Climate Change and the Emergence of New Organizational Landscapes

Bettina BF Wittneben, University of Oxford, UK
Chukwumerije Okereke, University of Reading, UK
Bobby Banerjee, University of Western Sydney, Australia
David L Levy, University of Massachusetts, Boston, USA

Abstract

There is general agreement across the world that human-made climate change is a serious global problem, although there are still some skeptics that challenge this view. Research in organization studies on the topic is relatively new. Much of this research, however, is instrumental and managerialist in its focus on 'win-win' opportunities for business or its treatment of climate change as just another corporate social responsibility (CSR) exercise. In this paper, we suggest that climate change is not just an environmental problem requiring technical and managerial solutions; it is a political issue where a variety of organizations – state agencies, firms, industry associations, NGOs, and multilateral organizations – engage in contestation as well as collaboration over the issue. We discuss the strategic, institutional and political economy dimensions of climate change and develop a socioeconomic regimes approach as a synthesis of these different theoretical perspectives. Given the urgency of the problem and the need for a rapid transition to a low carbon economy, there is a pressing need for organization scholars to develop a better understanding of apathy and inertia in the face of the current crisis and to identify paths toward transformative change. The seven papers in this special issue address these areas of research and examine strategies, discourses, identities and practices in relation to climate change at multiple levels. .

Keywords: climate change, political economy, carbon markets, socioeconomic regimes

Author Contact Info

Bettina BF Wittneben, MBA PhD
Visiting Research Fellow
Smith School of Enterprise and the Environment, University of Oxford, UK
Visiting Research Associate
School of Geography, University of Oxford, UK
Mailing address: Benkenblick 1, 79730 Murg, Germany
Tel:+49 7763 927 3406
Bettina.wittneben@smithschool.ox.ac.uk

Chukwumerije Okereke, PhD
Reader in Environment and Development
Department of Geography and Environmental Sciences
School of Human and Environmental Sciences (SHES)
The University of Reading
Whiteknights, PO Box 233 Reading RG6 6AB UK Office: Room 1.19 Miller Building
Phone: +44 (0)118 378 6230
c.okereke@reading.ac.uk

Bobby Banerjee, PhD
Professor of Management and Associate Dean of Research
College of Business
University of Western Sydney
Voice: +61 2 9685 9328; Fax: +61 2 9685 9400; Cell: 0414 017 345
Email: b.banerjee@uws.edu.au http://www.uws.edu.au/business/cob/key_people/bobby

David L. Levy
Professor and Chair
Department of Management and Marketing Director, Center for Sustainable Enterprise and Regional Competitiveness
University of Massachusetts, Boston
100 Morrissey Blvd., Boston, MA 02125, USA
David.Levy@umb.edu

Author Biographies

Bettina BF Wittneben is a social entrepreneur who has conducted research and courses on climate change and management in six universities, five countries and four languages. In the management theory field, she has chaired numerous international conference streams, edited two special issues and set up cutting edge workshops. In the policy realm, she has advised the United Nations, European governments and industry. She holds an MBA from Alberta, Canada and a PhD from Cambridge University. She conducts research at the Smith School of Enterprise and the Environment, University of Oxford. Her work has been published in *Energy Policy*, *Nature, Organization Studies*, and *Management Decision*.

Chukwumerije Okereke (PhD, University of Keele) is a Reader in Environment and Development at the School of Human and Environmental Sciences, University of Reading, UK. Previously, he was a Senior Research Fellow and the head of the Climate and Development Centre at the Smith School of Enterprise and the Environment, University of Oxford. His research focuses on the links between global climate governance systems and international development. His recent research has addressed the drivers for corporate climate strategies among UK energy intensive companies and the relationship between government policy and corporate carbon management. He has published widely on the political economy and ethical dimensions of the international climate governance regime in journals such as the *California Management Review*, *Nature, European Management Journal*, *Global Environmental Change,* and *Global Environmental Politics.*

Bobby Banerjee is Professor of Management and Director of Research in the School of Business, University of Western Sydney. His primary research interests are in the areas of sustainability, climate change and corporate social responsibility. Other research interests

include critical management studies, Indigenous ecology, postcolonial studies, cultural studies, and globalization. He has published more than 130 papers in journals, edited volumes and conference proceedings and has been awarded 33 research grants. His work has appeared in internationally renowned scholarly journals like *Academy of Management Learning & Education, Organization Studies, Journal of Marketing, Business Ethics Quarterly, Journal of Management Studies, Organization, Human Relations* and *Management Learning*. He is the author of two books: *Corporate Social Responsibility: The Good, The Bad and The Ugly* and the co-edited volume *Organizations, Markets and Imperial Formations: Towards an Anthropology of Globalization.*

==========

David L. Levy is Chair of the Department of Management and Marketing at the University of Massachusetts, Boston. David founded and is currently Director of the Center for Sustainable Enterprise and Regional Competitiveness, which engages in research, education and outreach to promote a transition to a clean, sustainable, and prosperous economy. David's research examines corporate strategic responses to climate change and the growth of the clean energy business sector. More broadly, his work explores strategic contestation over the governance of controversial issues engaging business, states, and NGOs. He has published widely on these topics, including articles in the *Academy of Management Review, Strategic Organization, Business and Society, Organization Studies,* and *the Journal of Management Studies.*

Climate Change and the Emergence of New Organizational Landscapes

Let us start with some numbers. There appears to be a general consensus among the countries that constitute the United Nations Framework Convention on Climate Change (UNFCCC) that a 2˚Celsius warming of the planet will have dangerous, perhaps even catastrophic consequences. It will take 1 trillion tons of carbon in the atmosphere to reach the 2˚ mark. In the last 250 years human activity has added 500 billion tons of carbon in the atmosphere. At current rates of carbon emissions it will take 30 years to add the next 500 billion tons (trillionthton.org, 2012).

