective understanding of sustainability and the depth and degree of uptake of pro-environmental behaviors. Furthermore, Welcomer et al. (2000) showed that emotions are an important part of the collective understanding of environmental issues. Research tells us that emotions are contagious and spread among group members (Barsade, 2002), yet there is a lack of knowledge about how emotional responses to environmental issues are spread within groups. Emotions at a group level can influence individuals from the bottom-up or top-down (Barsade & Gibson, 1998). Yet little is known about how to manage emotions that arise in response to issues like climate change. For example, climate change may provoke strong and divergent emotions of group members and these different responses may lead to conflict. As emotional responses intensify, such conflict becomes more difficult to manage. Further research at this level will be

important in exploring the relationships between individual, group and organizational-level emotions.

Level 5: Organization-Wide Emotions

The fifth and final level of Ashkanasy's (2003) multi-level model of emotions is the organizational level. This level of analysis is different from the other levels in that at the lower levels of analysis organizational policies and practices can be interpreted in the context of interactions between individuals and groups. In dealing with the organization-wide or macro view, however, the situation becomes much less clear. Although some interactions may indicate emotion at the organizational level it is much less explicit. Rather, at this level of analysis it is necessary to deal with the emotional climate of the organization; defined by De Rivera (1992, p. 197) as "an objective group phenomenon that can be palpably sensed – as when one enters a party or a city and feels an attitude of gaiety or depression, openness or fear." The concept of the emotional climate is quite separate from organizational culture in that the organizational climate is essentially an emotional phenomenon, whereas culture can be considered more stable and rooted in beliefs, values and embedded assumptions (Ashkanasy, 2003; Ashkanasy, Wilderom, & Peterson, 2000).

Research of emotions at the organization level is a relatively new but growing area within organization theory (Campbell, White, & Johnson, 2003; Madlock, 2008; Voronov & Vince, 2012). One reason for the lack of research at this level is that members of organizations may perceive emotions in a professional context as irrational, leading to subjective and potentially unfavorable outcomes that lack legitimacy (Fineman, 2000, 2003). Yet, as shown by Fineman (2000) and Ashkanasy (2003), emotions and rationality are not exclusive but intertwined. They frame, for example, the interpersonal interactions within organizations (Ashkanasy, 2003), how an issue is interpreted (Sharma, 2000), or how an organization reacts to change in its organizational field (Voronov & Vince, 2012).

Norgaard's (2011) work provides evidence of individual- and organizational-level emotional reactions in discourse around climate change. Her work demonstrates that some organizations have strong emotional responses in their organizational climates. These emotional responses, however, depend largely on the values and beliefs that are collectively shared within the organization's culture (Norgaard, 2011). Research by Wright and Nyberg (2012) has also demonstrated the emotionality of climate change

at the organizational level. In their research of large corporations, Wright and Nyberg investigated how organizations define their response to the emotionology surrounding the public discourse on climate change.

Unpredictable environmental events such as the BP oil spill in the Gulf of Mexico in 2010 or the nuclear incident in Fukushima in 2011 can have a significant impact on an organization and trigger a collective emotional response. In organizations, such events can lead to anxiety as members experience disrupted work routines and operations (Pearson & Clair, 1998). Such crises can trigger emotions such as anger at those who caused events, guilt for those at fault, and hopelessness and despair at acts of nature, or grief for what has been lost (James, Wooten, & Dushek, 2011).

In broader sustainability-related contexts, the effect of emotions is illustrated in publications on issues of renewable energies (Sherry-Brennan, Devine-Wright, & Devine-Wright, 2010), sustainable management practices (Branzei, Vertinsky, & Zietsma, 2000; Sekerka & Stimel, 2012), as well as climate change (Norgaard, 2011; Wright & Nyberg, 2012). The emotional climate that develops in response to an environmental issue can influence how the organization addresses such important issues. Sharma (2000) and Hoffman (1997) for instance, argue that the options considered by an organization in response to a sustainability-driven change can be limited by the emotional interpretation of it. Furthermore, Wright, Nyberg and Grant (2012) state that the emotionology that develops within an organization in response to an environmental issue like climate change has an influence on its strategic response. Indeed, they noted that the discourses of 'profitability' and 'shareholder value' competed with the broader social discourse around 'climate change'. The competition between the organizational and broader social discourses influenced the emotionality of the issue (Wright & Nyberg, 2012). The work of Hulme (2009) has extended this notion from the organizational to societal level by suggesting that cognitive and behavioral barriers prevent society as a whole from meaningfully responding to climate change.

Fineman (1996) has also conducted research that is relevant to emotions at the organizational level. Fineman (1996, 1998) investigated greening behaviors in organizations and found that both positive and negative emotions played a strategic role in the adoption of pro-environmental behaviors within organizations. In the more environmentally proactive organizations he studied, he found that managers spoke of positive emotions in relation to commitment to environmental issues, citing emotions such as belonging, respect, awe, and loyalty. However, he also found that negative

emotions, such as fear and embarrassment also played a role. In explaining these findings he suggests that the most proactive organizations, and those with the highest public profile, had the most to fear from public embarrassment. The managers in these organizations had “invested their image and reputation in claims for environmental care, loss of face could be a blow to role identity, to professional status within the company and to corporate image” (Fineman, 1996, p. 491).

Managers from less environmentally committed supermarkets did not display the same level of fear of embarrassment. Fineman (1996) suggested that these organizations and their managers had, in effect, less to lose. As they did not claim to be going beyond minimum levels of environmental compliance, they had no environmental reputation to defend, and therefore believed they could not be significantly embarrassed by public criticism (Fineman, 1996). Particularly, the role of fear as described by Fineman suggests that managers’ displays of emotion were based on their organization’s environmental paradigm and commitment.

While there is increasingly more research at this level of analysis, there is a lack of understanding of the role and effect of emotions at the organization-level (Bell & Taylor, 2011; Huy, 2012; Kangasharju & Nikko, 2009; Smollan & Sayers, 2009a). It is clear that emotions affect decision-making (Bechara, Tranel, & Damasio, 2000), and given the importance of organizational decisions to create and resolve environmental issues, it is imperative that academics and managers gain a better understanding of emotions on organizational level as they relate to organizational greening. We know that emotions influence how an organization interprets an environmental issue (Sharma, 2000), that environmental agents play a key role in defining an organization’s emotionology around climate change (Wright & Nyberg, 2012), and how emotions in response to an event that significantly distresses an organization can affect its members (Pearson & Clair, 1998); yet more remains to be done. We identify three key areas as priorities for research at this level of analysis. Research is needed to examine, first, how emotions become part of the organizational climate; second, how emotions influence the identity and culture of an organization; and third, how emotions affect an organization’s response to environmental issues. A deeper knowledge of these processes is necessary to understand the potentially critical role that organizational-level emotions play in determining an organization’s culture, identity, and environmental strategy. Furthermore, we suggest that one opportunity to respond to this call is the application of individual-level psychological theories to the

organization-level in order to enhance our understanding of organisational emotions (Bowman, 1982; Shimizu, 2007; Staw, Sandelands, & Dutton, 1981).

The work cited above highlights a tension at the organizational level of analysis. Indeed, while the level of analysis is at the organizational level there is also a capturing of expressions of emotions at the individual level. Hence, the tension arises between the micro, meso and macro levels of analysis. In the final section of this chapter we outline these issues and offer a future agenda for research that may shed light on the interrelationships between these levels and enhance understanding of how emotion operates at all levels of analysis and can both enhance and impede organizational greening efforts.

Cross-Level Emotions

One of the recurring themes throughout our review is the interconnectedness between levels of analysis. In this section we highlight those studies that explicitly examine cross-level emotions and effects. These studies illustrate the dynamic nature of emotions and the interrelatedness of emotional variables across all levels of analysis (Ashkanasy, 2003).

The findings from Bissing-Olson et al. (2013) demonstrate the importance of considering multiple levels of analysis. Indeed, what Bissing-Olson et al. found was that it was the relationship between fluctuations in emotion at the within person level (Level 1) in conjunction with individual differences at the between persons level (Level 2) that explained pro-environmental behavior within the workplace. More specifically, they found that daily unactivated positive affect and pro-environmental attitude positively predicted task-related pro-environmental behavior. Furthermore, daily activated positive affect positively predicted daily proactive pro-environmental behavior but only among employees with a less positive pro-environmental attitude. These findings show that the emotions at the within-person level have an important role to play as a driver of behavior at the individual level.

Wright and Nyberg (2012) have also demonstrated cross-level emotion effects. Their research showed how sustainability professionals were key agents in the design and implementation of a positive emotionology towards an environmental issue, thus connecting the individual (Level 2) with the collective emotionology and within the group (Level 4) and the organization (Level 5).

The work of Norgaard (2006) connects individual (Level 2), interpersonal (Level 3) and group-level (Level 4) phenomena. She studied the reasons for climate change denial by analyzing the reactions of individuals in a remote village in Norway in response to climate change impacts. Her study outlines how an individual's perception of an issue is self-reinforced through interpersonal interaction and can lead to collectively shared emotions and group-level reactions. She "attempts to highlight the importance of these dimensions in a way that bridges the troublesome, yet nevertheless artificial, gap between micro- and macro social processes" (Norgaard, 2006, p. 364). In this way, Norgaard highlights how emotions can span levels of analysis and she notes the somewhat false sense that our research can be categorized within one level.

While Bissing-Olson et al. (2013) and Norgaard (2006) show how emotions flow from the micro to the macro level, Fineman's (1996, 1998) work highlights processes in the opposite direction. Indeed, what he found was that the type of organization (proactive or reactive) (Level 5) helped to determine the sorts of emotional expressions he observed when interviewing managers (Level 2) within those organizations. Andersson and Bateman (2000) have also shown how the organizational climate (Level 5) can influence how environmental champions go about selling environmental issues within their organizations (Level 2).

Discussion and Further Research

A Future Research Agenda

In this chapter, we have examined the role of emotion in organizational greening from the most micro level of emotional experience to the macro view of emotions as they relate to organizational climate and culture. In this final section we aim to emphasize three key themes that have come out of this review with the aim of setting a research agenda for future work in this area. In particular, we emphasize the need for future research to develop further in the exploration of emotions at macro-level analyses, the examination of relationships across multiple levels of analysis, and the exploration of emotion as a longitudinal process. We address each of these implications for research in turn and conclude the chapter by outlining some of the key implications for practice.

Implications for Research

A key area for future research is the need to study emotions at more macro levels of analysis. We note that there were far fewer studies at Levels 4 and 5 and this warrants further attention. Indeed, while research on emotions in an organizational context has gained more attention in recent years, studies examining the effect of emotions on an organizational level remain scarce (Kangasharju & Nikko, 2009; Voronov & Vince, 2012). In particular, we encourage future researchers to develop a better understanding of the role of emotions at the organizational level (Huy, 2012; Kangasharju & Nikko, 2009; Smollan & Sayers, 2009b). There remains a lack of research on the processes leading to collectively shared emotions and their respective effects on an organization's culture, strategy, or identity. Therefore we suggest that research that examines how emotions progress from the individual to the organization and vice versa will be important in advancing understanding of how emotions affect organizational greening.

One of the significant challenges in examining emotions at the macro level of analysis is that it remains difficult to measure. It is more difficult to gather data that validates the evolution of an emotional climate within an organization than it is to gather data at the individual level. While psychologists have developed a number of methods and tools to observe emotions on an individual-level, as indicated in the literature we cite in Levels 1, 2 and 3, the gathering of data mirroring emotions that are collectively shared at the organizational level presents a challenge for organizational researchers. We suggest that the development and application of a set of tools to measure emotions on an organization-level would allow a more comprehensive understanding of the role of emotions in organizations in the context of organizational greening. This could enhance understanding of the role of emotions in the development of environmental strategies, on the perception and evaluation of sustainability-related risks, or in the formulation of strategic responses to green challenges.

The research we have described in the preceding sections shows that organizations are inherently emotional places (Ashkanasy & Ashton-James, 2005; Elfenbein, 2007; Voronov & Vince, 2012). We note, however, that, most of these studies focus on emotion states at one point in time. While such research helps to further understanding of the important role and effects that emotions can and do have in a management context, these studies largely do not acknowledge the astatic nature of emotions.

Medical studies draw a much more sophisticated picture of emotional reactions as a process, rather than a state. Indeed, many of these types of studies investigate the process of emotional change over time in relation to a specific issue or event. Kübler-Ross (1969), for example, showed that in grief an individual goes through a process of emotions including denial, anger, bargaining, depression and acceptance. Zell (2003) argued that this process also applies to organizational change and thus demonstrates that emotions can form a process rather than a state.

Especially with regards to organizational greening, a field where public, governmental, and corporate perceptions and responses significantly changed over time, there is a need to gain a better understanding of the role of emotions as they change. Senge et al. (2006) noted that, “as people become more committed to sustainability work, they will gain a deeper understanding of their own emotional energy and their ability for contemplation”. Ashkanasy (2003) also recognized the dynamic nature of emotion, yet to date we have not observed research that takes a longitudinal perspective to examine the evolution of emotions over time as they relate to organizational greening. We therefore call for further research investigating how emotions evolved and their respective role in environmental change processes.

Finally, we suggest that research that crosses levels of analyses would be of benefit in advancing knowledge in this area. A recurring theme throughout our chapter is the interrelatedness of variables across all of the levels of analysis. Indeed, while we have attempted to categorized the research studies into each of the levels of Ashkanasy’s (2003) multi-level model, this categorization is somewhat false in that many of the articles could be considered to span multiple levels. We have attempted to highlight specifically when this occurs. For example, research by Bissing-Olson et al. (2013) spans both the within person level of analysis (Level 1) and the between person level of analysis (Level 2). Similarly, Norgaard’s (2011) work on climate change discourses moves between the level of communication (Level 3), groups (Level 4) and organizations (Level 5). These scholars highlight the complexity of studying emotion and the interrelationships that occur between levels of analysis. We would encourage further research that examines emotion both within and across all five levels of analysis.

In summary, we argue that stronger integration of emotional theories is needed in organizational greening research across all levels of analysis (Voronov & Vince, 2012). We argue that this is particularly important when considering environmental issues, which have been demonstrated to be more emotional than other issues within

organizations (Fineman, 1996, 1997; Pratt, 2000). Battilana and D'Aunno (2009) state that organizational research has the two boundaries of a "rational choice model of agency on one side and structural determinism on the other" (Battilana & D'Aunno, 2009, p. 73). Voronov and Vince (2012), however, note that this determination neglects the importance of emotions and "their complicity with domination, and their contribution to both reproducing and transforming the institutional order" (Voronov & Vince, 2012, p. 73). The two are closely intertwined, yet despite their impact on an organization-level they have not received much attention by organizational scholars (Madlock, 2008). We argue that a much stronger consideration and integration of emotional theories in organization studies is needed particularly in the consideration of environmental issues in general, and climate change in particular.

Implications for Practice

In this chapter we have used Ashkanasy's (2003) framework to illustrate how emotions in organizational greening occur at all levels of analysis, from the most fundamental level that includes fluctuations in day-to-day emotions of all employees, through to the shared emotional experiences of organizational members that make up the emotional climate of the organization. Research results to date show that emotions are important determinants of pro-environmental behavior. Indeed, there is evidence to suggest that the arousal of positive emotions is a significant determinant of workplace pro-environmental behaviors (Bissing-Olson et al., 2013) and corporate social responsibility (Andersson et al., 2007; Giacalone et al., 2005). These findings at the micro-level suggest that there may be some efficacy in promoting positive emotions when encouraging employees to engage in pro-environmental behavior. This could be facilitated for example, by facilitating positive work events (Weiss & Cropanzano, 1996). Future research that tests this proposition would be beneficial in advancing the practical relevance of this research and enhancing future intervention design.

There is also evidence to suggest that emotions are important in determining career choice in organizational greening (Kearins & Sharma, 2007; Vining, 1992). Once in a greening related career, it is also possible that emotional intelligence skills may also be important for future success (Andersson & Bateman, 2000; Egri & Herman, 2000). It is therefore possible that the success of environmental champions or change agents might be improved by training in emotional competencies. Future research that further examines the relationship between emotional intelligence and

organizational greening success would be of particular benefit to change agents and environmental champions.

Conclusion

In conclusion, the research we have described in this chapter demonstrates the beginnings of a valuable stream of research in emotions and organizational greening. There are many questions that remain unanswered and many opportunities for scholars in this area to make a unique contribution to research and practice. Our aim in this chapter was to review current research in emotions and organizational greening and to set an agenda for future research in this burgeoning area. Organizational psychologists and organizational behavior researchers have an important role to play in further developing understanding how individuals and organizations can most effectively respond to environmental issues. We hope that by setting this agenda we will encourage more scholars to pursue research in this area and that their results have a positive impact on the future practice of organizational greening.

References

- Andersson, L. M., & Bateman, T. S. (2000). Individual environmental initiative: Championing natural environmental issues in U.S. business organizations. *Academy of Management Journal*, 43(4), 548-570.
- Andersson, L. M., Giacalone, R. A., & Jurkiewicz, C. (2007). On the relationship of hope and gratitude to corporate social responsibility. *Journal of Business Ethics*, 70(4), 401-409.
- Ashforth, B. E., & Humphrey, R. H. (1995). Emotion in the workplace: A reappraisal. *Human Relations*, 48(2), 97-125.
- Ashkanasy, N. M. (2003). Emotions in organizations: A multi-level perspective. In F. Dansereau & F. J. Yammarino (Eds.), *Multi-level issues in organizational behavior and strategy* (pp. 9-54). Amsterdam: JAI.
- Ashkanasy, N. M., & Ashton-James, C. E. (2005). Emotion in organizations: A neglected topic in I/O Psychology, but with a bright future. In G. P. Hodgkinson & J. K. Ford (Eds.), *International review of industrial and organizational psychology* (Vol. 20, pp. 221-268). Chichester, UK: Wiley.
- Ashkanasy, N. M., Wilderom, C. P. M., & Peterson, M. F. (2000). Introduction. In N. M. Ashkanasy, C. P. M. Wilderom & M. F. Peterson (Eds.), *Handbook of Organizational Culture & Climate* (pp. 1-18). Thousand Oaks: Sage.
- Bamberg, S., Hunecke, M., & Blöbaum, A. (2007). Social context, personal norms and the use of public transportation: Two field studies. *Journal of Environmental Psychology*, 27(3), 190-203.
- Bamberg, S., & Möser, G. (2007). Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behavior. *Journal of Environmental Psychology*, 27(1), 14-25.
- Barsade, S. G. (2002). The ripple effect: Emotional contagion and its influence on group behavior. *Administrative Science Quarterly*, 47(4), 644-675.
- Barsade, S. G., Brief, A. P., & Spataro, S. E. (2003). The affective revolution in organizational behavior: The emergence of a paradigm. In J. Greenberg (Ed.), *Organizational Behavior: State of the Science* (2nd ed., pp. 3-50). Mahwah, NJ: Lawrence Erlbaum.

- Barsade, S. G., & Gibson, D. E. (1998). Group emotion: A view from top and bottom. In D. Gruenfeld, M. Neale & E. Mannix (Eds.), *Research on Managing in Groups and Teams* (Vol. 1, pp. 81-102). Greenwich, CT: JAI Press.
- Battilana, J., & D'Aunno, T. (2009). Institutional work and the paradox of embedded agency. In T. B. Lawrence, R. Suddaby & B. Leca (Eds.), *Institutional work: Actors and agency in institutional studies of organizations* (pp. 31–58). Cambridge: Cambridge University Press.
- Bechara, A., Tranel, D., & Damasio, H. (2000). Characterization of the decision-making deficit of patients with ventromedial prefrontal cortex lesions. *Brain*, *123*(11), 2189-2202.
- Bell, E., & Taylor, S. (2011). Beyond letting go and moving on: New perspectives on organizational death, loss and grief. *Scandinavian Journal of Management*, *27*(1), 1-10.
- Bissing-Olson, M., Iyer, A., Fielding, K., & Zacher, H. (2013). Relationships between Daily Affect and Pro-Environmental Behavior at Work: The Moderating Role of Pro-Environmental Attitude. *Journal of Organizational Behavior*, *34*(1), 156-175.
- Bowman, E. H. (1982). Risk seeking by troubled firms. *Sloan Management Review*, *23*(4), 33–42.
- Branzei, O., Vertinsky, I., & Zietsma, C. (2000). From green-blindness to the pursuit of eco-sustainability: An empirical investigation of leader cognitions and corporate environmental strategy choices. *Academy of Management Proceedings*, *2000*, p1.
- Briner, R. B., & Kiefer, T. (2005). Psychological research into the experience of emotion at work: Definitely older, but are we any wiser? In N. M. Ashkanasy, C. E. J. Härtel & W. J. Zerbe (Eds.), *The effect of affect in organizational settings* (Vol. 1, pp. 281-307). Amsterdam: Elsevier JAI.
- Campbell, K. S., White, C. D., & Johnson, D. E. (2003). Leader-member relations as a function of rapport management. *Journal of Business Communication*, *40*, 170–194.
- Clore, G. C. (1994). Why emotions are felt. In P. Ekman & R. J. Davidson (Eds.), *The nature of emotions* (pp. 103-111). New York: Oxford University press.
- De Rivera, J. (1992). Emotional climate: Social structure and emotional dynamics. *International Review of Studies of Emotion*, *2*, 197-218.

- Egri, C. P., & Herman, S. (2000). Leadership in the North American environmental sector: Values, leadership styles, and contexts of environmental leaders and their organizations. *Academy of Management Journal*, 43(4), 571-604.
- Ekman, P. (1982). *Emotion in the human face* (2nd ed.). Cambridge: Cambridge University Press.
- Elfenbein, H. A. (2007). Emotion in organizations: A review and theoretical integration. *The Academy of Management Annals*, 1, 315-386.
- Fineman, S. (1996). Emotional subtexts in corporate greening. *Organization Studies*, 17(3), 479-500.
- Fineman, S. (1997). Constructing the green manager. *British Journal of Management*, 8(1), 31-38.
- Fineman, S. (1998). Street-level bureaucrats and the social construction of environmental control. *Organization Studies*, 19(6), 953-974.
- Fineman, S. (2000). *Emotion in organizations* (2nd ed.). London: Sage.
- Fineman, S. (2003). *Understanding emotion at work*. London: Sage.
- Forgas, J. P. (1994). The role of emotion in social judgements: An introductory review and an Affect Infusion Model (AIM). *European Journal of Social Psychology*, 24(1), 1-24.
- Forgas, J. P. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological Bulletin*, 117(1), 39-66.
- Fox, S., & Spector, P. E. (2000). Relations of emotional intelligence, practical intelligence, general intelligence, and trait affectivity with interview outcomes: It's not all just "G". *Journal of Organizational Behavior*, 21, 203-220.
- Fredrickson, B. L. (2003). Positive emotions and upward spirals in organizations. In K. S. Cameron, J. E. Dutton & R. E. Quinn (Eds.), *Positive organizational scholarship: Foundations of a new discipline* (pp. 163-176). San Francisco: Berrett-Koehler.
- Frijda, N. H. (1986). *The emotions*. Cambridge, UK: Cambridge University Press.
- Frijda, N. H. (1993). Moods, emotion episodes and emotions. In M. Lewis & J. Haviland (Eds.), *Handbook of Emotions* (pp. 381-403). New York: Guilford Press.
- Giacalone, R. A., Paul, K., & Jurkiewics, C. L. (2005). A preliminary investigation into the role of positive psychology in consumer sensitivity to corporate social performance. *Journal of Business Ethics*, 58(4), 295-305.

- Gooty, J., Ashkanasy, N. M., & Gavin, M. (2009). Emotions research in OB: The challenges that lie ahead. *Journal of Organizational Behavior, 30*(6), 833-838.
- Hoffman, A. J. (1997). *From heresy to dogma: An institutional history of corporate environmentalism*. San Francisco: New Lexington Press.
- Howard-Grenville, J. A. (2006). Inside the “black box”: How organizational culture and subcultures inform interpretations and actions on environmental issues. *Organization & Environment, 19*(1), 46-73.
- Hulme, M. (2009). *Why we disagree about climate change: understanding controversy, inaction and opportunity*. Cambridge: Cambridge University Press.
- Huy, Q. N. (2012). Emotions in strategic organization: Opportunities for impactful research. *Strategic Organization, 10*(3), 240-247.
- Izard, C. E. (1991). *The psychology of emotions*. New York: Plenum Press.
- James, E. H., Wooten, L. P., & Dushek, K. (2011). Crisis Management: Informing a New Leadership Research Agenda. *The Academy of Management Annals 5*(1), 455-493.
- Kals, E., Schumacher, D., & Montada, L. (1999). Emotional affinity toward nature as a basis to protect nature. *Environment and Behavior, 31*(2), 178-202.
- Kangasharju, H., & Nikko, T. (2009). Emotions in Organizations. *Journal of Business Communication, 46*(1), 100-119.
- Kearins, K., & Sharma, A. (2007). *The passion that drives sustainability careers. The yellow brick road to doing well by doing good: Finding our brain, heart, and courage*. Academy of Management, Philadelphia, PA. Philadelphia, Pennsylvania, USA.
- Kübler-Ross, E. (1969). *On Death and Dying*. New York, NY: Macmillan.
- Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.
- Linnenluecke, M. K., Russell, S. V., & Griffiths, A. (2009). Subcultures and Sustainability Practices: the Impact on Understanding Corporate Sustainability. *Business Strategy and the Environment, 18*, 432-452.
- Lord, K. R. (1994). Motivating recycling behavior: A quasiexperimental investigation of message and source strategies. *Psychology & Marketing, 11*(4), 341-358.
- Madlock, P. E. (2008). The link between leadership style, communication competence, and employee satisfaction. *Journal of Business Communication, 45*, 61-78.

- Norgaard, K. M. (2006). "We Don't Really Want to Know" Environmental Justice and Socially Organized Denial of Global Warming in Norway. *Organization & Environment*, 19(3), 347-370.
- Norgaard, K. M. (2011). *Living in Denial: Climate Change, Emotions and Everyday Life*. Cambridge, MA: MIT Press.
- O'Neill, S., & Nicholson-Cole, S. (2009). "Fear Won't Do It" Promoting Positive Engagement With Climate Change Through Visual and Iconic Representations. *Science Communication*, 30(3), 355-379.
- Opotow, S., & Weiss, L. (2000). Denial and the process of moral exclusion in environmental conflict. *Journal of Social Issues*, 56(3), 475-490.
- Pearson, C. M., & Clair, J. A. (1998). Reframing Crisis Management. *Academy of Management Review*, 23(1), 59-76.
- Pooley, J. A., & O'Connor, M. (2000). Environmental education and attitudes: Emotions and beliefs are what is needed. *Environment and Behavior*, 32(5), 711-723.
- Pratt, M. G. (2000). The good, the bad, and the ambivalent: Managing identification among Amway distributors. *Administrative Science Quarterly*, 45(3), 456-493.
- Pratt, M. G., & Dutton, J. E. (2000). Owning up or opting out: The role of emotions and identities in issue ownership. In N. M. Ashkanasy, C. E. J. Härtel & W. J. Zerbe (Eds.), *Emotions in the workplace: Research, theory, and practice* (pp. 103-129). Westport: Quorum Books.
- Rousseau, D. M. (1985). Issues of level in organizational research: Multi-level and cross-level perspectives. *Research in Organizational Behavior*, 7, 1-37.
- Russell, S., & Griffiths, A. (2008). The role of emotions in driving workplace pro-environmental behaviors. In W. Zerbe, N. M. Ashkanasy & C. E. J. Härtel (Eds.), *Managing Emotions in the Workplace* (pp. 83-107). New York: M.E. Sharpe.
- Scherer, K. R. (2000). Emotion. In M. Hewstone & W. Stroebe (Eds.), *Introduction to social psychology: A European perspective* (3rd ed., pp. 151-191). Oxford: Blackwell.
- Schermerhorn, R. R., Jr., Hunt, J. G., & Osborn, R. N. (2001). *Organizational behavior* (7th ed.). New York: Wiley.
- Sekerka, L. E., & Stimel, D. (2012). Environmental sustainability decision-making: clearing a path to change. *Journal of Public Affairs*, 12(3), 195-205.

- Senge, P., Laur, J., Schley, S., & Smith, B. (2006). *Learning for Sustainability*. Cambridge, MA: SoL (The Society for Organizational Learning, Inc.).
- Seo, M.-G., Feldman Barrett, L., & Jin, S. (2008). The structure of affect: History, theory, and implications for emotion research in organizations. In N. M. Ashkanasy & C. L. Cooper (Eds.), *Research companion to emotions in organizations* (pp. 17-44). Cheltenham, UK: Edwin Elgar Publishing.
- Sharma, S. (2000). Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy. *Academy of Management Journal*, 43(4), 681-697.
- Sherry-Brennan, F., Devine-Wright, H., & Devine-Wright, P. (2010). Public Understanding of Hydrogen Energy: A Theoretical Approach. *Energy Policy*, 38(10), 5311-5319.
- Shimizu, K. (2007). Prospect theory, behavioral theory, and the threat-rigidity thesis: Combinative effects on organizational decisions to divest formerly acquired units. *Academy of Management Journal*, 50(6), 1495-1514.
- Smollan, R. K., & Sayers, J. G. (2009a). Organizational Culture, Change and Emotions: A Qualitative Study. *Journal of Change Management*, 9(4), 435-457.
- Smollan, R. K., & Sayers, J. G. (2009b). Organizational Culture, Change and Emotions: A Qualitative Study. *Journal of Change Management* 9(4), 435-457.
- Staw, B. M., & Barsade, S. G. (1993). Affect and managerial performance: A test of the sadder-but-wiser vs. happier-and-smarter hypotheses. *Administrative Science Quarterly*, 38, 304-328.
- Staw, B. M., Sandelands, L. E., & Dutton, J. E. (1981). Threat-Rigidity Effects in Organizational Behavior: A Multilevel Analysis. *Administrative Science Quarterly*, 26(4), 501-524.
- Stearns, P. N., & Stearns, C. Z. (1985). Emotionology: Clarifying the history of emotions and emotional standards. *The American Historical Review*, 90(4), 813-836.
- Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of Environmental Psychology*, 29, 309-317.
- To, M. L., Fisher, C. D., Ashkanasy, N. M., & Rowe, P. A. (2012). Within-person relationships between mood and creativity. *Journal of Applied Psychology*, 97(3), 599-612.

- Vining, J. (1987). Environmental decisions: The interaction of emotions, information, and decision context. *Journal of Environmental Psychology*, 7(1), 13-30.
- Vining, J. (1992). Environmental emotions and decisions: A comparison of the responses and expectations of forest managers, an environmental group, and the public. *Environment and Behavior*, 24(1), 3-34.
- Vining, J., & Ebreo, A. (2002). Emerging theoretical and methodological perspectives on conservation behavior. In R. B. Bechtel & A. Churchman (Eds.), *Handbook of environmental psychology* (pp. 541-558). New York: John Wiley & Sons.
- Voronov, M., & Vince, R. (2012). Integrating emotions into the analysis of institutional work. *Academy of Management Review*, 37(1), 58-81.
- Weiss, H. M., & Cropanzano, R. (1996). Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. *Research in Organizational Behavior*, 18, 1-74.
- Welcomer, S. A., Gioia, D. A., & Kilduff, M. (2000). Resisting the discourse of modernity: Rationality versus emotion in hazardous waste siting. *Human Relations*, 53(9), 1175-1205.
- Wright, C., & Nyberg, D. (2012). Working with passion: Emotionology, corporate environmentalism and climate change. *Human Relations*, 65(12), 1561-1587.
- Wright, C., Nyberg, D., & Grant, D. (2012). "Hippies on the third floor": Climate Change, Narrative Identity and the Micro-Politics of Corporate Environmentalism. *Organization Studies*, 33(11), 1451-1475.
- Zell, D. (2003). Organizational change as a process of death, dying, and rebirth. *The Journal of Applied Behavioral Science*, 39(1), 73-96.

Second Paper

Leading organizations through the stages of grief: The development of negative emotions over environmental change⁶

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Abstract

This conceptual paper theorizes about the effect of emotions of individual organizational leaders during a period of sustainability-related upheaval within an industry. To illustrate the effect of emotions, it proposes to draw on the model of five stages of grief by Elisabeth Kübler-Ross (1969), a conceptual framework describing terminally ill patients' responses to their impending death. The authors adapt Kübler-Ross' taxonomy and use anecdotal evidence from grieving top managers of energy companies in response to the nuclear phase-out in Germany. The paper conceptualizes the influence of emotions in the decision-making process of key agents in response to institutional pressures in their field. The paper suggests that focusing on emotional influences will add an important dimension to the analysis of sustainability strategies, and discuss implications for further research at an individual and organizational level.

Keywords: Emotions, stages of grief, organizational change, risk perception, corporate sustainability, nuclear energy, energy policy

⁶ Earlier versions of this paper were presented at the Gronen Conference 2012, June 26-29, 2012, Marseille, France; the 19th Annual International Conference on Advances in Management & 5th International Conference on Social Intelligence, July 18-21, 2012, Nassau, Bahamas. Accepted at *Business & Society*.

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Introduction

Research on corporate environmental strategies shows that an individual's perception of sustainability-related issues significantly affects whether a company moves towards a greener path or not (Hoffman, 1997; Pulver, 2007; Sharma, 2000). While logic and rationality influence our perception of an issue, neuroscientific studies indicate that emotions play a similarly important role (Bechara, Damasio, & Damasio, 2000). Fineman (1996, 1997), Pratt (2000) and Wright and Nyberg (2012) have argued that "green" challenges are likely to lead to a more emotional interpretation of an issue than other topics. This finding is often illustrated in the public discourse around sustainability-related issues, which demands rationality yet often leads to emotionally heated debates. This is particularly important given the mega challenges organizations face in a sustainability context: climate change, food and water scarcity, environmental pollution, overpopulation, ocean acidification, and the loss of biodiversity are all intertwined in a complex system which is stressed to and beyond its limits. Organizations are part of the problem and the solution, respectively it is important to understand how their leaders address these issues and how emotions affect their decisions. Following cognitive theory, emotions affect if we perceive an issue as threat or opportunity (Sharma, 2000), how we cope with changes of the organizational environment (Bell & Taylor, 2011; Blau, 2006, 2007, 2008; Harris & Sutton, 1986; Hazen, 2008; Zell, 2003), or how we evaluate risks and benefits (Alhakami & Slovic, 1994; Loewenstein, Weber, Hsee, & Welch, 2001; Peters, Burraston, & Mertz, 2004).

Emotions can be defined as strong reactions in response to a decisive event (Frijda, 1986; Scherer, 2000; Russell & Griffiths, 2008). One of the strongest emotions we experience in response to an event is grief⁷. It is often triggered by the loss or impending loss of an important aspect of life, for example the loss of a loved person or our own impending death. Kübler-Ross (1969) introduced a model to explain the different stages of grieving, which an individual can go through after a decisive event, until reaching a stage of accepting a new reality. In management research, several studies used the stages theory of grief and researched grieving in the context of

⁷ We thank Steven W. Running (2007) for his pioneering blog piece on The 5 stages of climate grief (original link: <http://www.ntsug.umt.edu/5-stages-of-climate-grief>, for a recent quote, see, for example: http://www.huffingtonpost.com/daphne-wysham/the-six-stages-of-climate_b_1852425.html).

worksite closure (Blau, 2006, 2007, 2008; Harris & Sutton, 1986), project failure (Shepherd, Covin, & Kuratko, 2009; Shepherd & Kuratko, 2009; Shepherd, Patzelt, & Wolfe, 2011), or organizational death (Bell & Taylor, 2011).

Drawing on insights from psychological literature on grief, this paper makes two contributions. First, it elaborates on the role of emotions on managerial decision-making. An increasing number of studies focusing on the effect of emotions in management outlines that organizations are inherently emotional places (Ashkanasy & Ashton-James, 2005; Elfenbein, 2007; Voronov & Vince, 2012), yet the literature on the effect of emotions in response to institutional pressure and their effect on decision-making is rather limited (cf. Russell & Griffith, 2008; Voronov & Vince, 2012). This relative lack of research on emotions in a management context means that studies of decision-making processes of top executives in organizations may have excluded an important factor (Ashforth & Humphrey, 1995; Barsade, Brief, & Spataro, 2003; Russell & Griffiths, 2008; Voronov & Vince, 2012). The paper addresses this gap and connects findings from psychologists on decision-making with insights from management studies. Concretely the paper reviews the literature on emotions and risk perception and outlines where the two are connected. Based on findings from psychological and neurological studies, it outlines that management research largely overlooks an important factor, the effect of emotions on the decision-making of senior executives. This is particularly important in a sustainability-context, as many environmental discourses are controversial and emotionally charged.

Second, the paper theorizes about how the evolution of emotions over an issue and over time affects the perception of organizational leaders of an issue. There are few studies focusing on emotions in a management context and even fewer acknowledge the astatic nature of emotions over time. Most management studies in this field focus on one particular emotional state like denial (Norgaard, 2006; Agocs, 1997), happiness (cf. Fisher, 2010; Lyubomirsky, King, & Diener, 2005), or anger (Geddes & Callister, 2007). To outline the process of emotional evolution over an issue and over time, the paper adapts the stages theory of grief of Kübler-Ross (1969) and applies it on a sustainability-related context. The paper theorizes about the effect of grieving on the ability to change an organization in response to an issue along the stages of grief from initial denial to final acceptance. To illustrate our theory, we use anecdotal evidence from top executives within the electricity industry in Germany, which allows us to

outline the effects of the different grieving stages an individual goes through in a sustainability-related context.⁸

This article has implications on research and practice. It discusses the theoretical implications of the conceptual work, which to our knowledge is the first paper theorizing the effect of grieving leaders over a change in the organizational field on their perception of the organization's position in the market. Namely, the paper discusses how the findings might help to explain behavioral phenomena connected to the evaluation of an issue as threat or opportunity, the perception of an organization's position in its field, and path dependence.

This study also has implications for practitioners. Kübler-Ross (1969, p. 152) states "our goal should always be to help the patient and his family face the crisis together in order to achieve acceptance of this final reality simultaneously". This adaptation of her work strives to help top executives, consultants and academics to better understand the implications of grieving leaders in a context of institutional change and the potential implications on an organization's strategy. The article discusses how grieving can be addressed in organizations and drawing on insights from bereavement services, it suggests how to moderate the negative implications of grieving leaders.

Finally the article outlines ways how to empirically test the proposed theory and how to further develop the field. Consecutively it reviews research on emotions and decision-making and how these streams are intertwined.