More than 20 years after climate change was recognized as a critical problem, efforts to address them show a record of failure (McKibben, 2012). Despite high-level efforts by all states under the UNFCCC and its Kyoto Protocol, there is still no global legally binding agreement to effectively cut carbon dioxide emissions globally. At the business level, while there is increasing awareness of the problem as well as some corporate involvement through sustainability policies and practices, carbon disclosure, emissions trading and energy efficiency, little has been done in terms of reducing actual emissions or transforming core corporate products and processes. The drastic cuts in emissions of greenhouse gasses proposed by the Intergovernmental Panel on Climate Change (IPCC) and many non-governmental organizations (NGOs) require radical and fundamental shifts in socio-political structures, technological and economic systems, organizational forms, and modes of organizing (den Elzen et al., 2009; IPCC, 2007). It also requires a dramatic shift in cultural values and personal identities, if consumption patterns involving carbon intense lifestyles are to change. However, as McKibben (2012) points out, with very few exceptions 'the rule is ever more carbon'.

These major shifts pose a threat to companies and countries with vested interests in fossil fuel related sectors. They also threaten the comforts and conveniences that many take

for granted in industrialized countries, and which others aspire to as symbols of status and prestige. At the same time, climate change also presents substantial business opportunities and the potential for countries to develop their clean energy sectors. Thus, climate change is not just an environmental problem requiring technical and managerial solutions. It is an institutional, economic, social, cultural and political challenge with significant implications for the way economies, societies, inter-state relations and regulatory systems are organized (Giddens, 2011; Hulme, 2009; Stern, 2007).

However, signs that such transformation is imminent seem dim. The 1990s were marked by political wrangling as countries sought to develop an international agreement to manage climate change. At the corporate level, there was very little action except to oppose any regulation or mandatory emission limits. By the late 1990s, as consensus on the science of climate change grew and the Kyoto Protocol came into force, companies appeared ready to compromise and face the inevitability of carbon regulation. Industry largely dropped its aggressive opposition to carbon regulation and investment in clean energy grew rapidly. However, outside of a few countries in Europe, there was very little progress in emissions reductions. The global recession saw a significant decline in climate change action from 2008 onwards due to the collapse of public budgets, rising unemployment and a resurgence in climate denial (McCright & Dunlap, 2011). As a result, climate change has virtually dropped off the political agenda in most countries, and restarting economic growth has become a priority.

The year 2010, when our special issue first called for submissions, saw the highest total annual growth in global CO_2 emissions. Carbon emissions dropped during 2008 mainly due to the global financial crisis but only for one year. Despite several policy measures to curb emissions, such as emissions trading, carbon taxes and green investment schemes, carbon emissions have continued to grow. Climate legislation in the US, which received a

boost following President Obama's election in 2008, has since been stalled at the federal level. In Europe, public spending cuts have seen renewable energy subsidies suffer, most notably in the solar power industry (Fortson, 2012). If investments in renewable technologies are crucial to address climate change then industry and policy strategies appear to be reversing direction. Subsidies to the global renewables industry amount to $66 billion in 2010, compared to the $409 billion received by the fossil fuel industry (Clark, 2012).

At the Copenhagen climate conference in 2009, described as a spectacular failure by most observers (Bond, 2010; Carter et al., 2011), the only point of agreement was that any increase in global temperature should be below 2 degrees Celsius to prevent catastrophic changes in the planet. Burning the current oil reserves of just six oil firms – ExxonMobil, BP, Gazprom, Chevron. ConocoPhillips and Shell – would consume more than a quarter of the available atmospheric space to remain under the 2-degree mark (McKibben, 2012). Not only does the fossil fuel industry continue to burn its oil reserves with impunity, it is unrelenting in its search for new sources of oil and gas. The few corporations that had made small investments in exploring renewable energy sources have now shut down most of these projects and are refocusing on their core oil and gas businesses. The fossil fuel industry is not just a major contributor to global warming but also a powerful political actor that has been successful in preventing any meaningful action on climate change (McKibben, 2012).

Climate change has created a new vocabulary and concepts like 'carbon accounting', 'emissions trading', 'carbon neutral production', 'green banking', 'green investment', 'green innovation', 'renewable technology' and 'carbon disclosure' seem to have captured the public and organizational imagination. However, both in terms of theoretical development in organization studies and corporate practice, responses to climate change have been dismal (Goodall, 2008; Patenaude, 2010). The climate change debate has been dominated by scientists, economists, corporate interests and environmentalists, with marginal attention paid

to the organizational innovations and institutional change that are required to address the problem.