Literature Review: Emotions, Management and Sustainability

Sustainability, Cognition and Decision-Making

Climate change, fossil fuel scarcity and environmental pollution among others are three sustainability-related key issues that do or will affect every organization to some extent. These issues increasingly lead to the societal expectation that organizations need to develop environmental strategies to address these global challenges (Sharma, 2000; Jennings & Zandbergen, 1995). Institutional theorists argue that senior

⁸ While we are not aware of any previous academic publication linking the stages of grief to sustainability management, we acknowledge inspiration from Steven W. Running (2007) and his pioneering blog piece stages of climate grief (<http://www.ntsg.umt.edu/5-stages-of-climate-grief>).

executives need to respond to such environmental pressures as these pressures imply significant risks and benefits for the executive's organization (Desai, 2011; George, Chattopadhyay, Sitkin, & Barden, 2006; Puffer & McCarthy, 2011; Suddaby & Greenwood, 2005). The public discourse around climate change for example results in changing social norms (Shove, 2010), new customer preferences (Mansur, Mendelsohn, & Morrison, 2008), and disruptive innovations (Fankhaeser, Sehlleier, & Stern, 2008), which might consequently disfavor existing business structures and lead to upheaval in the organizational field (Okereke, Wittneben, & Bowen, 2012; Kolk & Pinkse, 2004). In certain situations, changing institutional demands can ultimately lead to organizational paralysis or breakup (Gilbert, 2006; Henderson & Clark, 1990; Levinthal, 1991; Pache & Santos, 2010; Tushman & Anderson, 1986). The international ban of the ozone-depleting gas chlorofluorocarbon in 1989 for example led to significant changes in the respective market, with winners and losers in the industry (McKibbin & Wilcoxon, 2002).

How an organization responds to changes in the institutional environment is triggered by external and internal factors (Oliver, 1992; George, Chattopadhyay, Sitkin, & Barden, 2006). Studies examining external factors researched organizational responses to institutional change (Lawrence, Hardy, & Phillips, 2002) and how resources and capabilities of organizations affected these responses (Casile & Davis-Blake, 2002; Kostova & Roth, 2002). Less attention was paid to internal factors that shape organizational responses to institutional pressures (George, Chattopadhyay, Sitkin, & Barden, 2006). Senior executives of organizations are key agents who determine the strategic directions of organizations in response to change in the institutional environment (Elsbach & Sutton, 1992; George, Chattopadhyay, Sitkin, & Barden, 2006; Johnson, Smith, & Codling, 2000). Studying the cognitive processes of these agents is an important yet often-overlooked element of institutionalism (DiMaggio, 1991; DiMaggio, 1997). In fact, gaining a better understanding of the cognitive underpinnings of organizational decision-makers and respective behavior may be key to the further development of institutional theory (George, Chattopadhyay, Sitkin, & Barden, 2006; Hoffman, 1999; Voronov & Vince, 2012).

In management research, a vast body of research shaped and enhanced our knowledge about the cognitive underpinnings of individuals confronted with risks and the influence on their decision-making. Kahneman and Tversky (1979) tested how individuals use heuristics such as availability, representativeness, and anchoring to make decisions. Payne, Bettman, and Johnson (1992) analyzed cognitive decision-

making strategies through models of constructed preferences, and Shafir, Osherson, and Smith (1993) elaborated how comparative strategies influence an individual's response to risk. Empirical research on managerial interpretations of events indicates that the risk perception of senior executives depends on rational factors such as the degree to which these executives can control an event or gain and loss considerations (Chattopadhyay, Glick, & Huber, 2001; Thomas, Clark, & Gioia, 1993; Thomas & McDaniel, 1990). The study of these economic factors and their influence on individual risk perception and decision-making formed a large field of management research, which advanced our understanding of phenomena in individual and organizational behavior and influenced practices in the industry. More recent studies indicate that beyond economic rationality, management scholars need to investigate how emotions influence the perception and interpretation of risk by top executives (Campbell, White, & Johnson, 2003; Madlock, 2008; Voronov & Vince, 2012). One reason for the lack of research at this level is that members of organizations may perceive emotions in a professional context as irrational, leading to subjective and potentially unfavorable outcomes that lack legitimacy (Fineman, 2000, 2003). Yet, as shown by Fineman (2000) and Ashkanasy (2003), emotions and rationality are not exclusive but intertwined. They frame, for example, the interpersonal interactions within organizations (Ashkanasy, 2003), how an issue is interpreted (Sharma, 2000), or how an organization reacts to change in its organizational field (Voronov & Vince, 2012). This article responds to the call to develop conceptual models to further integrate the study of emotions in the research of managerial risk perception and decision making. A neurological study by Bechara (2004) examined the influence of decision-making in patients who can no longer process emotional information normally. Her results suggest that decisions are not derived from an evaluation of potential future outcomes through some type of cost-benefit analysis. She states that "people make judgments not only by evaluating the consequences and their probability of occurring, but also and even sometimes primarily at a gut or emotional level" (Bechara, 2004, p. 30). These findings underline the significance of emotions when evaluating threats and opportunities and deciding about investments and strategies. The results of the neurological experiment show that emotions are not just one influencing factor but a decisive element of the decision-making process and add a further dimension to the ongoing debate on individual risk perception.

This conceptual paper contributes to this growing field by developing a model outlining the effect of negative emotions over change after an influential event in the

organizational field. The model further proposes how the evolution of these emotions over time affects the evaluation of the event as threat or opportunity. This paper thereby intends to add a further emotional perspective to the rational dimensions of research on risk perception and decision-making. Before introducing the model the article reviews the literature on emotions and their impact on cognitive processes of key agents in organizations.

Emotions and Change

We react more positively to changes that are in line with our beliefs and norms and tend to deny the ones that are against them. Applied to the leadership team of an organization, emotions can be phrased as the collective emotional response to an event. Emotions that are collectively shared are similar to emotions on individual level, but involve a large number of people who share a similar emotional response with regard to a certain event or decision (Huy, 2012; Shepherd, Patzelt, & Wolfe, 2011). In institutional research, the importance of emotions in management has been conceptualized from different angles and perspectives (George, Chattopadhyay, Sitkin, & Barden, 2006; Voronov & Vince, 2012) and becomes evident in a number of studies that researched the role of emotions in the context of business communication (Compton et al., 2008), motivation (Campbell, White, & Johnson, 2003), organizational culture (Smollan & Sayers, 2009), stress (Wang, 2011) or recovery from project or business failure (Shepherd, 2003; Shepherd, Covin, & Kuratko, 2009).

In sustainability related research, the role of emotions in the context of corporate sustainability is illustrated in the debate about climate change (Norgaard, 2011), renewable energies (Sherry-Brennan, Devine-Wright, & Devine-Wright, 2010), or sustainable management practices (Branzei, Vertinsky, & Zietsma, 2000; Sekerka & Stimel, 2012). While these studies advance our understanding of the role of emotions in a sustainability related context, they lack a focus on how emotions evolve and instead review one particular emotional stage. Moreover research on the effect of negative emotions on the decision-making process of key agents within an organization is still lacking. The study of emotions is prominent in psychology (cf. Bowlby, 1961, 1980; Kübler-Ross, 1969) and sociological research (Hochschild, 1979). While both disciplines differ in their interpretation and application of emotions, they are aligned by the idea that emotions shape our cognition and decision-making and define the options an individual considers (Bechara, Damasio, & Damasio, 2000).

Emotions result from cognitive processes in response to an event that is of significance for a person (Lazarus, 1991; Scherer, 2000; Elfenbein, 2007). Our emotions in response to change are determined through a cognitive process, where they are interpreted as favorable or unfavorable (Lant & Mezias, 1992; Lant & Milliken, 1992; Shore et al., 2004). Emotions are defined as “an episode of interrelated, synchronized changes in the states of all or most of the five organismic subsystems in response to the evaluation of an external or internal stimulus event as relevant to major concerns of the organism” (Scherer, 2001, p. 93). Radical change is one of the triggers for emotions (Huy, 2012; Smollan & Sayers, 2009), often leading to transformation processes in order to cope and adapt to this change. Emotions play an important role in this process as they reduce the options considered, which is supported by research on managerial interpretations of environmental issues (Sharma, 2000; Hoffman, 1997).

Conceptual Framework: Five Stages of Grief

Grieving is a subjective emotional process in response to an irretrievable or impeding loss that may be made manifest in mental, physical or social expression (Charmaz & Milligan, 2008) and is defined as “to cause to be sorrowful”(Webster, 2001, p. 489). Grieving is a common response to significant change and losses (Clinebell, 1984) and may be expressed through individual or collective mourning. This paper draws upon one of the most well-known theories of grieving, the stages theory of grief as described by Kübler-Ross (1969). The origins of the stages theory of grief date back to Sigmund Freud (1917) and his influential article about “Mourning and Melancholia”. Elisabeth Kübler-Ross (1969) drew upon that idea and developed the stages theory of grief. By studying the response stages of terminally ill patients to awareness of their impending death, she identified five distinct psychological stages of grief: denial, anger, bargaining, depression, and acceptance. Denial is the first emotion an individual experiences, as a result of the “shock” from receiving the news of change. Kübler-Ross (1969, p. 39) described denial as a “buffer” after unexpected news (“I can't believe....”). The following anger stage is marked by the experience of resentment and frustration, which may be directed towards the person or institution triggering these feelings. In the bargaining stage, the individual acknowledges the seriousness of the situation yet tries to negotiate for more time or better conditions. The fourth stage, depression, is characterized by intense mourning about the individual's poor condition and better days in the past. Eventually the individual

reaches a stage of acceptance by acknowledging the inevitability of the new reality. Reaching a stage of acceptance is vital for an individual's ability to learn from the process and move on. These stages are neither distinct nor similar experienced but differ depending on circumstances, preconditions, and support mechanisms. However, following Jacobs (1993), a deviation from this pattern requires therapeutic support to prevent or handle chronic or complicated grief reactions.

While the model is widely accepted among psychologists and the general public (Downe-Wamboldt & Tamlyn, 1997), and applied in bereavement services around the world (Bergman, Haley, & Small, 2010), its validity is questioned. Researchers from different disciplines like Walter (1999), Bell and Taylor (2011), and Maciejewski, Zhang, Block, and Prigerson(2007) could not validate the model in empirical studies, yet all acknowledge its value and practicality in medical services. Despite the lack of empirical validation, we believe the original model of Kübler-Ross (1969) holds an inherent conceptual value that allows us to gain a better understanding of the evolution of emotions in managerial decision-making. The model proved to enhance our understanding of the emotional stages an individual goes through in different contexts ranging from grieving about a break-up (Kübler-Ross, 1969) to organizational death (Bell & Taylor, 2011). In a business context, Blau (2008) empirically validated a slightly adapted model in the context of anticipated job loss research. This paper uses the model as an illustration of the evolution of emotional responses of executives in the light of radical change affecting their business environment. More research testing its validity, especially in a sustainability-related context, is required.

In management research, the grief theory is applied in several studies, for example to explain the recovery process after entrepreneurial business failure (Shepherd, 2003), employee responses to an anticipated worksite closure (Blau, 2006, 2007, 2008), and project failure in corporate innovation (Shepherd & Kuratko, 2009). To study emotions is very relevant to understand and address the interpretation of sustainability-related issues like climate change or resource scarcity. There are often heated public debates and discursive individual and organizational responses to “green” challenges (Fineman, 1996, 1997; Pratt, 2000; Wright & Nyberg, 2012). Norgaard (2006) studied how individuals within a community that is significantly affected by climate change respond to the threat and analyze the cognitive underpinnings of climate change denial. Her study “attempts to highlight the importance of these dimensions in a way that bridges the troublesome, yet nevertheless artificial, gap between micro and macro social processes” (Norgaard, 2006, p. 364). Her findings show that an emotional

response to environmental risks is influenced by rationale as well as the social discourse surrounding the issue.

This paper follows the argumentation of Russell and Griffiths (2008) that the role of emotion of top executives in response to sustainability-related challenges needs further attention and will enhance our understanding of decision-making processes in organizations. In contrast to most other studies, this paper does not focus on one particular emotional state but acknowledges the unsteady character of emotions. It aims to conceptualize how emotions such as climate denial can evolve with time. The idea is reflected in figure 2, representing the moderating effect of the different grieving stages on the managerial perception of their organization's position in the market.

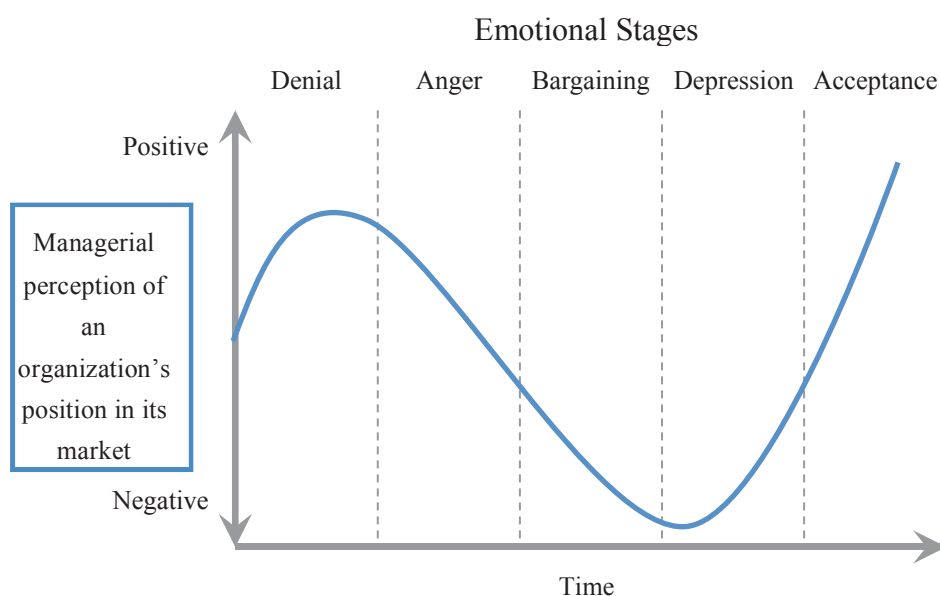


Figure 2: Hypothesized effect of emotions on managerial perception of an organization's position in its market through the five stages of grief

Source: Adapted from Kübler-Ross (1969).

Following the theoretical model of Kübler-Ross (1969), the x-axis represents time and is segmented into the five stages of grief, denial, anger, bargaining, depression, and acceptance. Different to the original model, the y-axis of our model does not show self-esteem but how the perception of an executive of the position of their organization in its market in response to a decisive event evolves. The curve illustrates the change in perception along the different stages and follows a similar route as in Kübler-Ross' (1969) description of the fluctuation of one's self-esteem along the stages of grief. This paper proposes, similar to Kübler-Ross' (1969) focus on self-esteem, that an

executive's emotions evolve in a similar order like an individual's emotions coping with the loss of a beloved person.

In the initial denial stage, the executive perceives that the organization's position in its market has improved as she/he ignores the negative implications of the event and overrates the organization's resources and capabilities. In the anger stage, the manager becomes more aware of the limitations of the organization and the implications of the event. The anger is directed at the ones she/he thinks are responsible and blames them for the event, like policy makers, politicians, engineers, customers, non-governmental organizations, or other managers. The perception of the organization's position in its market further deteriorates during the bargaining stage and reaches its lowest level in the depression stage. The manager might find it more difficult for the organization to cope with the change despite first efforts to react. Depending on the magnitude of the event, the manager realizes that there is no easy restoration and that the event has major implications on the organization. Eventually the individual accepts the new reality and works on strategies how the organization can benefit from the event in the current market. This hypothesized effect connects to the work of Shepherd (2003), who argues that the likelihood to learn from project failure increases with time during a grieving process.

The model draws upon a qualitative study by Zell (2003), who studied the resistance to change in universities through interviews with professors in a physics department. He found that an organization's change process evolves along the stages theory of grief and argues "both individuals and the organization as a whole moved through the process of change roughly in the sequence outlined by Kübler-Ross" (Zell, 2003, p. 79). In fact, already Kübler-Ross (1969) suggested that her model applies to different forms of catastrophic personal loss, for example the loss of one's job, freedom, or partner. As argued by Marris (1974), radical change and loss are similar as both can trigger an individual's grieving process. In a number of industries sustainability-related issues significantly influence the field in which an organization is operating (Hoffman, 1999; Newman, 2000). Psychologists suggest that an individual has to go through all stages of grief to sufficiently cope with a dramatic change event (Jacobs, 1993). However, these stages are often not clearly distinct, nor does every individual go through them in the proposed order – just like the grieving process is different for every individual depending on the circumstances and preconditions (Maciejewski, Zhang, Block, & Prigerson, 2007). Depending on internal and external factors, an individual experiences a different intensity of her/his emotions in response

to an event. In accordance with the findings of Kübler-Ross, we do not suggest that the proposed moderating effect is found in all individuals to a similar extent. She notes that “others might (and probably will) adopt a different terminology when describing the phases through which the dying patient passes in the course of his illness. Since individual variation is so great, it is unlikely that any one conceptual system could be applied to all. But the overall picture, and the illustrative examples on which it is based, must stand” (Kübler-Ross, 1969, p. VIII). Based on her findings, the proposed model is a first attempt to conceptualize the evolution of emotions over an issue and how it affects a manager’s interpretation of their organization’s position in the market and ability to change it.

We suggest that a number of current behaviors within industries reflect the proposed model. In the automotive industry, executives who are faced with the potential “death” of the internal combustion engine, as electric cars might replace it over time, do not or only slowly adjust their organization to the future market. The results of a recent industry survey among top executives about the future of the automotive market outline that market experts expect only six major players to sustain over the decades, one of them the electric car company Tesla (KPMG, 2014). To further illustrate the evolution of the different emotional stages and how they affect managers’ perception of their firm’s position in the market and their ability to change their organization, the German energy industry during a phase of radical change in its organizational field serves as an example.

Illustrative Case: German Energy Companies confronted with Nuclear Phase-Out

The Fukushima nuclear accident in 2011 sharply accelerated a long-term trend in Germany (Wüstenhagen & Bilharz, 2006) to move away from nuclear power and towards a higher share of renewable energy. Half of Germany’s 17 reactors were shut down within three months after the Fukushima disaster, and the government decided to retire the remaining nine plants within ten years. This upheaval in the institutional environment led to significant challenges for incumbent utilities. The far-reaching policy changes implied that the firms needed to reinvent their corporate strategy, while at the same time losing their existing cash-cows. At the same time, the opportunities in renewables looked more promising almost overnight, and stock markets priced in the

new realities within days, sharply discounting the share prices of companies with exposure to nuclear relative to renewables, see figure 3.

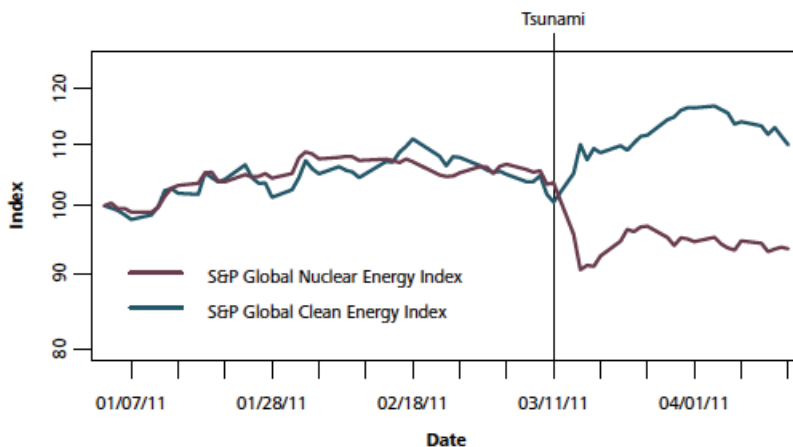


Figure 3: Stock price reactions to the Fukushima Daichi nuclear accident
 Source: Ferstl, Utz, and Wimmer (2012).

As will be explored in more detail below, reactions from management of incumbent utilities were very different from the fast reactions to new risk-return profiles as they were reflected in stock markets. They ranged from defeatists' comments about the short-term nature of the policy changes to threats of legal action against the government. It took several months for more constructive voices to become prominent in the debate. Given the fundamental threats to the firms' existing business models, however, one would think that there was a strong case for immediate action. Instead, there seemed to be evidence for factors beyond pure risk-return considerations - including emotions - that influenced corporate responses to upheaval in the institutional environment.

The effect of grief is expressed through emotions, actions, and words (Kübler-Ross, 1969). Statements of senior executives as key agents open a window revealing some of an organization's inner issues. According to the research of Kübler-Ross, different senior executives within the industry respond differently to events, depending on internal and external factors. In her study, Kübler-Ross found that "different patients react differently to such news depending on their personality makeup and the style and manner they used in their past life. People who use denial as a main defense will use denial much more extensively than others. Patients who faced past stressful situations with open confrontation will do similarly in the present situation" (Kübler-Ross, 1969, p. 28). Similar to her findings, contradictory reactions from different

individuals in an industry might be found in response to the same environmental pressures. Yet, the overarching tone within the energy industry in response to an issue supports this illustration. The following paragraphs describe each of the five stages in greater detail and illustrate it with anecdotal evidence from top managers of large German energy incumbents.

Denial

We suggest that the initial reaction to imposed transformation is denial. In the denial stage, one is unwilling to admit the change and its effect on one's life. A typical response would be "I feel fine" or "This is not happening" (Kübler-Ross, 1974). In the context of the intended policy adaptations affecting the German energy industry, a manager of one of the big utilities was quoted four weeks after the Fukushima accident as saying "The short-term phase-out of nuclear power is impossible, simply for reasons of security of supply" (AMS, 2011). Other prominent German industry leaders stated that "what happened in Fukushima cannot happen here" (SZ, 2011), which reflected pre-Fukushima convictions that "German nuclear power plants are among the safest in the world" (Stern, 2007). Similar to the original context of the stages of grief, reactions in this phase tend to be rather passive, and as a result organizations in denial mode are unlikely to embark on new strategies.

Anger

When a grieving individual or organization realizes that the change cannot be denied any longer, it enters the second stage of grief, which is anger, rage, envy, and resentment. According to Kübler-Ross (1974), typical expressions in this stage are "This is not fair" or "Who is to blame". Translated into the language of Germany's energy incumbents in the light of the Post-Fukushima industry transformation, angry reactions by managers included statements like "there is no thought-through concept" and "there is a total lack of a long-term perspective" (AMS, 2011). One utility chief executive also joked about the solar power generation, saying that "photovoltaics in Germany makes as much sense as growing pineapple in Alaska" (Merkur, 2012) – an assessment that was fundamentally revised by his successor only a few months later. As in other grief processes, managers tend to show active reactions in this phase, but their emotional energy is not yet directed towards solutions.

Bargaining

"I understand I will die, but if I could just do something to buy more time..." would be a typical phrase marking the bargaining stage. Individuals try to bargain for more time or improved conditions to better cope with the change. In the case of the German energy industry, the bargaining stage is well exemplified in attempts by the large utilities to influence the increasingly inevitable changes in the institutional environment to their favor. One strategy is to prepare the public for rising electricity prices, which would take away some of the margin pressure from utilities. For example, one utility CEO said "electricity prices will increase by 30 per cent" because of investments required by the new energy policy in the order of 150 billion Euro, and went on to point out that "the majority of those costs will be added to electricity bills" (SZ, 2011). Another utility CEO even publicly said "the cost of the energy transition are in the order of magnitude of 250 to 300 billion Euro" (Merkur, 2012). Another attempt to bargain for advantages over other players can be seen in utility firms' lobbying for relative increases in feed-in tariffs for offshore wind parks (which are mostly planned and operated by major utilities), while at the same time complaining about prohibitive cost of feed-in tariffs for photovoltaics (a sector that is largely in the hands of their competitors).

In this phase, a common communication pattern is "yes, but...". Consider the following interview statements by a German utility CEO: "The energy transformation as a long-term objective is quite right. What I am missing is a sensible regulatory framework for the energy market. And therefore, the course we are currently pursuing is very expensive. (...) From a technical point of view, the nuclear phase-out is manageable. But the question is whether electricity remains affordable for consumers and industry. And there I am more skeptical." (Handelsblatt, 2012a). During this stage, the emotional response becomes more neutral towards the change, as hopes and fears are balanced.

Depression

During the depression stage, a person realizes the loss of an important part of her/his life. It is the time when a person faces the truth about the consequences of the change and feels hopelessness and sadness about the future. Of the five stages of grief, this one is probably the hardest one to back up with statements of utilities, as

depressive public statements of managers are rare. However, anecdotal evidence from industry conferences in late 2011 and early 2012 shows that some industry representatives painted a rather bleak picture of their firms' prospects under the new institutional conditions, highlighting the downside risks more than the new opportunities. The head of the Federation of German Industries (BDI) warned that the new energy policy meant that Germany was about to "run blindly into a crisis" (Welt, 2012). When the Federal Environmental Minister Peter Altmaier in fall 2012 called for an end to "badmouthing the energy transition" (dapd, 2012), he provided an indication that BDI's wording reflected more than a singular statement, and that negative emotional responses could be an obstacle to grasping new strategic opportunities.

Acceptance

The acceptance stage is marked by an adaptation towards the new environment and more positive feelings towards it, yet as Kübler-Ross notes, "acceptance should not be mistaken for a happy stage" (Kübler-Ross, 1969, p. 100). Quotes illustrating these emotions are "It's going to be okay" or "I can't fight it, I may as well prepare for it". On an organization-level, actions outlining this stage could be a strategic redirection towards the new environment and quotes about business opportunities connected to it. In fact, as the dust began to settle a year after the policy changes in Germany, we noticed statements reflecting more positive emotional reactions. The CEO of a large German industrial firm stated in September 2011 "this chapter is closed", alluding to his firm's decision to exit the business of building nuclear reactors (Handelsblatt, 2012a). The chief executive of a large utility followed half a year later saying "Germany has decided with a clear majority [to phase out nuclear power]. We have to accept this." As a consequence, he said, "we came to the conclusion that investing in renewables, distributed generation and energy efficiency is more attractive" (Handelsblatt, 2012b). Similarly, an industry peer, whose predecessor was the one comparing solar energy in Germany to growing pineapple in Alaska, said: "When it comes to photovoltaics, we are currently in a phase of reassessment. Prices for solar modules have come down at a rate that our company deemed unthinkable a few years ago. It would therefore be unwise for us not to address this topic" (Handelsblatt, 2012c).

Discussion, Implications and Further Research

Based on literature from psychology and institutional work this article has proposed a conceptual model that highlights the role of emotions during an organizational transformation process. It responds to calls from organization theorists to further research the effects of emotions during an organizational transformation process (George, Chattopadhyay, Sitkin, & Barden, 2006; Pache & Santos, 2010; Voronov & Vince, 2012). Findings from psychologists suggest that emotional responses of executives to changes in the organizational field are not static, but evolve over time through the change process. The evolution of emotions can be segmented along the five stages of grief (Kübler-Ross, 1969), suggesting that managers show signs of emotional reactions to change that go from denial to anger to bargaining to depression until they finally reach a stage of accepting the new environment. The grieving process is expressed through emotions, which are reflected in actions and words by an organization's leadership. It affects the grieving individuals in their risk perception and the ability to change the organization to a new environment, for example after a new policy or major accident.

We acknowledge that every individual handles and expresses emotions differently. The moderating effect of emotions on the managerial perception of their organization's position in the market and their ability to change the organization is likely to fluctuate depending on different personal and environmental factors, for example if there are supportive mechanisms and services emplaced that assist an individual along the change process. In Kübler-Ross' research context for example, these services included specially trained medical staff that supports the grieving process of patients. In her study she found that "during these crucial days or weeks it depends a great deal on the structure and unity of a given family, on their ability to communicate, and on the availability of meaningful friends. A neutral outsider, who is himself not emotionally over-involved, can be of great assistance in listening to the family's concerns, their wishes, and needs" (Kübler-Ross, 1969, p. 142). In a management environment, this could be a consultant, coach or external advisor who supports key agents in coping with an issue. On the contrary, negative influences like a collective denial of an event, for example by relatives in the medical context and by other senior executives in managerial grief, could extend or even intensify the grieving process. Figure 2 illustrates the effects of managerial grief on the perception and ability of key agents to change the organization.

We further propose that as emotions over an issue change over time, so does the ability of an executive to change the organization towards a new environment. Managers are more willing to change an organization towards new institutions when they emotionally favor a change in the organizational field (Sharma, 2000). The ability to learn from grieving helps managers to develop themselves and change the organization they work for (Shepherd & Kuratko, 2009). In the denial stage, an executive's ability to change the organization is low and inversely related to their perception of the organization's position in its market. While the individual is in denial, the higher the perception of the organization's position, the lower the ability of a manager to change the organization to fit a new environment. This hypothesized effect derives from research on path dependency, where managers become more resistant to change the higher their perception of the organization's resources and capabilities (cf. Baum & Silverman, 2001; Liebowitz & Margolis, 1995). The anger stage is characterized by a rising ability to change the organization as the perception of the organization's position in its market lowers. The manager tries to address the challenge in a first attempt, for example by launching a new project or allocating limited resources. During the bargaining stage, the individual realizes that the first attempt to change the organization was insufficient to significantly improve its position in the market. The manager is confronted with increasing institutional pressure on current practices, services, or products and potentially new competitors who grasp new opportunities in the market. During this depression stage the ability to change the organization and the perception of the organization's position in its market both become lower. When a leader finally reaches the stage of accepting the change in the organization's environment, her/his ability to change the organization increases. This opens a window of opportunity for creating a new path for their organization, which could become evident in the development of new strategies or the allocation of resources to new technologies, markets, services or products. This hypothesized effect connects to research on bandwagon theories of collective action (cf. Abrahamsom & Rosenkopf, 1993; Granovetter, 1978), which suggests that large-scale change of organizations often begins with changes in the perception and behavior of a small number of key actors (Garud & Karnøe, 2001).

Our conceptual model also contributes to research on managerial interpretation of an event as threat or opportunity. The more a key agent interprets an event as an opportunity, the more likely she/he is to strategically direct the organization towards that direction. In a study analyzing the choice of environmental strategies, Sharma

(2000) finds that positively interpreted environmental changes stimulate opportunity-seeking behavior rather than threat aversion. George, Chattopadhyay, Sitkin, and Barden (2006) propose that senior executives' interpretations of an issue as threat or opportunity are translated into organizational actions. Dutton and Duncan (1987) and Jackson and Dutton (1988) note that gain or loss considerations, the perceived controllability of an issue, and negative and positive emotional associations define whether or not senior executives interpret a risk as threat or opportunity. Drawing upon their findings, research on the interpretation of an issue as threat or opportunity should further investigate the role of emotions in this process and in particular how the emotionology surrounding an environmental issue is influenced by negative emotions such as grieving. It would be fruitful to investigate, through longitudinal research, how emotions influence the perception of an issue and the ability of an organization to adapt to a change in its field over time.

If confirmed in further empirical research, our conceptual model has significant implications for managerial practice. Paying attention to the emotional perturbations that come along with disruptive change is a prerequisite to steering organizations through a changing environment. Our model raises awareness that emotions are important mediators of organizational reactions to change, and illustrates that they differ over time. Managers can benefit from this insight by getting a more realistic understanding of the feasible speed of change, and by adapting their communication style over time, and thereby can help their organization move through to the stages of grief more quickly than if they would ignore the grieving process. The grief literature provides specific suggestions on bereavement counseling which can be inspirational for managing grief on an organizational level, too, for example with regard to the importance of mourning rituals. It should be pointed out, though, that successful management of the grief process requires striking a fine balance. On one hand, managers need to appreciate the emotional reactions to the loss of the old realities, while on the other hand they should still be firm about the inevitable nature of the new realities – otherwise, the organization might get stuck in the early stages of the grief process and reaching acceptance could even get delayed.

In the case of policy-driven changes in the environment, this is also a lesson to be taken into account by policymakers. They, too, can learn from our proposed model that organizational adaptation to change takes more time than it would in a perfectly rational world without emotions. They can, to some extent at least, adapt their communication style to prevailing stages of grief in the affected industry to signal

understanding of the emotional reactions to change. But staying firm with regard to the irreversible nature of the change process (such as, for example, Germany's nuclear phase-out) is equally important to help organizations to adapt and channel their emotions towards the acceptance stage.

While this paper provides an important early contribution towards a better and more comprehensive understanding of corporate responses to sustainability challenges, it clearly leaves room for further research. There are a number of industries to which our model could be applied beyond the illustrative case of German nuclear-phase out discussed in the previous chapter. Particularly interesting cases to study the effect of grieving agents over institutional pressure are the oil, gas and coal industry, as they are influenced by environmental policies and often part of emotionally heated debates. While especially sustainability related issues like climate change are often accompanied by emotionally heated debates (Wright & Nyberg, 2012), the proposed model enhances the understanding of managerial responses to institutional pressures and the role of emotions in the cognitive process in different industry settings.

Empirical testing of our proposed framework raises a number of opportunities for methodological development, for example when it comes to operationalizing emotions on an organizational level. The application of psychological individual-level theories on an organizational level might further enhance our understanding of the process of organizational decision-making and change (Bowman, 1982; Shimizu, 2007; Staw, Sandelands, & Dutton, 1981). Measuring the evolution of negative emotions at different management levels over time would be an important next step. This could be facilitated by drawing on methods in psychology research, and adapting them for application on an organization-level, for example through surveys or interviews with a sample size which is representative for the organization. Psychologists have developed a number of tools to measure the evolution of negative emotions, for example the Texas Revised Inventory of Grief (TRIG; Faschingbauer, 1981), the Grief Experience Inventory (GEI; Sanders, Mauger, & Strong, 1985), the Inventory of Traumatic Grief (ITG; Prigerson et al., 1997), and the Hogan Grief Reaction Checklist (HGRC; Hogan, Greenfield, & Schmidt, 2001). The latter has already been applied to management research in a study by Shepherd, Patzelt, & Wolfe (2011) on negative emotions after project failure and might be particularly well suited for organization-level application.

To gather data about the evolution of negative emotions in response to changes in the organization field, a content analysis of direct and indirect communication, for example of lobbying reports, might be a useful step, as corporate communication

reflects the values and beliefs of an organization. Methods used by psychologists to measure and segment grief can be adapted to segment communication into different stages. The Inventory of Complicated Grief-Revised (Prigerson & Jacobs, 2001) might be well suited as it segments the emotional stages and offers a scale for measurement of grief.

A final area for further research is to investigate the link between grieving and implications on financial performance. During the first four stages of the grief process, organizations invest time, attention, and resources on the negative aspects of a new environment. Organizations thereby risk a lower performance because, in line with institutional theory, they risk continuing to invest in industries that lack legitimacy and consequently lose competitiveness over time.

Conclusion

This conceptual paper explores how emotional aspects can help to enhance our understanding of corporate responses to sustainability. It proposes to build on Kübler-Ross' (1969) stages-of-grief model to explain why firms take time to adapt to upheaval in their institutional environment, as illustrated by German energy companies' reactions to renewable energy policies, especially in the aftermath of the Fukushima nuclear accident in 2011. While the objective of this paper is to inspire the reader to take new avenues of research on corporate sustainability rather than to provide definitive answers, it could provide some early evidence that energy firms did in fact go through different stages of grief, as reflected in illustrative quotes from their chief executives and other key industry representatives over the months that followed the policy changes. In contrast to a pure risk-return view of the impact that the institutional changes had on different business lines in the energy industry, for which immediate stock market reactions served as an admittedly crude proxy, the emotional ups and downs that are characteristic of a lengthy grief process seemed to have slowed down corporate responses to the new realities. It will be interesting to investigate in further research whether this effect, and the differences in how fast competing firms went through the grief process, resulted in financial and environmental performance differences.

References

- Abrahamson, E., & Rosenkopf, L. (1993). Institutional and competitive bandwagons: Using mathematical modeling as a tool to explore innovation diffusion. *Academy of Management Review*, *18*(3), 487-517.
- Agocs, C. (1997). Institutionalized resistance to organizational change: Denial, inaction and repression. *Journal of Business Ethics*, *16*(9), 917-931.
- Alhakami, A. S., & Slovic, P. (1994). A psychological study of the inverse relationship between perceived risk and perceived benefit. *Risk Analysis*, *14*(6), 1085-1096.
- AMS. (2011). Langfristige Strategien gefordert. Retrieved September 19, 2012, from <http://www.auto-motor-und-sport.de/news/auto-motor-und-sport-kongress-panel-1-langfristige-strategien-gefördert-3656298.html>
- Ashforth, B. E., & Humphrey, R. H. (1995). Emotion in the workplace: A reappraisal. *Human Relations*, *48*(2), 97-125.
- Ashkanasy, N. M. (2003). Emotions in organizations: A multi-level perspective. In F. Dansereau & F. J. Yammarino (Eds.), *Multi-level Issues in Organizational Behavior and Strategy* (pp. 9-54). Amsterdam: JAI.
- Ashkanasy, N. M., & Ashton-James, C. E. (2005). Emotion in organizations: A neglected topic in I/O Psychology, but with a bright future. In G. P. Hodgkinson & J. K. Ford (Eds.), *International review of industrial and organizational psychology* (Vol. 20, pp. 221-268). Chichester, UK: Wiley.
- Barsade, S. G., Brief, A. P., & Spataro, S. E. (2003). The affective revolution in organizational behavior: The emergence of a paradigm. In J. Greenberg (Ed.), *Organizational behavior: State of the science* (2nd ed., pp. 3-50). Mahwah: NJ Lawrence Erlbaum.
- Baum, J. A., & Silverman, B. S. (2001). Complexity, attractors, and path dependence and creation in technological evolution. *Path Dependence and Creation*, *1*, 169-209.
- Bechara, A., Damasio, H., & Damasio, A. R. (2000). Emotion, decision making and the orbitofrontal cortex. *Cerebral Cortex*, *10*(3), 295-307.
- Bechara, A. (2004). The role of emotion in decision-making: Evidence from neurological patients with orbitofrontal damage. *Brain and Cognition*, *55*(1), 30-40.