There is, to be sure, a significant literature on the impact of climate change on business and the range of actions being taken by industry. But much of this remains at the descriptive level with less attention and precision on developing frameworks for understanding the prospects and limits of organizational climate strategies and, more broadly, the transformative impact of climate change on the organizational landscape. Equally lacking are analyses of institutional and political processes required for change. There have been a number of insightful accounts on reporting and voluntary standards (Bowen & Wittneben, 2011; Kolk, 2010); the role of climate scientists as boundary spanners (Rothenberg & Levy, 2012), managerial perceptions (Banerjee, 2001; Okereke & Russel, 2010) and corporate political strategy (Levy & Egan, 2003; Levy & Newell, 2005). Most studies have focused on identifying corporate responses to climate change and the drivers of corporate climate strategies with little attention being paid to theoretical development of models for understanding action and inaction. This special issue is an effort to broaden this avenue of scholarship.

In our view, a key limitation in advancing a robust organizationally relevant theory for climate change is the strength of disciplinary boundaries prevalent in academic scholarship. Organizational strategies to address climate change include traditional strategic risk management approaches, technological innovation, entrepreneurship and corporate social responsibility. But perhaps unlike any issue before it, climate change entails the active involvement of state, intergovernmental and societal actors with differing levels of interest, authority, legitimacy and capacity to participate in decision-making. Corporate actors are therefore part of a wider multi-level and multi-actor governance system comprising a vast and disparate infrastructure of institutions, markets, rules, norms, and discursive formations.

Hence, theoretical endeavors to understand the transformative implications of climate change for organizations must draw from other disciplines and adopt a more diverse set of theoretical perspectives, including political economy (Banerjee, 2008a; Foster, 2002; Lohmann, 2010; Newell & Paterson, 2010); complexity theory (Levy & Lichtenstein, 2012); discourse analysis (Boykoff, 2008), global and local governance (Banerjee, 2011a; Biermann, 2007) and Gramscian hegemony (Levy & Egan 2003; Okereke, Bulkeley, & Schroeder, 2009).

In what follows we adopt this multi-level perspective by showing the contributions and limitations of some theoretical perspectives used to explain the structural inertia in tackling climate change. These include management strategy, institutional theory (in particular, institutional entrepreneurship), and international political economy. These theories employ different levels of analysis: individual, organizational, institutional, and political economy. We offer a socioeconomic regimes approach in an attempt to synthesize different theoretical perspectives and provide a critical research agenda that should complement such an enterprise.

Organizational and Strategic Dimensions of Climate Change

Early research on business and climate change highlighted corporate engagement with political processes as a key activity (Levy & Egan, 2003). For example, a group of large multinational companies formed the Global Climate Coalition in 1998 in an effort to oppose the Kyoto Protocol and delay any immediate action to reduce greenhouse gas emissions (Newell & Paterson, 1998). Corporations and industry associations attempted to undermine the scientific basis of climate as well as influence climate policy by opposing mandatory emissions targets. As new markets for low-carbon technologies began to emerge, and scientific evidence about the anthropogenic impact on climate change mounted alongside the growing political and reputational costs of continued opposition, many businesses changed

course. They began to focus their efforts on developing policies and assigning responsibilities to measure and manage carbon, though the progress toward actual emissions reduction was much slower (Jones & Levy, 2007). While some environmental organizations partnered with corporations to develop climate change strategies, most civil society organizations dismissed corporate responses to climate change as greenwashing or tokenistic corporate social responsibility (Banerjee, 2008a; le Menestrel & de Bettignies, 2002; Tokar, 1997).

Subsequent research on how business firms are responding to climate change has focused on the market and strategic dimensions of climate change (Kolk & Pinske, 2005; Levy & Kolk, 2002; Wittneben & Kiyar, 2009; Okereke & Russel, 2010). The framing of climate change as 'strategic' stems from the notion that corporate responses to environmental issues are driven not just by environmental concerns or social pressures, but by the pursuit of business competitiveness (Banerjee, Iyer & Kashyap, 2003). Using this frame, businesses will develop climate strategy when they are convinced that doing so will give them competitive advantage and conversely that failure to act will cost them value or market share (Okereke, 2007). Accordingly, business firms develop climate strategies that provide market advantages while minimizing risks based on factors such as levels of exposure to legal and regulatory risks, environmental reputation, cost advantages and technological innovation (Haigh & Griffiths, 2012; Hoffman, 2005)

Most corporate responses to climate change are focused on voluntary measures or increasing efficiencies in the supply chain rather than commitment to any mandatory emissions reductions targets or developing a new business model (Banerjee & Bonnefous, 2011; Okereke & McDaniels, 2012). Due to the absence of a significant price on carbon, purely voluntary and market-based initiatives have not led to a significant reduction in greenhouse gas emissions. Product and process improvements in emission intensity

(greenhouse gas emissions per unit of output) tend to be nullified by increased output and sales (Jones & Levy, 2007). Thus, business responses to climate change, whether they are framed as 'strategic' or as a firm's corporate social responsibility, remain focused on 'win-win' solutions that must generate financial benefits for firms. A key insight of the strategic perspective that helps explain corporate inertia is that firms have specialized competencies and assets, and cannot easily change direction. Fear of stranded assets is therefore a major reason for corporate inaction on climate change.