- Bell, E., & Taylor, S. (2011). Beyond letting go and moving on: New perspectives on organizational death, loss and grief. *Scandinavian Journal of Management*, 27(1), 1-10.
- Bergman, E. J., Haley, W. E., & Small, B. J. (2010). The role of grief, anxiety, and depressive symptoms in the use of bereavement services. *Death Studies*, 34(5), 441-458.
- Blau, G. (2006). A process model for understanding victim responses to worksite/function closure. *Human Resource Management Review*, 16(1), 12-28.
- Blau, G. (2007). Partially testing a process model for understanding victim responses to an anticipated worksite closure. *Journal of Vocational Behavior*, 71(3), 401-428.
- Blau, G. (2008). Exploring antecedents of individual grieving stages during an anticipated worksite closure. *Journal of Occupational & Organizational Psychology*, 81(3), 529-550.
- Bowlby, J. (1961). Processes of mourning. *International Journal of Psychoanalysis*, 42(4-5), 317-340.
- Bowlby, J. (1980). *Loss: Sadness and depression*. New York: Basic Books.
- Bowman, E. H. (1982). Risk seeking by troubled firms. *Sloan Management Review*, 23(4), 33-42.
- Branzei, O., Vertinsky, I., & Zietsma, C. (2000). From green-blindness to the pursuit of eco-sustainability: An empirical investigation of leader cognitions and corporate environmental strategy choices. *Academy of Management Proceedings & Membership Directory*, C1-C6.
- Campbell, K. S., White, C. D., & Johnson, D. E. (2003). Leader-Member relations as a function of rapport management. *Journal of Business Communication*, 40(3), 170-194.
- Casile, M., & Davis-Blake, A. (2002). When accreditation standards change: Factors affecting differential responsiveness of public and private organizations. *Academy of Management Journal*, 45(1), 180-195.
- Chattopadhyay, P., Glick, W. H., & Huber, G. P. (2001). Organizational actions in response to threats and opportunities. *Academy of Management Journal*, 44(5), 937-955.
- Charmaz, K., & Milligan, M. (2008). Grief. In J. E. Stets & J. H. Turner (Eds.), *Handbook of the sociology of emotions* (pp. 516-543). New York: Springer.

- Clinebell, H. (1984). *Basic types of pastoral care and counseling*. Nashville, TN: Abingdon Press.
- Compton, R. J., Carp, J., Chaddock, L., Fineman, S. L., Quandt, L. C., & Ratliff, J. B. (2008). Trouble crossing the bridge: Altered interhemispheric communication of emotional images in anxiety. *Emotion, 8*(5), 684-692.
- dapd. (2012). Altmaier warnt vor Schlechtreden der Energiewende. Retrieved September 17, 2012, from <http://de.nachrichten.yahoo.com/altmaier-warnt-schlechtreden-energiewende-131912811.html>
- Desai, V. M. (2011). Mass media and massive failures: Determining organizational efforts to defend field legitimacy following crises. *Academy of Management Journal, 54*(2), 263-278.
- DiMaggio, P. (1991). Constructing an organizational field as a professional project: U.S. art museums, 1920–1940. In DiMaggio, P. J., & Powell, W. W. (Eds.), *The new institutionalism in organizational analysis*, 17. Chicago: University of Chicago Press.
- DiMaggio, P. (1997). Culture and cognition. *Annual Review of Sociology, 23*, 263-287.
- Downe-Wamboldt, B., & Tamlyn, D. (1997). An international survey of death education trends in faculties of nursing and medicine. *Death Studies, 21*(2), 177-188.
- Dutton, J. E., & Duncan, R. B. (1987). The creation of momentum for change through the process of strategic issue diagnosis. *Strategic Management Journal, 8*(3), 279-295.
- Elfenbein, H. A. (2007). Emotion in organizations: A review and theoretical integration. *The Academy of Management Annals, 1*, 315-386.
- Elsbach, K. D., & Sutton, R. I. (1992). Acquiring organizational legitimacy through illegitimate actions: A marriage of institutional and impression management theories. *Academy of Management Journal, 35*(4), 699-738.
- Fankhaeser, S., Sehlleier, F., & Stern, N. (2008). Climate change, innovation and jobs. *Climate Policy, 8*(4), 421-429.
- Faschingbauer, T. (1981). *The Texas inventory of grief-revised*. Houston, TX: Honeycomb Publishing.
- Ferstl, R., Utz, S., & Wimmer, M. (2012). The effect of the Japan 2011 disaster on nuclear and alternative energy stocks worldwide: An event study. *Business Research Journal, 5*(1), 25-41.

- Fineman, S. (1996). Emotional subtexts in corporate greening. *Organization Studies*, 17(3), 479-500.
- Fineman, S. (1997). Constructing the green manager. *British Journal of Management*, 8(1), 31-38.
- Fineman, S. (2000). *Emotion in organizations* (2nd ed.). London, UK: Sage.
- Fineman, S. (2003). *Understanding emotion at work*. London, UK: Sage.
- Fisher, C. D. (2010). Happiness at work. *International Journal of Management Reviews*, 12(4), 384-412.
- Freud, S. (1917). Mourning and melancholia. *Standard Edition*, 14(239), 1957-61.
- Frijda, N. H. (1986). *The emotions*. Cambridge, UK: Cambridge University Press.
- Garud, R., & Karnøe, P. (2001). Path creation as a process of mindful deviation. *Path dependence and creation*, 138.
- Geddes, D., & Callister, R. R. (2007). Crossing the line (s): A dual threshold model of anger in organizations. *Academy of Management Review*, 32(3), 721-746.
- George, E., Chattopadhyay, P., Sitkin, S. B., & Barden, J. (2006). Cognitive underpinnings of institutional persistence and change: A framing perspective. *Academy of Management Review*, 31(2), 347-365.
- Gilbert, C. G. (2006). Change in the presence of residual fit: Can competing frames coexist? *Organization Science*, 17(1), 150-167.
- Granovetter, M. (1978). Threshold models of collective behavior. *American Journal of Sociology*, 83(6), 1420.
- Handelsblatt. (2012a). Eon-Chef fordert neue Energiepolitik. Retrieved September 17, 2012, from <http://www.handelsblatt.com/unternehmen/industrie/johannes-teyssen-eon-chef-fordert-neue-energiepolitik/6456428.html>
- Handelsblatt. (2012b). RWE entdeckt Nordafrika für Solarstrom. Retrieved September 17, 2012, from <http://www.handelsblatt.com/unternehmen/industrie/projekt-in-marokko-rwe-entdeckt-nordafrika-fuer-solarstrom/6656314.html>
- Handelsblatt. (2012c). Eon investiert in Erneuerbare statt in Atomkraftwerke. Retrieved September 17, 2012, from <http://www.handelsblatt.com/unternehmen/industrie/grossbritannien-eon-investiert-in-erneuerbare-statt-in-atomkraftwerke/6453538.html>
- Harris, S. G., & Sutton, R. I. (1986). Functions of parting ceremonies in dying organizations. *Academy of Management Journal*, 29(1), 5-5.

- Hazen, M. A. (2008). Grief and the workplace. *Academy of Management Perspectives*, 22(3), 78-86.
- Henderson, R. M., & Clark, K. B. (1990). Architectural innovation: The reconfiguration of existing product technologies and the failure of established firms. *Administrative Science Quarterly*, 35(1), 9-30.
- Hochschild, A. R. (1979). Emotion work, feeling rules, and social structure. *American Journal of Sociology*, 85(3), 551-575.
- Hoffman, A. J. (1997). *From heresy to dogma: An institutional history of corporate environmentalism*. San Francisco: New Lexington Press.
- Hoffman, A. J. (1999). Institutional evolution and change: Environmentalism and the U.S. chemical industry. *Academy of Management Journal*, 42(4), 351-371.
- Hogan, N. S., Greenfield, D. B., & Schmidt, L.A. (2001). Development and validation of the Hogan grief reaction checklist. *Death Studies*, 25(1), 1-32.
- Huy, Q. N. (2012). Emotions in strategic organization: Opportunities for impactful research. *Strategic Organization*, 10(3), 240-247.
- Jackson, S. E., & Dutton, J. E. (1988). Discerning threats and opportunities. *Administrative Science Quarterly*, 370-387.
- Jacobs, S. (1993). *Pathologic grief: Maladaptation to loss*. Washington DC: American Psychiatric Press.
- Jennings, P. D., & Zandbergen, P. A. (1995). Ecologically sustainable organizations: An institutional approach. *Academy of Management Review*, 20, 1015-1052.
- Johnson, G., Smith, S., & Codling, B. (2000). Microprocesses of institutional change in the context of privatization. *Academy of Management Review*, 25(3), 572-580.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 263-291.
- KPMG. (2014). Global Automotive Executive Survey 2014. Strategies for a fast-evolving market. Retrieved January 02, 2014, from <http://www.kpmg.com/global/en/issuesandinsights/articlespublications/global-automotive-executive-survey/pages/default.aspx>
- Kolk, A., & Pinkse, J. (2004). Market strategies for climate change. *European Management Journal*, 22(3), 304-314.
- Kostova, T., & Roth, K. (2002). Adoption of an organizational practice by subsidiaries of multinational corporations: Institutional and relational effects. *Academy of Management Journal*, 45(1), 215-233.
- Kübler-Ross, E. (1969). *On death and dying*. New York, NY: Macmillan.

- Kübler-Ross, E. (1974). The languages of dying. *Journal of Clinical Child Psychology*, 3(2), 22-24.
- Lant, T. K., & Mezias, S. J. (1992). An organizational learning model of convergence and reorientation. *Organization Science*, 3(1), 47-71.
- Lant, T. K., & Milliken, F. J. (1992). The role of managerial learning and interpretation in strategic resistance and reorientation: An empirical exploration. *Strategic Management Journal*, 13(8), 585-608.
- Lawrence, T. B., Hardy, C., & Phillips, N. (2002). Institutional effects of interorganizational collaboration: The emergence of proto-institutions. *Academy of Management Journal*, 45(1), 281-290.
- Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.
- Levinthal, D. A. (1991). Random walks and organizational mortality. *Administrative Science Quarterly*, 36(3), 397-420.
- Liebowitz, S. J., & Margolis, S. E. (1995). Path dependence, lock-in, and history. *Journal of Law, Economics, and Organization*, 11, 205.
- Loewenstein, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological Bulletin*, 127(2), 267-286.
- Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success?. *Psychological Bulletin*, 131(6), 803.
- Maciejewski, P. K., Zhang, B., Block, S., & Prigerson, H. G. (2007). An empirical examination of the stage theory of grief. *Journal of the American Medical Association*, 297(7), 716-723.
- Madlock, P. E. (2008). The link between leadership style, communicator competence, and employee satisfaction. *Journal of Business Communication*, 45(1), 61-78.
- Mansur, E. T., Mendelsohn, R., & Morrison, W. (2008). Climate change adaptation: A study of fuel choice and consumption in the US energy sector. *Journal of Environmental Economics and Management*, 55(2), 175-193.
- Marris, P. (1974). *Loss and change*. London, UK: Routledge & Kegan Paul.
- McKibbin, W. J., & Wilcoxon, P. J. (2002). The role of economics in climate change policy. *Journal of Economic Perspectives*, 16(2), 107-129.
- Merkur. (2012). RWE-Chef: Energiewende kostet etwa 300 Mrd. Retrieved September 19, 2012, from <http://www.merkur-online.de/nachrichten/wirtschaft-finanzen/rwe-chef-juergen-grossmann-aeussert-sich-zur-energiewende-zr-1566053.html>
- Newman, K. L. (2000). Organizational transformation during institutional upheaval. *Academy of Management Review*, 25(3), 602-619.

- Norgaard, K. M. (2006). "We don't really want to know": Environmental justice and socially organized denial of global warming in Norway. *Organization & Environment*, 19(3), 347-370.
- Norgaard, K. M. (2011). *Living in denial: Climate change, emotions and everyday life*. Cambridge, MA: MIT Press.
- Okereke, C., Wittneben, B., & Bowen, F. (2012). Climate change: Challenging business, transforming politics. *Business & Society*, 51(1), 7-30.
- Oliver, C. (1992). The antecedents of deinstitutionalization. *Organization Studies*, 13(4), 563-588.
- Pache, A.-C., & Santos, F. (2010). When worlds collide: The internal dynamics of organizational responses to conflicting institutional demands. *Academy of Management Review*, 35(3), 455-476.
- Payne, J. W., Bettman, J. R., & Johnson, E. J. (1992). Behavioral decision research: A constructive processing perspective. *Annual Review of Psychology*, 43(1), 87-131.
- Peters, E. M., Burraston, B., & Mertz, C. K. (2004). An emotion-based model of risk perception and stigma susceptibility: Cognitive appraisals of emotion, affective reactivity, worldviews, and risk perceptions in the generation of technological stigma. *Risk Analysis*, 24(5), 1349-1367.
- Pratt, M. G. (2000). The good, the bad, and the ambivalent: Managing identification among Amway distributors. *Administrative Science Quarterly*, 45(3), 456-493.
- Prigerson, H. G., Bierhals, A. J., Kasl, S. V., Reynolds, C., Shear, M. K., Day, N., ... & Jacobs, S. (1997). Traumatic grief as a risk factor for mental and physical morbidity. *American Journal of Psychiatry*, 154, 616-623.
- Prigerson, H. G., & Jacobs, S. C. (2001). Traumatic grief as a distinct disorder: A rationale, consensus criteria, and a preliminary empirical test. In M. S. Stroebe, R. O. Hansson, W. Stroebe & H. Schut (Eds.), *Handbook of bereavement research: Consequences, coping, and care* (pp. 588-613). Washington, DC: American Psychological Association.
- Puffer, S. M., & McCarthy, D. J. (2011). Two decades of Russian business and management research: An institutional theory perspective. *Academy of Management Perspectives*, 25(2), 21-36.
- Pulver, S. (2007). Making sense of corporate environmentalism: An environmental contestation approach to analyzing the causes and consequences of the climate change policy split in the oil industry. *Organization & Environment*, 20(1), 44-83.

- Russell, S., & Griffiths, A. (2008). The role of emotions in driving workplace pro-environmental behaviors. In W. Zerbe, N. M. Ashkanasy & C. E. J. Härtel (Eds.), *Managing emotions in the workplace* (pp. 83-107). New York: M.E. Sharpe.
- Sanders. C.M., Mauger, P.A., & Strong, P.N. (1985). *A manual for the Grief Experience Inventory*. Charlotte, NC: Center for the Study of Separation and Loss.
- Scherer, K. R. (2000). Emotion. In M. Hewstone & W. Stroebe (Eds.), *Introduction to social psychology: A European perspective* (3rd ed., pp. 151-191). Oxford: Blackwell.
- Scherer, K. R. (2001). Appraisal considered as a process of multi-level sequential checking. In K. R. Scherer, A. Schorr & T. Johnstone (Eds.), *Appraisal processes in emotion: Theory, methods, research* (pp. 92-120). New York and Oxford: Oxford University Press.
- Sekerka, L. E., & Stimel, D. (2012). Environmental sustainability decision-making: Clearing a path to change. *Journal of Public Affairs*, 12(3), 195-205.
- Shafir, E. B., Osherson, D. N., & Smith, E. E. (1993). The advantage model: A comparative theory of evaluation and choice under risk. *Organizational Behavior and Human Decision Processes*, 55(3), 325-378.
- Sharma, S. (2000). Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy. *Academy of Management Journal*, 43(4), 681-697.
- Shepherd, D. A. (2003). Learning from business failure: Propositions about the grief recovery process for the self-employed. *Academy of Management Review*, 28(2), 318-328.
- Shepherd, D. A., Covin, J., G. , & Kuratko, D., F. (2009). Project failure from corporate entrepreneurship: Managing the grief process. *Journal of Business Venturing*, 24(6), 588-600.
- Shepherd, D. A., & Kuratko, D. F. (2009). The death of an innovative project: How grief recovery enhances learning. *Business Horizons*, 52, 451-458.
- Shepherd, D. A., Patzelt, H., & Wolfe, M. (2011). Moving forward from project failure: Negative emotions, affective commitment, and learning from the experience. *Academy of Management Journal*, 54(6), 1229-1260.
- Sherry-Brennan, F., Devine-Wright, H., & Devine-Wright, P. (2010). Public understanding of hydrogen energy: A theoretical approach. *Energy Policy*, 38(10), 5311-5319.

- Shimizu, K. (2007). Prospect theory, behavioral theory, and the threat-rigidity thesis: Combinative effects on organizational decisions to divest formerly acquired units. *Academy of Management Journal*, 50(6), 1495-1514.
- Shore, L. M., Tetrick, L. E., Taylor, M. S., Shapiro, J. A. M. C., Liden, R. C., Parks, J. M., . . . Van Dyne, L. (2004). The employee-organization relationship: A timely concept in a period of transition. In J. J. Martocchio (Ed.), *Research in personnel and human resources management*, Vol 23. (pp. 291-370). US: Elsevier Science/JAI Press.
- Shove, E. (2010). Beyond the ABC: Climate change policy and theories of social change. *Environment and Planning A*, 42, 1273-1285.
- Smollan, R. K., & Sayers, J. G. (2009). Organizational culture, change and emotions: A qualitative study. *Journal of Change Management*, 9(4), 435-457.
- Staw, B. M., Sandelands, L. E., & Dutton, J. E. (1981). Threat-rigidity effects in organizational behavior: A multilevel analysis. *Administrative Science Quarterly*, 26(4), 501-524.
- Stern. (2007). "Deutsche Atomkraftwerke gehören zu den sichersten der Welt!". Retrieved September 19, 2012, from <http://www.stern.de/wirtschaft/news/unternehmen/eon-vorstandschef-deutsche-atomkraftwerke-gehoren-zu-den-sichersten-der-welt-593814.html>
- Suddaby, R., & Greenwood, R. (2005). Rhetorical strategies of legitimacy. *Administrative Science Quarterly*, 50(1), 35-67.
- SZ. (2011). "Was in Fukushima passiert ist, kann hier nicht passieren". Retrieved September 13, 2012, from <http://www.sueddeutsche.de/wirtschaft/wolfgang-reitzle-im-gespraech-wer-kritik-aeussert-geraet-schnell-ins-abseits-1.1094654>
- Thomas, J. B., Clark, S. M., & Gioia, D. A. (1993). Strategic sensemaking and organizational performance: Linkages among scanning, interpretation, action, and outcomes. *Academy of Management Journal*, 36(2), 239-270.
- Thomas, J. B., & McDaniel, R. R. (1990). Interpreting strategic issues: Effects of strategy and the information-processing structure of top management teams. *Academy of Management Journal*, 33(2), 286-306.
- Tushman, M. L., & Anderson, P. (1986). Technological discontinuities and organizational environments. *Administrative Science Quarterly*, 31(3), 439-439.
- Voronov, M., & Vince, R. (2012). Integrating emotions into the analysis of institutional work. *Academy of Management Review*, 37(1), 58-81.

- Walter, T. (1999). *On bereavement: The culture of grief*. Buckingham: Open University Press.
- Wang, M. K. (2011). Emotion regulation and stress. *Journal of Adult Development*, 18(2), 95-103.
- Webster (2001). *Webster's new college dictionary*. Boston, MA: Houghton Mifflin.
- Welt. (2012). Industrie will die Energiewende ausbremsen. Retrieved September 28, 2012, from <http://www.welt.de/wirtschaft/article108292848/Industrie-will-die-Energiewende-ausbremsen.html>
- Wright, C., & Nyberg, D. (2012). Working with passion: Emotionology, corporate environmentalism and climate change. *Human Relations*, 65(12), 1561-1587.
- Wüstenhagen, R., & Bilharz, M. (2006). Green energy market development in Germany: Effective public policy and emerging customer demand. *Energy Policy*, 34(13), 1681-1696.
- Zell, D. (2003). Organizational change as a process of death, dying, and rebirth. *Journal of Applied Behavioral Science*, 39(1), 73-96.

Third Paper

Strategic energy policy interpretation by major energy utilities⁹

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Abstract

This paper examines the strategic interpretation of energy policies as threat or opportunity by major energy utilities. Through an analysis of the corporate reports and a review of investments in wind energy projects of four case companies in Germany and Spain, this research shows that strategic policy interpretations of energy utilities differ widely between companies, despite operating in a similar policy environment. The study outlines that the strategic reaction of energy utilities can only partly be steered by policies. Drawing on the strategic issue interpretation literature, this paper theorizes about factors influencing the interpretation of a policy as threat or opportunity by key agents within energy utilities and discusses considerations for energy policymakers and practitioners in the industry.

Keywords: Energy utility strategy, Energy system transformation, Wind energy, Strategic issue interpretation, Decision-making

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Introduction

The European energy market is transforming. Driven by changing customer preferences, new policies, and technological opportunities, energy utilities adapt their strategies to react to changes in their organizational field and grasp market opportunities (Bird et al., 2002; Foxon et al., 2013; Stenzel & Frenzel, 2008; Wüstenhagen & Bilharz, 2006). The yearly investments in renewable energies in Europe for example rose with an annual average growth rate of 19 percent from \$19.6 billion in 2004 to \$79.9 billion in 2012 (UNEP, 2013). Large energy utilities play an important role in this transition as they on the one hand belong to the largest emitters of CO₂, on the other hand they have the resources to realize large-scale renewable energy projects like offshore wind parks or pump-storage power plants. National EU governments support this transformation through energy policies that aim to actively foster and steer the development and diffusion of renewable energy sources.

Interestingly, despite favorable policies and societal support, the strategic responses of energy utilities to new energy policies differ widely (Jacobsson & Lauber, 2006; Johnson & Jacobsson, 2001). Stenzel and Frenzel (2008) researched the strategic responses of energy utilities in Germany, Spain, and the United Kingdom (UK) to energy policy changes. They found that the four major German utilities followed a rather defensive strategy and combined operated only 1 percent of the installed capacity in the German wind market in 2005. By that time Spanish utilities were much more proactive, invested in the wind market from an early stage onwards and operated a large share of the Spanish wind energy sites. These studies significantly enhanced our understanding of the importance of energy policies as steering mechanism for corporate responses.

Beyond the findings of Stenzel and Frenzel (2008), this study indicates that strategic responses of energy utilities differ more on a corporate rather than a national level. This is supported by a closer look at the data of Stenzel and Frenzel (2008), which shows for example that Iberdrola and Endesa started at similar levels in the Spanish wind market in 2000, yet by 2005 Iberdrola had three times more installed capacity in wind energy than Endesa and operated 34 percent of the total installed capacity. By that time in Germany, E.ON had ten times the installed wind capacity of RWE and 112 times of Vattenfall. Opposing strategies of utilities can also be observed in their political actions. While Iberdrola actively endorsed policy schemes to support

renewables, RWE directly and indirectly lobbied against them (Stenzel & Frenzel, 2008).

Table 3 shows that the divergence of strategies continued in the consecutive years. By 2013, Iberdrola was still the largest operator of wind energy power plants not only in Spain but worldwide. At the same time, Endesa almost completely left the renewable energy industry after being acquired by Enel in 2007 and a strategic reorientation towards fossil energy sources. We can observe a similar development at German utilities, where E.ON had more than twice the installed capacity in wind energy plants than RWE in 2013. By the end of 2013, Iberdrola (43%) and RWE (29%) had significant wind energy operations in their home markets, while E.ON (0%) was focusing on wind energy projects abroad.

Table 3: Summary of the four case companies in 2013 in income, employees, electricity generation, total installed capacity, and total installed wind capacity

	E.ON	RWE	Endesa	Iberdrola
Sales, € billion	122,000	54,070	31,203	12,576
Employees	62,239	66,341	22,995	30,650
Electricity generation, billion kWh	245,200	216,700	132,427	136,347
Total capacity, MW	61,090	49,000	39,562	45,009
Wind capacity, MW	4,727	2,307	78 ¹⁰	12,964 ¹¹

Source: Based on annual reports

While the study of Stenzel and Frenzel (2008) has indicated how energy utilities react to policy changes, we do not know why some corporates perceive a new policy as opportunity and invest in a new market while others interpret it as threat and lobby against it. The development of diverging responses to an issue within an industry has been observed in other industries (cf. Aragón-Correa, 1998; Hart & Ahuja, 1996). One phenomenon driving the formulation of a strategic response is the interpretation of the issue as threat or opportunity by senior executives. Sharma (2000) analyzed the environmental strategies of 99 Canadian oil companies in response to regulatory

¹⁰ In October 2007 Endesa was acquired by Enel and transferred parts of its renewable energy capacities to Enel Green Energy. Prior to the transaction in 2008, Enel operated MW 3000 in wind capacity (Iberdrola: MW 9300).

¹¹ Including operations in Spain, USA, UK, Brazil, Mexico.

changes and found that despite operating in a similar policy environment, companies developed different strategic reactions depending on how key agents interpreted a policy. The perception of an issue as threat or opportunity in turn significantly impacts the actions of an organization (cf. Dutton & Jackson, 1987; Jackson & Dutton, 1988; George et al., 2006). This has implications on policymakers as the perception of their actions as threat or opportunity by senior executives can significantly influence the resources an organization allocates towards a certain energy technology and respectively support or hamper the achievement of policy objectives.

This study draws upon the findings of Stenzel and Frenzel (2008), provides recent data on the evolution of the German and Spanish energy market, and reviews the investment strategy and corporate communication of four major energy utilities in response to energy policy changes. Based on this data the implications of the interpretation of a policy as threat or opportunity are discussed and an analytic framework is developed to facilitate further research in this field. The paper thereby aims to answer three impending questions: firstly, why do the strategies of energy utilities operating in a similar policy and market environment differ so widely, secondly, which are the factors influencing the strategic decision-making of organizational leaders in the energy industry, and thirdly, how can policymakers influence the perception of a policy by senior managers and respectively the organization's willingness to invest.

Methodology

In response to these questions, longitudinal data over the period from 1999 to 2011 was gathered. The data is derived from two sources, firstly a review of the literature and publically available information to summarize energy policy changes in the respective period in Germany and Spain and secondly a content analysis of reports of the four case companies¹². The review of energy policy changes was used to identify important policy changes along the researched timeframe. The content analysis reveals information about how an issue is connoted and indicates if it is interpreted as threat or opportunity (Jackson & Dutton, 1988), and sheds light on issues concerning a firm and its strategic direction (Bowman, 1984). The analyzed data was derived from annual

¹² The data used in this study was partly gathered by a master student at the University of St. Gallen for his M.A. thesis (Vochem, 2012).

reports, sustainability reports, financial reports, operations reviews, corporate governance reports, and legal statements of the years 1999 until 2011, and where possible was further validated through external references. The search was coded around the terms “renewable energy” and “wind energy”. The results were checked manually to exclude any false results such as legal statements. In a second step, the results were reviewed to identify quotes referring to the interpretation of policy changes as threat or opportunity. The case companies E.ON and RWE in Germany and Iberdrola and Endesa in Spain were chosen as they showed diverging responses to renewable energy policies in the study of Stenzel and Frenzel (2008). Moreover as figure 4 illustrates, they were the largest players in their home markets and respectively affected by national energy policy changes. The policy review is limited to the wind energy market as all four case companies were active in this industry and as a number of energy policies that support the diffusion of wind energy¹³ were implemented during the researched timeframe. Germany and Spain are selected as both governments implemented renewable energy policy schemes and have an energy mix consisting of fossil, nuclear, and renewable energy sources.

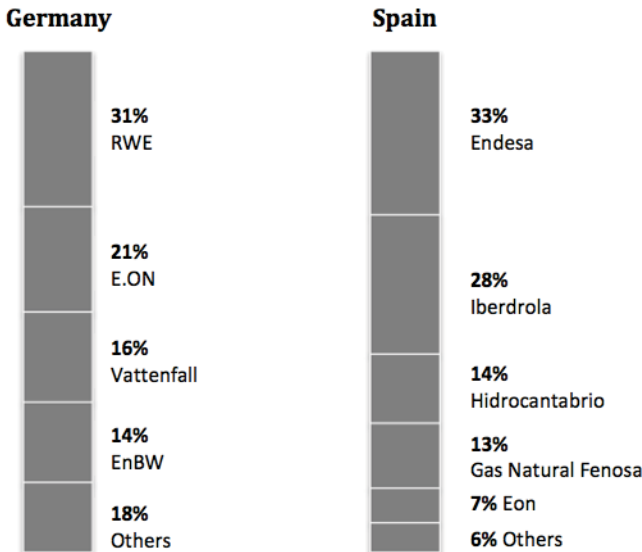


Figure 4: Market shares in electricity production in Germany and Spain in 2009

Source: Vochem (2012) adapted from Berschens (2011).

¹³ This analysis comprises assets in wind energy projects in which the case company has a stake. The data includes only sites in operation and excludes the ones under construction.

Results

The wind energy strategy of Iberdrola, Endesa, RWE, and E.ON in response to energy policy changes between 1999 and 2011 significantly differed over the years, as illustrated in figure 5. Iberdrola and Endesa followed a very similar investment strategy in wind energy projects until 2001. From 2002 onwards, Iberdrola significantly increased its share in renewables – especially wind projects – and became the leading operator of wind power plants worldwide in 2004. Endesa’s exposure in the wind market grew at a much slower pace and was later transferred to the renewable energy division of the parent company, ENEL green energy. E.ON invested in renewables much earlier than RWE, yet up to 2006 the wind energy capacities of both firms were at similarly low levels compared to the overall market development. From 2007 onwards, E.ON invested significantly more in wind energy projects and had more than double the total installed capacity of RWE in 2013.

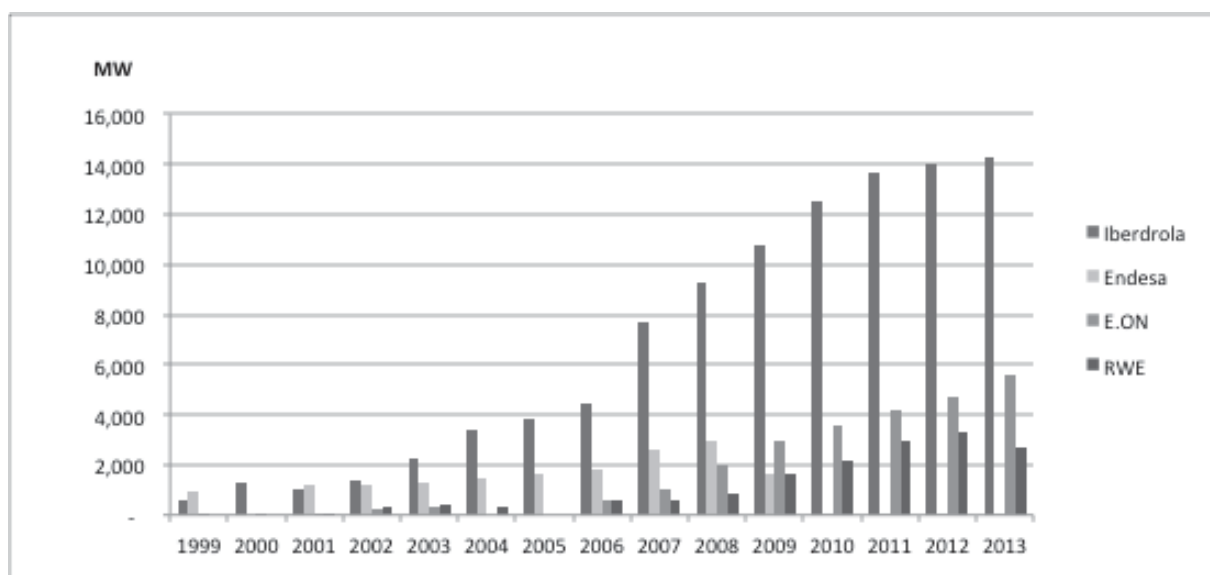


Figure 5: Installed capacities in new renewable energies of four case companies¹⁴

Source: Based on annual reports.

During the researched timeframe, the terms surrounding “renewable energies” and “wind energy” gained increasing prominence in the researched companies. The exception is Endesa, whose reporting on renewable declines after being acquired and

¹⁴ Excluding hydropower.

selling most of its renewable energy business. Figure 6 shows how often the keywords occurred per 100 pages and how they evolved over the researched period.

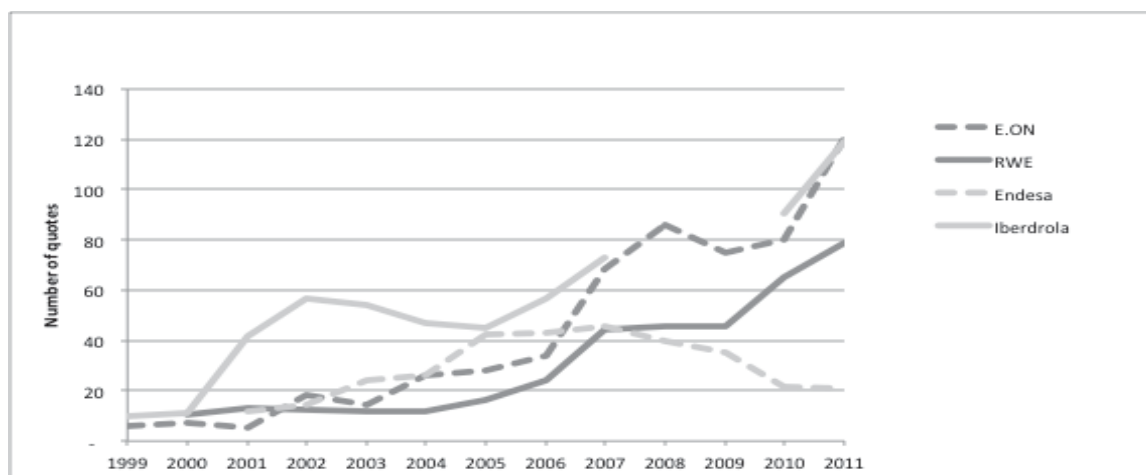


Figure 6: Average number of keywords per 100 pages of corporate report¹⁵

Source: Adapted from Vochem (2012).

In the following section I describe the strategy of the four case companies in greater detail and shed light on different corporate responses to energy policy changes through an analysis of their corporate communication and investment volume in wind energy projects.

E.ON

E.ON was founded in the late 1990s as a result of a merger between VEBA and VIAG, two major regional energy utilities in Western Germany¹⁶. It operates nuclear power plants as well as several coal- and gas-fired power plants, making it the third largest single emitter of CO₂ in Europe after Vattenfall and RWE in the EU ETS company emissions ranking (Carbon Market Data, 2012). E.ON's response to the emergence of renewable energies, in particular wind energy, can be segmented in three stages in which the company redefined its position towards renewables. Each stage is

¹⁵ For Endesa in the year 2000 and Iberdrola in the years 2008 and 2009 the structure, length, and content of the published documents differed significantly from other reports. These documents were therefore excluded from the analysis to allow inter- and intra-company comparability.

¹⁶ For the years prior to the foundation of E.ON, reports of VEBA and VIAG were analyzed.

characterized by a significant difference in the way E.ON communicates on renewables and illustrated by a rise in the number of quotes on renewables. The first stage is from 1999 until 2001, the second from 2002 until 2006, and the third from 2007 until 2011.

The initial stage runs from 1999 to 2001 and is reflected in few citations of renewables. With up to four pages in all corporate reports mentioning renewable and in particular wind energy, the topic was largely ignored despite major policy changes and a strong growth of the wind energy market during these years. No quotes on the topic did mention any capacities owned by E.ON. The few quotes that were in these reports were mostly negatively connoted, for example: “Under Germany’s Electricity Feed-In Law, grid operators must provide financial support to renewable energy sources” (VEBA 1999, p. 38), which underlines the perception of renewables as a threat rather than an opportunity to grow. E.ON’s reactive strategy was directed towards compliance with new policies and societal expectations and denied the opportunities that were inherent in a changing market.

The second stage is characterized by initial changes in the corporate discourse surrounding renewables and goes from 2002 until 2006. Driven by further energy policy changes and broad societal support for the energy transition in Germany, denial of change was not an option any more. The communication in corporate reports reflects this development. Between 2002 and 2006, about 25 statements related to renewables were on a low two-digit number of pages in the reviewed reports. When mentioned, renewable energies and energy policy changes are still mostly connoted negatively. In 2002, the CEO wrote that price cuts for customers could not be realized as “competition that followed the complete liberalization of Germany’s electricity sector [...] have largely been swallowed up by the eco tax and the German government’s subsidy schemes for regenerative energy” (E.ON, 2002, p. 6). In 2004, E.ON increasingly focuses on the importance of renewables for its future business and evaluates them as a viable business rather than an environmental expense. One objective is to “build a diversified generation portfolio – one that includes nuclear and renewable assets” (E.ON, 2004, p. 27). Five years after the amendment of the Renewable Energy Act, E.ON acknowledges its importance for the market. “Due in large part to a variety of European subsidy programs, renewable energies are playing an increasingly important role and continually increasing their share of the energy supply” (E.ON, 2006, p. 64). Here again the negative effects of renewables are mentioned, as wind power peaks are mentioned to threaten the stability of the grid.

This shift in focus indicates that the perception of renewables is slowly moving from threat to opportunity over the years. However, given the negative nature of some of these comments, the shift towards renewables is rather reactive than proactive due to the increasing pressure on the organization from its institutional environment. The inconsistent reporting on renewables indicates a company's state that is in transition, where the previous path is questioned and initial steps towards a new path are taken.

During the final stage from 2007 onwards, E.ON accepts the policy changes, which is expressed in an almost exclusively neutral or positive reporting on renewables and the respective policy environment. Between 2007 and 2011, 70 to 80 quotes on an average of 45 pages refer to renewables. The company reports on its investments especially in the wind market and acquisitions of competitors in this field, which indicates a significant strategic shift towards a new renewable energy path. E.ON acquired two competitors abroad to "increase E.ON's wind power capacity to around 900 megawatts, making E.ON one of the world's largest wind-farm operators" (E.ON, 2007, p. 23).

From 2008 onwards, E.ON states that new energy subsidies are important as they create investment opportunities for renewables. In 2010, E.ON launches its new strategy "Cleaner and better energy" in which an increase in renewable assets is a priority of the company. The CEO wrote: "We intend to further expand our renewables capacity and integrate it into a system of smart grids and storage devices" (E.ON, 2010, p. 3). To explore the opportunities of a renewable energy-based business model, E.ON also significantly adjusts its position on EU energy policies. They call for a "uniform EU law to support R[enewable] E[nergies] and emission trading" (E.ON, 2010, p. 59).

This change in perception of policy-driven changes from threat to opportunity is not only reflected in E.ON's communication and investments in the market but also its political activities. E.ON, among other major energy utilities, initially directly and indirectly lobbied for the abolishment of new regulations, which from 2005 onwards shifted towards changing the policy design (Stenzel & Frenzel, 2008; Wüstenhagen & Bilharz, 2006). By 2011, E.ON had 4035 MW installed capacity in wind energy projects and planned to significantly expand its activities in the renewable energy market. A significant share of these investments was abroad as the market in Germany was competitive and many good wind sites already taken by smaller players, which is one example of the high opportunity costs as a result of a late entry in the market.

RWE

RWE was established in 2000 after a merger with VEW, another major energy utility, in 2000¹⁷. In comparison to E.ON, RWE's strategic response, reflected in its investments in and communication on renewable energies, was different. From the start, RWE reacted more negatively on policy and market changes and expressed this notion in its corporate communication. Similar to E.ON, the company's interpretation of renewables evolved with time and rising institutional pressure to change. The company's response is again structured in three stages, which run from 1999 to 2005, 2006 to 2008, and 2009 to 2011. In contrast to E.ON, RWE continuously emphasized on the negative aspects of the energy transition and invested significantly less in renewables. It took RWE's management much longer to interpret renewables as a viable investment option and legitimate part of the energy landscape.