Organizational and management approaches to climate change suffer from several limitations. First, there is a tendency to treat firms as isolated units divorced from their prevailing social and political context. Focus on the micro level of the firm obscures several important connections and relationships relevant for climate strategy. These include connections between the firm and industry groups, the relationship between market and non-market forces, and the role of a variety of societal and institutional factors in shaping the governance of climate change. Not enough attention has been paid to the politics of contestation and representation that shape policies and production systems, ideologies and identities, and alliances and accommodation in relation to climate change (Levy & Newell, 2005).

Second, strategic management is focused on analyzing the external environment and firm capabilities to determine the best course of action. It takes for granted existing corporate governance systems, the growth imperative, wider cultural discourses that prioritize limitless growth in production and consumption, and notions of competitiveness, innovation and entrepreneurship, with little consideration about their impact on the planet. Accordingly, strategic management offers no insights on how or why firms might act to change the prevailing environment. This is a fatal limitation if one is concerned about how to break systematic inertia and achieve transformational change. Finally, while references have been

made to discontinuities and exogenous shocks (Handy, 1989), embedding sustainability (Banerjee, 2011b) and disruptive innovation (Christensen, 1997), the overwhelming notion of change in strategic management reflects incremental rather than transformational change. Organizational theory is therefore largely out of its depth in situations where radical action is required, which is the case with climate change.

Thus, a broader theoretical perspective is required to understand the process of change needed to combat inertia. As mentioned before climate change is a global issue and firms are actors in wider fields that include a diversity of actors and institutions from the market, state, and civil society sectors as well as international bodies that are involved in climate change negotiations. Corporate practices are shaped not just by economic forces but also by generally accepted norms, and institutionalized routines and practices. The institutional environment plays a key role in determining the nature of climate regimes, and there is considerable contestation over elements of this institutional environment. Thus, one way to understand the emergence of particular climate regimes is to use insights from institutional theory.

Institutional Dimensions of Climate Change

The institutionalization of climate change began in the early 1990s with the formation of the United Nations Framework Convention on Climate Change. While the parties to the convention shared similar concerns about climate change, agreement on how to address the problem continues to be elusive. Corporations do not just respond to institutional pressures but also exercise power over the institutional framework through strategies that are overtly or implicitly political.

Institutional entrepreneurship is a process whereby actors in an institutional field use their resources to shape new institutions that promote their interests, thus bringing about

institutional change (DiMaggio, 1988; Eisenstadt, 1980). Fields can emerge around a common issue facing various organizations, such as climate change, rather than a common product or market (Hoffman, 1999). Viewed from this perspective, corporate climate strategies are an outcome of various internal and external pressures, stemming not only from current regulation and competitiveness, but also from the cultural and symbolic context in which companies operate. An examination of climate change using perspectives from institutional theory will shed light on the various actors that firms try to influence and are influenced by, including policy makers, competitors, NGOs, industry associations, climate scientists, and the media.

The institutional field of climate change operates neither smoothly nor democratically, but can be described as 'institutional war' (Hoffman, 1999: 352). At the international policy level governments routinely clash over their differentiated responsibilities in addressing climate change; at the national policy level industry actors intensively lobby governments not to impose stringent regulation while environmental groups lobby for stronger legislation; at the organizational level companies struggle to balance investors' demand for constant profitable returns with resource limitations; at the individual level consumers face tradeoffs between enjoying comfortable lifestyles and reducing their carbon footprint.

While the structural power of an institution can constrain agents and stabilize a field, agents can also use their power to generate institutional conflict and change (McAdam & Scott, 2005). Institutional change occurs either when there is a shift in power relations in an organizational field or when the goals of powerful actors change, in which case they can enable or suppress radical change (Greenwood & Hinings, 1996). For example, the power of the fossil fuel lobby in influencing the institutional field is the main reason for weak action on climate change: while new institutions governing carbon disclosure and emissions trading

have emerged, they remain relatively weak in mandating emissions cuts in the face of strong opposition by the fossil fuel industry and its lobbyists (McKibben, 2012). Power is inextricably intertwined with institutional change, yet remarkably most institutional theorists either elide the question of power or treat it structurally as an endogenous variable. A critical analysis of institutional theory reveal power struggles within organizations as well as between organizations and other institutional actors, enabling us to imagine new modes of organizing,

Institutional fields achieve a degree of stability when their discursive, economic, and political dimensions are aligned and mutually reinforcing (Levy & Scully, 2007). At the material level fields require a viable 'business model' that generates sufficient resources to enable the reproduction of the field and gain the cooperation of the relevant network of actors. In climate change, we have seen a shift away from the 'development aid' logic of the UNFCCC to the 'market' logic of the Kyoto Protocol (Wittneben, 2007) that leads into the current logic of the 'green economy' and 'sustainable development'. These formulations can be seen as a hegemonic move, an assertion of complementarity between economic growth and sustainability that provides the discursive basis for a political strategy to build a coalition around the project of ecological modernization. The deliberate breadth and vagueness of these concepts glosses over contradictions and emphasizes a common interest in both sustainability and economic development in an attempt to create consensus among a diverse group of actors while excluding more marginal and radical voices (Banerjee, 2003).