RWE largely denied renewable energies in its corporate communication and investment strategies until the year 2000. Neither wind nor other renewable energies were mentioned in any report, despite significant policy changes and market growth. In the following years, RWE strongly opposed the new legislation and proactively lobbied against the respective changes in the energy market. Renewables were perceived as a threat, which is illustrated in a number of quotes in the company's reports. Right after the Renewable Energy Act was adopted in 2000, the CEO-letter in the annual report states "The laws recently enacted to promote renewable energies and cogeneration have given rise to fresh burdens. [...] We consider the underlying approach misguided" (RWE, 1999, p. 7). Despite the negative evaluation of renewables, RWE reports on some initial investments in renewables, yet with very limited size and scope. The reporting on renewables continues to be at a very low level until 2005 with about 15 quotes per year. RWE also continues criticizing the German energy policies, for example changes to the Renewable Energy Act in 2005 (RWE, 2005, p. 56). Despite this assessment, RWE kept on investing in renewables, yet at a very low level. As noted by Stenzel and Frenzel (2008), RWE operated only 12 MW in installed wind capacity by 2005 (E.ON 112 MW).

¹⁷ One effect of the merger was the existence of two different company reports for the year 2000, which were both reviewed.

Between 2006 and 2008, renewables gained more prominence in RWE's communication. In this period RWE's annual report contains more than 60 quotes referring to wind or renewable energy on about 30 percent of its pages. This stage is illustrated in the company's plea for a combination of renewable and conventional energy sources. The CEO letter notes "security of supply cannot be guaranteed over future decades without using coal and nuclear power" (RWE, 2006, p. 6). This notion further evolves in the next year, when RWE states "In the future, energy from renewables – primarily wind and water – will be of central significance in ensuring a sustainable supply of energy" (RWE, 2007, p. 12). Wind is often described as the most promising new renewable energy due to its potential and the maturity of the industry. Yet despite a mostly positive discourse around renewables, corporate communication still contains several negative comments on renewables and energy policy, for example "burdens resulting from the German Renewable Energy Act became more severe" (RWE, 2007, p. 48), or that "renewables create new dependencies" (RWE, 2008, p. 25). This stage is characterized by a strong negative opinion on energy policy changes and low investments in renewables.

In the consecutive years, the ambiguity surrounding the strategic course of the company and criticism of parts of the renewable energy legislation continues. The company bargains over its future position and business model and still partly lobbies against renewable energy legislation, yet more nuanced than in previous years. RWE accepts wind energy as a core element of the future energy landscape and tries to strategically change the company. The company still stresses the importance of coal and nuclear energy as vital elements of the German energy mix as stable and predictable energy sources. Yet, interestingly and in line with policy targets, these industries are described as necessity to create the cash flow needed to finance renewable energy projects and the transition of the energy system (RWE, 2009, p. 25). The focus on renewables continues in 2011, where half of the strategy chapter is designated to renewables and in particular wind energy. "At the center of our growth strategy is the expansion of electricity generation from renewables. We intend to dedicate approximately €4 billion to this in the period from 2012 to 2014. Nearly half of these funds are earmarked for offshore wind farms. By 2020, the share of our electricity production capacity accounted for by renewable energy should have risen to at least 20%. At the end of 2011, it totaled 8%" (RWE, 2011, p. 97). The reports also outline continuous investments in conventional energy projects and stress the importance of coal, gas, and nuclear to guarantee baseload power and grid stability.

The top management publically admits the challenge that these changes present to the company. “Never before has RWE adapted its organization as quickly as it does today. But the energy markets have never changed as rapidly as they do today, either” (RWE, 2009, p. 18).

Endesa

Endesa is the largest energy producer in Spain with a market share of 33 percent in 2011. The company invested in renewables – especially wind power – from an early stage onwards. It was the first to install a wind turbine in Spain and already in 1998 had a subsidiary called “Made” that planned, constructed, and operated wind plants in Spain and internationally” (Endesa, 1998, p. 56). However, similar to RWE and E.ON, the company’s engagement in renewables developed over the years along changes in the firm’s institutional environment. The different policy changes in Spain are largely supported and over the years, more resources are allocated towards renewable energy projects. This process is reflected in a rising number of connotations on this topic in corporate reports between 1999 and 2011.

Endesa continuously communicated about renewable energies in all analyzed reports. In none of these reports, one negative connotation of renewables or renewable energy policies was observed. After the first significant policy changes in Spain, Endesa founded the new business unit “Cogeneration and Renewables” in 1998, which aimed to invest in the new market and diversify the company’s strategic portfolio (Endesa, 1998, p. 23). Wind energy is seen as “now becoming important in the electricity generation system” (Endesa, 2002, p. 69). The number of words referring to renewables slowly rises between 1999 and 2002 at about 20 quotes per report and year. In each report, one sub-chapter with two pages is dedicated to renewables. In the consecutive years, the reporting of Endesa on renewables continues to gain prominence in its corporate communication. In 2003 Endesa announces its plan to allocate about a third of its investments to renewable energy projects for the next five years. “Most of the total installed capacity will relate to wind power, a subsector in which the company has a consolidated position” (Endesa, 2003, p. 119).

The positive reporting on renewables further increases in the period between the years 2005 and 2008. However, while expanding its activities internationally, Endesa lost part of its share in the Spanish wind market, which was down to 15 percent by 2005 at “a total capacity of 1131 MW in service and 412 MW under construction” (Endesa,

2005, p. 77). The strategic shift towards renewables continues in 2006. “Endesa is especially focused on growth in renewable energies, which will have an increasing weight in its generation mix” (Endesa, 2006, p. 80). As in previous years, Endesa also describes policy changes on national and EU level and the implications on its business. This communication on energy policy is in a neutral or positive tone. In 2007, the strategic focus on renewables gains further prominence in Endesa’s reporting. In their annual letter to all stakeholders, the CEO states that Endesa’s future should be “based on an energy mix with a greater focus on renewables, which will result in a drastic cut in CO₂ emissions” (Endesa, 2007, p. 9).

CO₂ emissions and policy changes on EU level in this regard are explained in greater detail and the implications and targets of Endesa in the field mentioned. The company also reports on the steep increase in renewable energy production and an additional capacity of 871 MW in 2007.

In 2007, Endesa also reported on first effects of its acquisition by Enel, an Italian based energy utility, and Acciona, a Spanish construction firm with operations in the energy market. Assets abroad, including renewable energy sites, are sold to E.ON, which reflects E.ON’s strategy to further focus on renewables during this time. Large parts of the annual report of the following year 2008 explain the transactions between the companies in greater detail. Interestingly, after the acquisition of the company, renewable energies are not mentioned in the section on Endesa’s strategy any more. Given the increased focus on this field in previous years, this marks a major shift in the company’s strategic direction. Respectively, the reports of 2010 and 2011 have a significantly lower number of references to renewable energies than previous years. Renewables became a minor topic again, however, the company still reports on investments in wind, solar, hydro, tidal, and biomass projects.

Iberdrola

In 1998, Iberdrola was the second largest energy utility in the Spanish energy market after Endesa. The company was structured as many other major players in the industry and operated fossil as well as nuclear energy power plants and the grid in parts of the country before focusing its strategy on renewable energies. Iberdrola invested in renewables from a comparably early stage onwards and already in 1998 operated 364 MW in wind energy capacity as well as 88 MW in hydroelectric mini-stations. In comparison, none of the German energy utilities had any significant investments in

renewables at the time. Iberdrola consequently pursued a renewable energy strategy between the analyzed periods from 1998 to 2011¹⁸. During this time, the company increasingly invested in renewables and reported on its achievements and renewable energy policies. It became the world's largest operator of wind energy farms in 2004. The content analysis shows that the coverage of renewable energies significantly rose during the observed period.

Between 1998 and 2001, renewables and in particular wind energy were mentioned ten times. During this period, renewables were still a side topic, yet reported on in a positive tone. |One report states, "one interesting new development (...) was the incorporation of Ibernova, which was set up to develop electricity power stations using renewable energy source" (Iberdrola, 1998, p. 33). In the following years, Iberdrola constantly expands its operations in the field and doubles its installed capacity in wind energy projects every year with 479 MW in 1999 and 1,157 MW in 2000. The chairman noted "with wind power production now expected to produce more than 7,500 GWh, we are fully confident of further consolidating our present unassailable lead in the renewable energy field" (Iberdrola, 2000, p. 7). From 2001 onwards, Iberdrola strives to become the world's leading operator of renewable energy, with a distinct focus on wind energy power generation. While RWE in Germany comments on the negative aspects of the new policies for its business very aggressively, Iberdrola strives to achieve "a position to make the most of the opportunities for profitable growth inherent in this type of energy, particularly as a consequence of the European Directive and Spanish legislation concerning the use of renewables in electricity production, and the commitments deriving from the Kyoto Protocol" (Iberdrola, 2004, p. 26). In line with Endesa, Iberdrola acknowledges the importance of renewable energies to prevent climate change and the role of energy utilities in this regard, which differs from reactions of E.ON and especially RWE. "The company's strategy to grow in the renewable energy industry is in line with its commitment to the environment and sustainable development, and also complies to the Kyoto Protocol and the EU Emissions Trading Directive" (Iberdrola, 2004, p. 78). Internationally the company has operations in the United States, Canada, Brazil, and

¹⁸ Iberdrola used different types of reports with different structures and designs to report on its activities. Therefore annual reports, sustainability reports, and legal statements were reviewed. The reports of the years 2008 and 2009 were excluded from the content analysis as the structure and content made it incomparable with former and later reports.

several European countries. In this regard the importance of subsidies is mentioned a number of times. “Supporting frameworks for renewable energy in the countries in which Iberdrola is present involve a boost for the company’s wind power development plan” (Iberdrola, 2007, p. 118). Iberdrola not only changed the way it produces energy but also innovates its product portfolio. Since 2003 it offers electricity from renewable energy sources for a premium to its customers. The company also states the positive effects of renewables on its financial results and its effects on the company’s position in the market. “Iberdrola has been one step ahead of the trends in the industry” (Iberdrola, 2005, p. 3).

Regarding the development of new renewable energy policies, Iberdrola supports government’s “promotion of renewable energy and energy efficiency” (Iberdrola, 2007, p. 180), and “has become one of the major driving forces behind such change” (Iberdrola, 2006, p. 56). From 2007 onwards, Iberdrola moves further towards becoming a global renewable energy utility. Next to its organic growth the company acquired further stakes of other companies. In 2007 it bought Scottish Power with renewable energy assets in the United States and United Kingdom and founded a new business unit to acquire companies that develop renewable energy innovations. Iberdrola financed these investments with an initial public offering of its renewable energy division in 2007.

In the following years, Iberdrola almost exclusively communicated on its renewable energy operations. In 2010, 47 quotes on 52 pages and in 2011 56 quotes on 47 pages refer to renewables. The company announced to invest €5.3 billion in renewable energy projects and further €5.6 billion into its grids. Significant investments are planned for offshore wind parks, which according to the company’s annual reports marked a “second revolution in renewable energies” (Iberdrola, 2007, p. 32). From 2011 onwards, renewables have the largest installed capacity within Iberdrola’s energy portfolio with 13,690 MW, representing 30.5 percent (Iberdrola, 2011, p. 18).

Discussion

Can policymakers influence and steer corporate investments in a certain technology and if so, how? The question gained much attention by academics and is especially relevant for energy policymakers as the market is significantly influenced by their decisions. The implementation of renewable energy subsidy schemes created a comparably predictable and economically interesting investment environment in many

European countries. In response, some large energy utilities lobbied against the change while others significantly invested in renewables. The phenomenon of diverging strategic responses to regulatory change is not unique for the European energy industry and has been observed in different contexts and markets. The reactions to regulatory change of the U.S. chemical industry (Hoffman, 1997), Canadian oil industry (Sharma, 2000), or oil refining industry (Logsdon, 1985) are just some examples. The perception of an issue as threat restricts information processing and constricts control (Staw et al., 1981). The result is path dependent behavior, where individuals pursue entrenched routines and practices. On the contrary, the perception of an issue like a new energy policy as opportunity allows organizations and individuals to go beyond their routines and explore new paths (Chattopadhyay, et al., 2001; George et al., 2006). Whether an individual or organization evaluates an issue as threat or opportunity depends on three factors: gain and loss considerations, the perceived controllability of an issue, and perceptual and emotional aspects (Dutton & Jackson, 1987; Jackson & Dutton, 1988; Sharma, 2000). As reflected in figure 7, these factors influence the perception of a major issue like a new energy policy, which in turn corresponds in a proactive or defensive organizational response (Dutton & Jackson, 1987; Jackson & Dutton, 1988; Sharma, 2000; Weick & Kiesler, 1979).

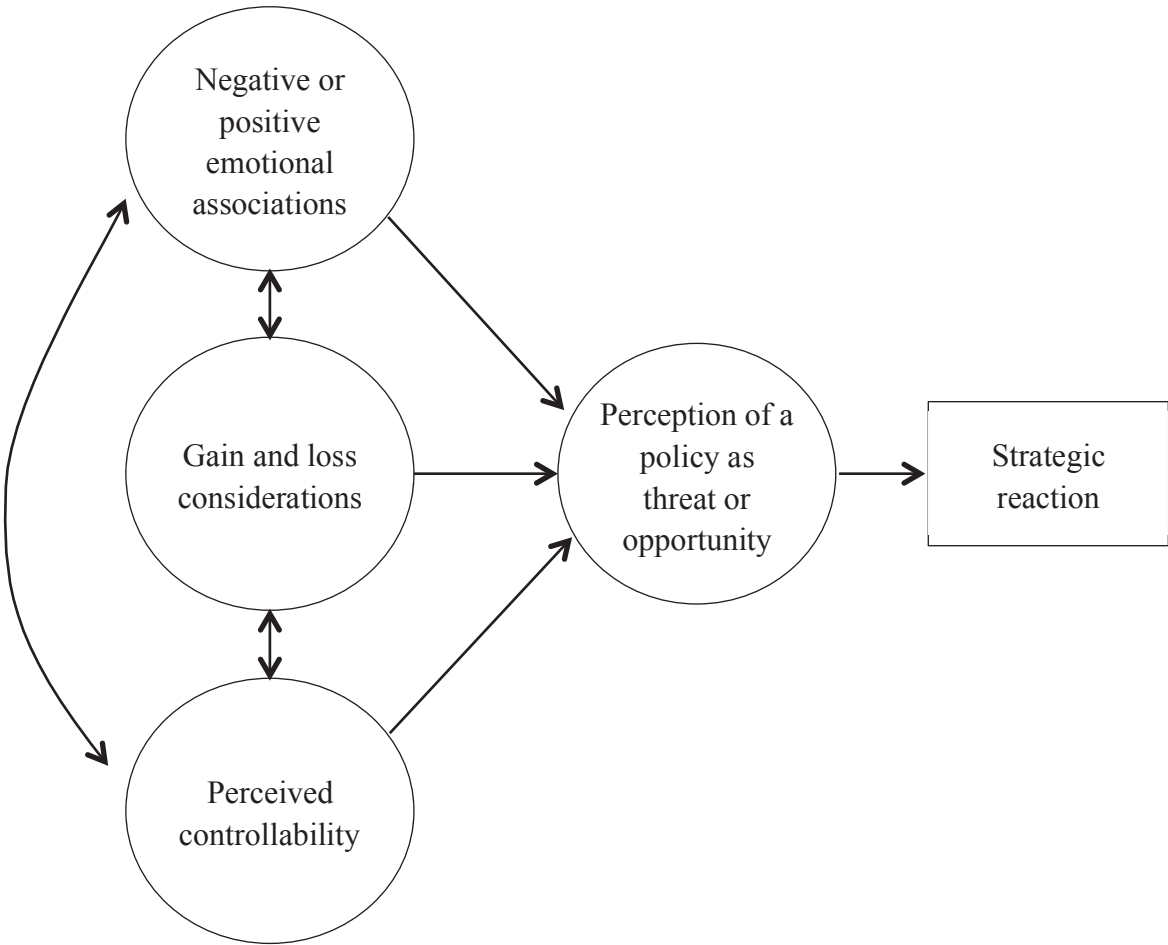


Figure 7: Factors influencing the perception of a policy as threat or opportunity
Source: Own illustration based on Sharma, Pablo, and Vredenburg (1999).

Translated into an energy policy context, the interpretation of a new policy or policy change by key agents within the energy industry impacts their likelihood to support or hamper the achievement of the policy goals. Energy utilities could for example invest in lobbying against a renewable energy policy rather than using their resources to invest in renewable energy projects, as observed in the German energy market (Stenzel & Frenzel, 2008). Consecutively I discuss how the data about the strategic change of the four case companies along the researched timeframe supports the proposed model in figure 7.

Negative or Positive Emotional Associations

Negative and positive emotional associations are a result of cognitive appraisals in response to a significant event (Lazarus, 1991; Scherer, 2001). An event is emotionally assessed based on the individual's personal values, goals, or social norms (Scherer, 2000). Respectively, the perception of new policies as threat or as opportunity depends on the individual leader's values, experience, and social and organizational context. A major event that is negatively perceived can lead to a strong emotional response. A new policy that determines the end of a certain industry, for example the end of subsidies for the coal industry or the phase-out of nuclear, can trigger denial, anger, bargaining, and depression in a leader similar to the stages of grief an individual goes through after a major loss (cf. Kübler-Ross, 1969; Friedrich & Wüstenhagen, 2014). To gather data about emotional associations from corporate reports is challenging because the nature of corporate documents is fact oriented and rational. Other sources like interviews can generate anecdotal evidence about emotional associations. In an interview in 2012, RWE's CEO stated "we are a company that has to fight for its future. The energy transition made it clear for the first time that it works without us. Many employees are scared and afraid. They ask me: Do we still have a company in 10 years? Or are we gone forever?" (Höfler, 2012, p. 69). Such quote indicates that many RWE employees have negative emotional associations with renewable energy policies and the respective change of their company. Research of Sharma et al. (1999) showed that individuals from organizations that exhibit proactive environmental strategies attended to information about the gains that could be made from a variety of initiatives and looked for ways to build these into their strategic and operational decision-making processes. Someone from outside the energy industry with experience on sustainability-driven policy changes might for example have a more unbiased view on new energy policies and be more likely to interpret renewables as an opportunity than someone who made his/her career in fossil or nuclear energy. This study calls for further research investigating the effects of a leader's background, emotions, capabilities, and the organizational context on his/her perception of a policy.

Gain and Loss Considerations

E.ON's communication and investment strategy outlines how gain and loss considerations affected their investment strategy. In the year 2000, E.ON discussed the

implications of recent energy policy changes under “external risks” (VEBA, 2000, p. 36). Respectively the company did not connect any gain considerations to renewables and no investments were made during this time. This changes with increasing public and political pressure, which is reflected in the corporate discourse. From 2007 onwards E.ON started connecting renewable energy policies with gain considerations, which is exemplified in the statement “Renewables like wind and hydro are already important ingredients of our energy mix. They’ll be indispensable in the future because they combine climate protection and fuel independence” (E.ON, 2008, p. 41). This shift is reflected in opportunistic behavior and increasing investments in wind energy projects. Respectively, it is important to develop organizational and individual targets that are connected to a new policy or technology to drive the organization towards exploring the opportunities connected to change. Sharma (2000) found that to drive innovation in an industry and limit the risk of becoming path dependent, it is important to include long-term environmental and innovation criteria along with economic criteria in the performance evaluation of key agents. Further research could analyze how organizational and individual targets in the four case companies were connected towards exploring opportunities of new policies and technologies.