The power-knowledge nexus that Foucault (1980) wrote so profoundly about is evident in the institutional logic that governs the field of climate change. Knowledge produced about particular practices in addressing climate change reproduces and sustains prevailing social and economic structures. Institutions may well be socially constructed and discursively produced but analyzing discourses alone will not lead to a complete

understanding of the political processes involved in institutional change. Thus, identifying power as a central unit of analysis of institutional fields leads us to a discussion of the political economy of climate change. In the field of climate change, political power of the institutions that govern climate change, material power of transnational corporations and discursive power of the ecological modernization paradigm shape courses of action (or inaction) while sustaining existing material inequalities and forms of political power, as we will see in the next section.

Political Economy of Climate Change

Since the state, the market and civil society constitute the political economy of climate change it is important to examine their interactions and relationships with other. Climate change is a global issue and while national governments have a key role to play in climate policy, the global governance of climate change occurs in a broader international political economy. These international institutional structures determine the prospects and limits of political agency and action.

The expansion of neoliberal capitalism over the last 30 years has transformed the role of the state where its key role is to maintain the conditions for capital accumulation, which is vital for its political legitimacy and survival. Economic competitiveness gains social and political legitimacy through an ideology that promotes the notion that societal progress can only be achieved through economic growth and free markets. Economic forces become paramount in shaping public policy. In addition to the structural power of market institutions and the economic power of states and large transnational corporations, the political economy of climate change is shaped by cultural politics where the exercise of power becomes 'rationalized' (Foucault, 1980). In the context of climate change, the market-state nexus reinforces the structural capabilities of capitalism by positioning itself 'above' society in

creating and sustaining climate regimes that do not pose a threat to current regimes of accumulation. Discursive power is apparent in the widespread assumption that the atmosphere can be protected only by commodifying it and controlling its means of exchange. Thus, the ideological basis of climate policy creates an economy of climate capitalism whereby market mechanisms such as venture capital-financed innovation and carbon trading become the primary mechanisms to reduce emissions, with an emphasis on voluntary rather than legislative measures.

Thus, climate policy instruments are a reflection more of the power and authority of actors than 'scientific' or 'efficient' measures to mitigate the effects of climate change. Emissions trading, for example, was supported by powerful corporations who were opposed to the introduction of a carbon tax, which had been the preferred policy instrument of several governmental and non-governmental organizations. The fact that the European Union Emissions Trading Scheme has failed to deliver on its stated predictions of significant emissions reductions reflects a weakness of this particular policy instrument (Pinkse & Kolk, 2009; Wittneben, 2009).

Neo-Gramscian perspectives can provide useful insights for a critical analysis of the political economy of climate change. Inequalities are sustained through hegemonic relationships between the elite classes, the state and civil society where the dominant class is able to link its interests with the subordinate classes to create and maintain a social order that reproduces its own dominant position (Cox, 1987; Gramsci, 1971). Institutions that arise from this state-society complex also become the sites for political contestation primarily because they have partial autonomy from the bureaucratic authority of the state. Hegemony is therefore contingent and accommodative. Power is neither static nor a zero sum game but resides in part in the strategies and ability of constituent groups and institutional entrepreneurs to maneuver and reconfigure interests, coalitions and alliances within limits.

A neo-Gramsian framework offers a different theoretical perspective in analyzing climate governance broadly and corporate climate strategies in particular. First, the perspective recognizes the economic root of prevailing social structures (Cox 1987; Gramsci 1971). Second, the approach has a broader and more critical conception of power and politics, which provides a more sophisticated analysis of interests, authority, and legitimacy in political contestations and accommodations (Levy & Newell, 2005). Finally, the framework is sensitive to the intricate relationship between structure and agency, the transformative potential and limits of civil society and the role of cognitive-ideational factors (Bernstein, 2001).

For example, a neo-Gramscian perspective on corporate responses to climate change can highlight the structural limits of corporate social responsibility (CSR) and corporate citizenship strategies while also revealing points of resistance (Banerjee, 2008a). From a climate governance perspective, everyday practices of companies can be understood as being 'political' and activities such as CSR, carbon neutrality, carbon disclosure, emissions trading and the like also become terrains of contestation: once the door is open for business to negotiate sustainability discourses, civil society actors can push for more transparency and accountability, and corporations try to demonstrate their commitment to sustainability while maintaining their autonomy (Levy & Kaplan, 2008).

To summarize: we have discussed strategic, institutional and political economy approaches to understanding climate change. These are not discrete frameworks but reflect the complex organizational landscape of climate change constituted by a network of actors, including business, NGOs, and governmental agencies, involved in collaboration and sometimes contestation over everything from the science of the issue to the role of government and markets in addressing it. Linking these actors is an array of economic, technological, cultural, and political structures and processes. Organizations are therefore

part of a larger system within which they struggle to survive and flourish, at times adapting to the dynamic and unexpected shifts in the terrain, and at others attempting to influence the contours of this system. Societal responses to climate change are shifting the organizational landscape in complex ways, erecting market and regulatory hurdles that are constraining the political and market power of some fossil fuel based companies, particularly coal, while creating opportunities for new clean tech companies, environmental organizations, and regulatory agencies to grow and broaden their reach.

In the case of climate change, the physical ecology and climatology of the earth of the earth is itself part of this larger system. Climate change is, of course, the result of our carbon-intense production system, consumerist culture, and the political power of fossil fuel related interests to perpetuate this system. Simultaneously, climate change reshapes the organizational landscape through its direct and indirect impacts on the economy, culture, and politics. The planet provides vast quantities of natural resources, such as fuels, food, fresh water, and recycling services, and though these might appear to be 'free', the substantial economic value of these 'ecosystem services' is only now gaining attention as their supply is threatened (Costanza, 1997). Climate change itself represents a threat to these resources, and to the businesses and workers who depend on them. Drought, for example, affects not only fresh water and agriculture but also electricity from hydropower and transportation on rivers. Sea level rise, storms and flooding associated with climate change directly threaten coastal infrastructure, potentially imposing huge costs for repairs and protection, or adaptation. Climate change is already influencing the culture, through media representations (Boykoff, 2008) and growing environmental awareness. Finally, climate change is reshaping politics, stimulating the rise of new multilateral sources of authority such as the Intergovernmental Panel Convention on Climate Change and United Nations Environmental Program, the growth of innovative market governance mechanisms such as carbon trading, as well as

triggering the emergence of powerful issue-specific industry associations, such as the Global Climate Coalition. Indeed, climate change has become deeply enmeshed with a broader cultural and political struggle, at least in the United States, over the role of the state, regulations, and taxation. In the final section before introducing the papers in the special issue, we attempt to provide a theoretical synthesis of our arguments.

A Socioeconomic Regimes Approach: Towards a Theoretical Synthesis

Understanding organizations within the context of larger systems has a venerable history in management and organization theory (Emery & Trist, 1965; Thompson, 1967). Economists have long recognized that distorted private incentives facing individual actors create collective action failures that lead to inertia and sub-optimal outcomes. For example, Ostrom (2009) identifies climate change as a classic collective action problem, and suggests a polycentric approach that relies on small-scale, regional institutions and governance mechanisms to encourage trust and experimentation, taking advantage of local, often non-pecuniary incentives to cooperate. The systems perspective has recently gained acceptance even within mainstream strategy. As Gulati et al. (2000) argue, 'the image of atomistic actors competing for profits against each other in an impersonal marketplace is increasingly inadequate in a world in which firms are embedded in networks of social, professional, and exchange relationships with other organizational actors'. Gulati's strategic networks approach, however, focuses on the impact of the network on individual firms, rather than the functioning of the system, and along with the collective action framework, does not attempt to theorize the differential power and interests of various actors. Institutional theory's focus on the field within a larger societal context does move some way toward a systems perspective, though as discussed earlier, its treatment of economic and political processes and structures is somewhat limited.

Here we outline a conceptual framework that provides some analytical traction for understanding this organizational landscape. We approach this landscape as a complex socioeconomic regime comprising actors engaged with the climate issue and the economic, technological, political, and cultural forces in which they are enmeshed. Following Jessop, (2010), we locate this system within a cultural political economy framework, highlighting the interaction between cultural, semiotic dimensions of the energy system, and its material, or its technological and economic elements. Jessop (2010: 344) has developed the concept of an 'economic imaginary' to refer to 'a specific configuration of genres, discourses and styles and thereby constitute the semiotic moment of a network of social practices in a given social field, institutional order, or wider social formation'. An imaginary generates a sense of shared meaning, identity, and interests within a network of actors, but a socioeconomic regime also gains cohesion from economic structures that provide material rewards and from political processes that construct regulatory frameworks and provide incentives and disciplinary mechanisms. For a socioeconomic regime to achieve hegemonic stability in a Gramscian sense, these cultural, economic, and political elements need to be aligned and mutually reinforcing (Levy & Scully, 2007).

Drawing from Gramsci, Jessop contends that the contested terrain of economic imaginaries is central to the political struggle for hegemony in the wider socioeconomic regime. Reflecting a more political and strategic orientation than is usually found in the institutional literature, Jessop notes that the struggle to establish a particular imaginary requires actors 'to articulate strategies, projects and visions oriented to these imagined economies' as they seek to mobilize a historical bloc to support a particular path. Crucially, these imaginaries are closely intertwined with the economic dimensions of a socioeconomic regime, so that the successful emergence of a new hegemonic imaginary 'does correspond in significant ways to the changes in core technologies, labor processes, enterprise forms, modes

of competition, and economic "identity politics"' (Jessop, 2010: 346). Thus the stabilization of a socioeconomic regime requires a cultural imaginary to be supported and validated with real material elements of the system.

To illustrate, Jessop discusses rise of a neo-Keynesian 'Green New Deal' (GND) economic imaginary in response to the 2008 financial crisis. The GND offers considerable potential to achieve hegemonic status because it 'is being narrated as capitalism's best hope to create jobs, restore growth, and limit climate change' (Jessop, 2010: 350-2). The GND represents an approach to addressing climate change based on ecological modernization (Hajer, 1995), a reliance on innovation for low carbon-technologies alongside new market mechanisms such as carbon pricing and trading. The GND is therefore attractive, partly on account of the 'fuzzinesss' of the concept, to a range of key actors, including business, state actors, professionals, policymakers, and environmentalists. It also has traction across scales, from local governments interested in building regional clean tech clusters to national governments seeking new sources of growth and competitiveness, to multilateral organizations in need of framing climate policy in business friendly terms. Jessop's keen insight here is that the GND's hegemonic appeal is due to its materialization in production systems, in terms of the rapid rate of innovation and market growth in the clean tech sector, closely coupled with its penetration into the realm of culture and personal identity. As we will see later, the papers in our special issue address different dimensions of the socioeconomic regime, ranging from personal identity construction and negotiation, business friendly climate regimes and hegemonic accommodation.