Perceived Controllability

The third factor influencing the interpretation of an issue is perceived control. Jackson and Dutton (1988) summarized that feelings of control seem to derive from perceived autonomy about how to respond and freedom to choose whether to respond to an issue, access to resources or means for resolving the issue, and feelings of personal competence. The Spanish utilities Iberdrola and Endesa were among the first to operate wind power plants in their country and invested in renewables from an early stage onwards, indicating that the leadership team had a feeling of high personal competence when new policies supporting renewables were implemented. Besides, their corporate reports indicate resources and means for resolving the issue as their organizations were in a comparably solid financial position and had experienced staff in their renewable energy division and consulting unit to operationalize new market opportunities. In Germany, RWE and E.ON had no capacities in renewables when the Electricity Feed-In Law was adopted. Respectively, it can be argued that the leadership team had the feeling of low personal competence to explore the renewable energy technologies and a lack of internal resources to successfully work in the new

market. E.ON established these resources early through investments and acquisitions and respectively moved towards exploring renewable energy market opportunities earlier and faster than RWE. E.ON's strategy underlines the importance to explore new technologies and markets in the organizational field from an early stage onwards to gain a first mover advantage (Miles et al., 1978).

Limitations

The data gathered in this study only partly contributes towards answering the question, which factors influenced the strategic interpretation of a policy in the energy industry. Especially the unavailability of an objective measure of the factor emotional associations is a limitation of this study. However, the data provides some initial anecdotal evidence about gain and loss considerations and perceived control. I call for further studies researching the factors and determinants influencing the interpretation of energy policies by major energy utilities as threat or opportunity.

A content analysis of corporate reports is a valid method to gain insights about firm strategies, yet, given the nature of such reports, further methods should be used to shed light on strategic change and its underlying drivers in the energy industry. Especially quantitative methods could further test the proposed analytic framework in figure 7.

Each of the four case companies are active in international markets, therefore national energy policy changes have a limited effect on the firm's strategy. However, many of the analyzed reports included direct references to policy changes in their home country, which indicates the significance of these changes.

This study is focusing on the issue interpretation literature to explain the development of diverging strategic policy responses. Other perspectives, such as new institutional or agency theory, could also explain the phenomenon and further enhance our knowledge about the issue.

Conclusion and Policy Implications

In Germany, E.ON and RWE responded with a defensive strategy and lobbied against the new institutions, which is reflected in their corporate communication and in line with previous studies (Stenzel & Frenzel, 2008; Wüstenhagen & Bilharz, 2006). A closer look at the data reveals that E.ON argued less aggressive than RWE and

invested significantly more in renewable energy projects during the researched timeframe. At first, both companies denied the opportunities of the new market and responded passively to renewables. The perception of an issue as a threat is illustrated by a minimal response to regulatory demands by denying responsibility and adjusting only those parts of a business that are directly affected by a new policy (Dutton & Dukerich, 1991; Sharma et al., 1999). With time and increasing societal and governmental support for the energy transition, both companies moved towards interpreting renewables and the respective policy changes less as a threat and more as an opportunity. However, E.ON was more proactive and positive during each stage, while RWE kept stressing on the negative implications of the Renewable Energy Act.

In Spain, the evolution of the response to energy policy changes of the two major energy utilities Endesa and Iberdrola was opposite to the reaction of RWE and E.ON. Both utilities supported the new legislation and invested in renewables from an early stage onwards. Yet, Iberdrola expressed a more positive connotation and invested significantly more in renewable energy projects. Iberdrola transformed towards becoming a major renewable energy utility. While Endesa sold most of its renewable energy capacities to E.ON and Enel after being acquired in 2007, Iberdrola acquired several competitors and became the largest operator of renewable energies by 2004. Very different to E.ON and especially RWE, Endesa and especially Iberdrola actively supported new energy policies on a national and European level. By 2011, both companies had very different strategies, one working towards manifesting its position as leading global operator of renewable energies, the other reoriented towards conventional energy sources with renewables only being a niche business.

This research has important implications for the industry. If a new institutional landscape is about to form, it is important for an organization to have a leadership team that explores and grasp the opportunities connected to the change. If a company uses its resources to fight the inevitable, it might endure high opportunity costs. The example of RWE's strategic response to renewable energies illustrates the importance of the interpretation of an issue and its effects on wellbeing of the company. Between 2002 and 2012, the S&P credit rating of RWE fell from AA- to BBB+, the company had to lay off thousands of employees, and the net debt rose to more than €20 billion in 2011. The findings indicate that it is vital for an organization to have a leadership team that interprets an issue as unbiased as possible especially during times of significant changes in the organizational field. I call for further research to identify how the professional background of key agents influences the perception of a new policy.

Moreover, a qualitative study focusing on the perception of key agents of policy changes could shed light on the underlying drivers behind the interpretation of an issue. The findings of Stenzel and Frenzel (2008) and this research suggest that the energy industry is an interesting case for such researches. Consecutively I outline the implications of this work for the development of effective energy policies.

One objective of energy policies is to influence and steer a market or industry towards a predefined direction. In the energy industry, many European governments aim to support the diffusion of renewable energy sources to reduce environmental hazards connected to conventional energy sources, become more independent from definite and often foreign resources, and drive innovation. While some policies aim to support individuals to implement renewables on their premises, subsidy schemes for large-scale projects like wind energy farms require institutional investments. Major energy utilities often have the financial means, market experience, and management skills to invest in such large-scale projects. The analysis of the Spanish wind energy market outlines that subsidy schemes and a stable policy environment can stimulate major players in the industry to allocate significant resources towards a new technology, thereby contributing to the achievement of the policy objectives. These findings are in line with previous studies (cf. Stenzel & Frenzel, 2008; Wüstenhagen & Bilharz, 2006). However, this study also shows that the creation of favorable policies for a new technology does not automatically lead major players to invest. The literature on strategic issue interpretation shows that the actions an organization takes in response to a new policy largely depend on its interpretation by key agents as threat or opportunity. The underlying cognitive processes connected to the interpretation of an issue depend on three factors: positive or negative emotional associations, gain and loss considerations, and the perceived controllability of an issue. While these factors partly depend on an individual's values, capabilities, and the organizational and societal context, I argue that policymakers have the possibility to influence these factors. Policymakers need to be aware that their decisions can trigger strong emotional reactions within the industry they target, which in turn can influence the industry's willingness to support a policy. More positive emotional associations can be achieved by adapting the communication style towards key decision-makers. Policymakers should stress on the opportunities connected to a new policy for established organizations in the industry. Moreover, by stressing the irreversible direction towards a sustainable energy system, policymakers can create certainty and a predictable investment environment for the industry. To increase the perceived

controllability over an issue, policymakers can outline what resources and capabilities are required to sustain in the new business environment. While this goes beyond the usual scope of policymakers, it could improve an individual's perception of a policy as they feel that their concerns are being considered, which in turn gives them a greater feeling control. Policymakers could outline potential opportunities for the industry and the irreversible nature of the policy to increase investment certainty, one of the major factors for institutional investors (Bürer & Wüstenhagen, 2009). Thereby, energy utilities can develop renewable energy capabilities and their leaders a greater feeling of control. This could change their perception of an issue and lead to a more opportunity driven organizational response.

However, when reviewing the development of the German wind energy market, it becomes obvious that policy objectives for an industry can be achieved without the participation of major industry players. Due to the late and hesitant strategic redirection towards renewable and especially wind energy sources, the major two German energy utilities RWE and E.ON only operated a fraction of the German wind market by 2011. So if policy targets are achieved, why should policymakers care about policy support by major players in the industry? I argue that investments of major players in an industry can accelerate the achievement of policy targets. The case of Iberdrola shows that major utilities can drive a change in the energy system. Moreover, such a strategic redirection of major industry players can lead to positive side effects like job creation or investments abroad that go beyond the scope of the policy objectives. Besides, the case of RWE shows that established organizations within an industry that interpret a new policy as threat do not just deny the change but actively lobby against it, which complicates the work of policymakers and potentially threatens the political and societal legitimacy of their actions. A strategic misinterpretation of a key issue in the industry can threaten the existence of an organization. Major players in an industry are important taxpayers and employers and their wellbeing is in the interest of many. Respectively, I argue that policymakers should engage in a dialogue with key industry agents and support them in preparing and adapting to a new institutional environment.

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References

- Aragón-Correa, J. A. (1998). Strategic proactivity and firm approach to the natural environment. *Academy of management Journal*, 41(5), 556-567.
- Berschens, R. (2011, January 26). EU macht Druck auf Paris. *Handelsblatt*, 018, 14.
- Bird, L., Wüstenhagen, R., & Aabakken, J. (2002). A review of international green power markets: recent experience, trends, and market drivers. *Renewable and Sustainable Energy Reviews*, 6(6), 513-536.
- Bowman, E. H. (1984). Content analysis of annual reports for corporate strategy and risk. *Interfaces*, 14(1), 61-71.
- Bürer, M. J., & Wüstenhagen, R. (2009). Which renewable energy policy is a venture capitalist's best friend? Empirical evidence from a survey of international cleantech investors. *Energy Policy*, 37(12), 4997-5006.
- Carbon Market Data. (2012, May). Carbon Market Data publishes the EU ETS Company Rankings 2011. Retrieved November 28, 2013, from <https://carbonmarketdata.com/files/publications/EU%20ETS%202012%20Company%20Rankings%20-%204%20June%202013.doc>
- Chattopadhyay, P., Glick, W. H., & Huber, G. P. (2001). Organizational actions in response to threats and opportunities. *Academy of Management Journal*, 44(5), 937-955.
- Dutton, J. E., & Dukerich, J. M. (1991). Keeping an eye on the mirror: Image and identity in organizational adaptation. *Academy of management journal*, 34(3), 517-554.
- Dutton, J. E., & Jackson, S. E. (1987). Categorizing strategic issues: Links to organizational action. *Academy of Management Review*, 12(1), 76-90.
- E.ON (2001). *E.ON 2000 Annual Report*. Düsseldorf
- E.ON (2002). *E.ON 2001 Annual Report*. Düsseldorf
- E.ON (2003). *E.ON 2002 Annual Report* Düsseldorf
- E.ON (2004). *E.ON 2003 Annual Report*. Düsseldorf
- E.ON (2005). *E.ON 2004 Annual Report*. Düsseldorf
- E.ON (2006). *E.ON 2005 Annual Report*. Düsseldorf
- E.ON (2007). *E.ON 2006 Annual Report*. Düsseldorf
- E.ON (2008). *E.ON 2007 Annual Report*. Düsseldorf

- E.ON (2009). *E.ON 2008 Company Report. Annual Report Part I/II*. Düsseldorf.
- E.ON (2010). *E.ON 2009 Company Report. Annual Report Part I/II*. Düsseldorf.
- E.ON (2011). *Cleaner & better energy. Company Report*. Düsseldorf.
- E.ON (2012). *E.ON 2011 Annual Report*. Düsseldorf.
- E.ON (2013). *E.ON 2012 Annual Report*. Düsseldorf.
- E.ON (2014). *E.ON 2013 Annual Report*. Düsseldorf.
- Endesa (1999). *Endesa Annual Report 1998*. Madrid.
- Endesa (2000). *Endesa Annual Report 1999*. Madrid.
- Endesa (2002). *Endesa 2001 Annual Report*. Madrid.
- Endesa (2003). *Endesa Annual Report 2002*. Madrid.
- Endesa (2004). *Endesa Annual Report 2003. Operations review*. Madrid.
- Endesa (2005). *Endesa Annual Report 2004. Operations review*. Madrid.
- Endesa (2006). *Endesa Annual Report 2005. Operations review*. Madrid.
- Endesa (2007). *Endesa Annual Report 2006. Operations review*. Madrid.
- Endesa (2008). *Endesa Annual Report 2007. Activities report*. Madrid.
- Endesa (2009). *Endesa Annual Report 2008. Operations review*. Madrid.
- Endesa (2010). *Endesa Annual Report 2009. Operations review*. Madrid.
- Endesa (2011). *Endesa Annual Report 2010. Activities*. Madrid.
- Endesa (2012). *Endesa Annual Report 2011. Activities*. Madrid.
- Endesa (2013). *Endesa Annual Report 2012. Activities*. Madrid.
- Endesa (2014). *Endesa Annual Report 2013. Activities*. Madrid.
- Foxon, T. J., Pearson, P. J., Arapostathis, S., Carlsson-Hyslop, A., & Thornton, J. (2013). Branching points for transition pathways: assessing responses of actors to challenges on pathways to a low carbon future. *Energy Policy*, 52, 146-158.
- Friedrich, E., Wüstenhagen, R. (2014). Leading organizations through the stages of grief: The development of negative emotions over environmental change. *Business & Society*, Forthcoming.
- George, E., Chattopadhyay, P., Sitkin, S. B., & Barden, J. (2006). Cognitive underpinnings of institutional persistence and change: A framing perspective. *Academy of Management Review*, 31(2), 347-365.
- Hart, S. L., & Ahuja, G. (1996). Does it pay to be green? An empirical examination of the relationship between emission reduction and firm performance. *Business strategy and the Environment*, 5(1), 30-37.
- Höfler, N. (2012). RWE. *Stern*, 47, 68-69.
- Iberdrola (1999). *Iberdrola 1998 Annual Report*. Bilbao.

- Iberdrola (2000). *Iberdrola 1999 Annual Report*. Bilbao.
- Iberdrola (2001). *Iberdrola Annual Report 2000*. Bilbao.
- Iberdrola (2002). *Iberdrola Annual Report 2001*. Bilbao.
- Iberdrola (2003). *Iberdrola Annual Report 2002*. Bilbao.
- Iberdrola (2004). *Iberdrola Annual Report 2003. Business. Environmental. Social*. Bilbao.
- Iberdrola (2005). *Iberdrola Sustainability Report 2004*. Bilbao.
- Iberdrola (2006). *Iberdrola Sustainability Report 2005*. Bilbao.
- Iberdrola (2007). *Iberdrola Sustainability Report 2006*. Bilbao.
- Iberdrola (2008). *Iberdrola Sustainability Report 2007*. Bilbao.
- Iberdrola (2009). *Iberdrola Sustainability Report 2008*. Bilbao.
- Iberdrola (2010). *Iberdrola Sustainability Report 2009*. Bilbao.
- Iberdrola (2011). *Iberdrola Annual Report 2010*. Bilbao.
- Iberdrola (2012). *Iberdrola Annual Report 2011*. Bilbao.
- Iberdrola (2013). *Iberdrola Annual Report 2012*. Bilbao.
- Iberdrola (2014). *Iberdrola Annual Report 2013*. Bilbao.
- Jackson, S. E., & Dutton, J. E. (1988). Discerning threats and opportunities. *Administrative Science Quarterly*, 370-387.
- Jacobsson, S., & Lauber, V. (2006). The politics and policy of energy system transformation—explaining the German diffusion of renewable energy technology. *Energy Policy*, 34(3), 256-276.
- Johnson, A., & Jacobsson, S. (2001). Inducement and blocking mechanisms in the development of a new industry: the case of renewable energy technology in Sweden. *Technology and the Market, Demand, Users and Innovation*, Edward Elgar, 89-111.
- Kübler-Ross, E. (1969). *On Death and Dying*. New York, NY: Macmillan.
- Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.
- Logsdon, J. M. (1985). Organizational responses to environmental issues: Oil refining companies and air pollution. In L. E. Preston (Ed.), *Research in corporate social performance and policy* (Vol. 7, pp. 47-72). Greenwich, CT: JAI.
- Miles, R. E., Snow, C. C., Meyer, A. D., & Coleman, H. J. (1978). Organizational strategy, structure, and process. *Academy of Management Review*, 3(3), 546-562.
- RWE. (1998). *RWE Annual Report 1997/1998*. Essen.
- RWE. (1999). *RWE Annual Report 1998/1999*. Essen.
- RWE. (2000). *RWE Annual Report 1999/2000*. Essen.

- RWE (2001). *Annual Report 2000 of RWE AG. July 1 through December 31, 2000*. Essen.
- RWE. (2001). *RWE Annual Report 2000/01*. Essen.
- RWE. (2002). *RWE Annual Report 2001. Truncated financial year July - December*. Essen.
- RWE. (2003). *RWE Annual Report 2002*. Essen.
- RWE. (2004). *RWE Annual Report 2003*. Essen. RWE. (2005). *RWE Annual Report 2004*. Essen.
- RWE. (2006). *RWE Annual Report 2005*. Essen.
- RWE. (2007). *RWE Annual Report 2006*. Essen.
- RWE. (2008). *RWE Annual Report 2007*. Essen.
- RWE. (2009). *RWE Annual Report 2008*. Essen.
- RWE. (2010). *RWE Annual Report 2009*. Essen.
- RWE. (2011). *RWE Annual Report 2010*. Essen.
- RWE. (2012). *RWE Annual Report 2011*. Essen.
- RWE. (2013). *RWE Annual Report 2012*. Essen.
- RWE. (2014). *RWE Annual Report 2013*. Essen.
- Scherer, K. R. (2000). Emotion. In M. Hewstone & W. Stroebe (Eds.), *Introduction to social psychology: A European perspective* (3rd ed., pp. 151-191). Oxford: Blackwell.
- Scherer, K. R. (2001). Appraisal Considered as a Process of Multi-Level Sequential Checking. In K. R. Scherer, A. Schorr & T. Johnstone (Eds.), *Appraisal Processes in Emotion: Theory, Methods, Research* (pp. 92–120). New York and Oxford: Oxford University Press.
- Sharma, S. (2000). Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy. *Academy of Management Journal*, 43(4), 681-697.
- Sharma, S., Pablo, A. L., & Vredenburg, H. (1999). Corporate Environmental Responsiveness Strategies The Importance of Issue Interpretation and Organizational Context. *The Journal of Applied Behavioral Science*, 35(1), 87-108.
- Staw, B. M., Sandelands, L. E., & Dutton, J. E. (1981). Threat-rigidity effects in organizational behavior: A multilevel analysis. *Administrative science quarterly*, 26(4).

- Stenzel, T., & Frenzel, A. (2008). Regulating technological change—The strategic reactions of utility companies towards subsidy policies in the German, Spanish and UK electricity markets. *Energy Policy*, 36(7), 2645-2657.
- UNEP. (2013). Global Trends in Renewable Energy Investment 2013. Retrieved November 13, 2013, from <http://www.unep.org/pdf/GTR-UNEP-FS-BNEF2.pdf>
- VEBA (2000). *VEBA Annual Report 1999*. Düsseldorf.
- VIAG (2000). *VIAG Annual Report 1999*. München.
- Vochem, J. (2012). *Utility companies' strategic reactions to subsidy policies—An analysis of communication and investment in Germany and Spain*. Master Thesis, University of St.Gallen. St. Gallen.
- Voronov, M., & Vince, R. (2012). Integrating emotions into the analysis of institutional work. *Academy of Management Review*, 37(1), 58-81.
- Weick, K. E., & Kiesler, C. A. (1979). *The social psychology of organizing* (Vol. 2). New York: Random House.
- Wüstenhagen, R., & Bilharz, M. (2006). Green energy market development in Germany: effective public policy and emerging customer demand. *Energy Policy*, 34(13), 1681-1696.

Curriculum Vitae

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