The socioeconomic regime relating to energy and climate change extends beyond the core fossil fuel sectors to include energy intense sectors such as airlines, automobiles, and chemicals, as well as clean energy products and services. This regime represents an issue-level field that 'forms around a central issue--such as the protection of the natural

environment--rather than a central technology or market [and] introduces the idea that fields become centers of debates in which competing interests negotiate' (Hoffman, 1999: 351). In their synthesis of institutional and social movement theory, McAdam and Scott (2005: 18) describe the negotiated stability that can be attained in these issue level fields, despite ongoing tensions: 'The stability we have in mind is rather the hard fought for and fragile state of affairs that Zysman (1994) terms an "institutional settlement" - an agreement negotiated primarily by the efforts of field dominants (and their…allies) to preserve a status quo that generally serves their interests'.

Our socioeconomic regimes framework brings together insights from sociotechnical systems and transitions literature with the political understanding of governance regimes. The sociotechnical systems approach provides a systems perspective on the inertia of the energy system, understanding the excessive stability of the fossil fuel based economy as a function of mature and profitable technologies, market failures that obscure externalities and obstruct collective action, and institutionalized social practices (Brown & Vergragt, 2006; Geels & Schot, 2007). This literature explores the possibilities for transforming energy value regimes through 'radical improvements in resource efficiency in products, technologies and lifestyles' (Truffer & Coenen, 2012). The trajectory of these regimes is guided by the coevolution of their components, including technologies, markets, regulation and standards, infrastructure, political and social institutions, and user practices (Garud & Karnoe, 2001; Geels, 2004). Changes can be driven by pressures in the cultural and political spheres, technological innovation, external shocks, or internal dynamics that create misalignment and instability in the regime (Smith, Stirling, & Berkhout, 2005). Emerging sociotechnical configurations, such as clean energy, are generally fragile because their technologies are immature and expensive, they threaten vested interests, and do not yet enjoy widespread political support or cultural acceptance. The transitions literature considers the conditions

under which promising niches can survive and grow in protected market or geographic segments (Geels & Schot, 2007; Raven, 2007).

While most organizational scholars are familiar with the terminology of fields and institutional theory, we prefer the conceptual framework of socioeconomic regimes for several reasons. First, institutional theory remains a rather generic way of addressing collectivities of actors, and the framework remains constrained by the core insight that fields are stabilized and reproduced through social rules, norms, and routines. Institutional theory tends, therefore, to be a structural explanation of conformity that generally ignores economic and political forces at the field level and in the wider society. Institutional theory has, of course, been stretched and refurbished to address, for example, agency and power through the notion of institutional entrepreneurship, and individual identities through the idea of institutional work. Institutional theory remains, however, a rather slender structure to support these enhancements, and ultimately offers a language and framework of analysis rather than theoretical insights.

The sociotechnical transitions approach has been criticized for its emphasis on technology and innovation at the expense of power and politics, though recent work has tried to redress this (Meadowcroft, 2011). As Truffer and Coenen note (2012:12), 'Sustainability transitions are by their very nature political projects. They concern future living conditions of societies on a global scale'. The development of clean energy niches can be conceived as Gramscian counter-hegemonic struggle, an extended strategic 'war of position' coordinated across multiple dimensions of a system. Truffer and Coenen (2012:11) describes niche development not just as a technological phenomenon but as the active work of agents in 'institutional adaptation, constituency building, the articulation of expectations and visions, and network formation'.

Socioeconomic regimes also serve as mechanisms of governance that structure and organize an arena, often amidst considerable contestation. A Gramscian perspective provides insight into the complex power relations at play, the structural conditions for stability, and possibilities for agents to challenge dominant actors and shift the system. We define governance 'broadly here to mean the rules, institutions, and norms that channel and constrain economic activity and its impacts' (Levy, 2008: 946). Governance is therefore a multi-level, multi-actor concept that includes not only national-level regulation and formal international agreements but also the discipline of capital markets and corporate governance systems, the coordination of supply chains, the legal and accounting mechanisms that structure carbon markets (Kolk, Levy, & Pinkse, 2008), the corporate decision processes that shape energy markets and technologies, and the promulgation of voluntary reporting mechanisms such as the Carbon Disclosure Project (Knox-Hayes & Levy, 2011). The neo-Gramscian perspective (Cox, 1987; Gill, 1993) is particularly useful for locating socioeconomic regimes within broader governance structures of neoliberal ideologies, institutions, and geopolitical relations.

In our call for papers for this special issue we invited contributions that reflected the complexity of climate change. We wanted papers that offered a broader focus rather than the conventional win-win approach that underlies much of the literature on environmental sustainability and climate change. The papers we selected for the special issue reflect our intention to broaden the debate and open the door for critical, multidisciplinary and multi-level analysis.

The Papers

The papers in this special issue use a variety of analytical lenses to address issues of stability and change at various levels, and the socioeconomic regimes approach provides a

useful framework to consider their contributions. Several papers examine the politics and processes of change at the level of discourse, culture, and identity. Using different perspectives, these papers suggest that if society is to face up to the challenge of climate change, the primary struggle is in the semiotic realm, to establish a new imaginary as the basis for transforming the socioeconomic regime. From a neo-Gramscian perspective, hegemony is rooted in the shared everyday understandings that permeate broad groups in society, not just the elites, but also the institutions of civil society, such as the mass media, that are key in shaping these ideas. The meanings attached to climate change by corporate managers are crucial, because their decisions regarding technologies and production methods, products and marketing, energy management, and lobbying activity, put them on the front lines in either sustaining the existing carbon intense regime or initiating a process of change.

We begin the special issue with Wright, Nyberg and Grant's paper (2012) that explores how sustainability managers in large corporations make sense of climate change and how they develop multiple, sometimes conflicted, senses of identity based on the discursive breezes that swirl around them at work and outside. Their qualitative study identified three types of identities: the 'green change agent', the 'rational manager' and the 'committed activist'. While the discursive construction of identities enabled individual managers to negotiate the competing demands of environmentalism versus organizational profitability it also highlighted the limits of what 'committed activists' can or cannot do to influence corporate strategy. The authors conclude that for climate change to become a truly transformative and broad social movement individual subjectivities and identities need to be related to the issue. Such a transformation however seems unlikely at the present time where the 'rational' discourse of climate change remains dominant: corporations will focus their efforts on increasing energy efficiencies because they provide operational advantages rather

than invest heavily in renewable energy sources or seek to develop an alternative business model.

Continuing with the theme of identity Lefsrud and Meyer (2012) turn their attention to how scientific 'experts' in climate change negotiate their identities in the Canadian oil and natural gas industry. They describe the strategies by which these professionals attempt to support their identities and positions, and to legitimate their claims to expertise. These experts actively engage in defensive institutional work that opposes any meaningful action on climate change. Defensive institutional work is facilitated by identity work where experts legitimate their expertise while delegitimizing opposing views. Experts vary in their opinions on the causes of climate change and the policies required to address climate change. While many of them are engaged in aspects of 'institutional defense', the paper does point to the considerable heterogeneity of framings and identities that these professionals invoke as they attempt to respond personally and organizationally to the challenges of climate change. These contested views are also a contributing factor for inaction on climate change. Lefsrud and Meyer (2012) suggest that emphasizing climate change as a risk and 'common enemy to be managed' may overcome current inaction. However, as they point out despite differing in their opinions climate change experts in the oil and natural gas industry are bound by a common economic interest. Economic rationality inevitably tends to evaluate climate action using a win-win framework and just like the sustainability managers that were the subject of Wright, Nyberg and Grant's study (2012), scientific experts also promote the safer but ultimately limited win-win solutions to climate change.

Moving now from how managers make sense of climate change and how experts construct their expertise on the science of climate change to how information about climate change is deployed in the public sphere, Mackay and Munro (2012) analyze information campaigns of two key protagonists who are also adversaries in the field: the oil giant

ExxonMobil and the environmental organization, Greenpeace. The fossil fuel industry is widely seen by many environmental organizations as a powerful group that is largely to be blamed for inaction on climate change. Mackay and Munro (2012) describe the range of informational tactics deployed by ExxonMobil and Greenpeace as a 'war of position' to influence public perception on climate change. Departing from discursive and institutional approaches to climate change the authors argue that in the climate change debate information becomes a deliberate weapon (instead of a tool or resource to transmit knowledge) that is used instrumentally by both corporations and environmental organizations to influence public perception. Understanding the range of tactics deployed by organizations allow us to see how particular positions are created, how conflicts emerge and are managed, how negotiations proceed and how compromises are reached. Both organizations use a variety of networks to establish their respective position in the public sphere: ExxonMobil funded a number of 'non-governmental organizations' which were essentially climate skeptic lobby groups and policy think tanks that attacked the science of climate change. Greenpeace's counter tactics was to show legislators, policy makers and the public that much of ExxonMobil's 'scientific' reports did not follow established scientific traditions and methods but were designed to influence public perception and preempt regulation.

One of the many paradoxes surrounding the climate change debate is how urgency and inaction appear to reside comfortably in the same discursive space. 'Time is running out' is a constant refrain of concerned publics but there is very little meaningful action to address the problem. Slawinski and Bansal (2012) in their study of Canadian oil and gas companies examine how a firm's perspective on time relates to its climate change strategies. The authors argue that conventional approaches to environmental issues that describe corporate strategies as reactive-proactive or short term-long term do not capture the nuances of time in the context of climate change or explain how firms can balance urgency with long term effects.

Two time perspectives emerged from their analysis – linear time and cyclical time – leading to different responses, what the authors call focused and integrated. Focused firms had a more internal, narrow and technology focused strategy while integrated firms followed a broader strategy of investments in alternate energies and dialogue with multiple stakeholders. While their study blurs the conventional distinction between reactive and proactive firms it is interesting that regardless of differences in time perspectives and climate change strategies there was no evidence of reduced emissions in either integrated or focused firms.

Continuing with the theme of time but shifting the unit of analysis to the institutional level Buhr (2012) examines the temporal conditions of institutional entrepreneurship. In describing the institutional processes and contestations surrounding the inclusion of the aviation industry into the European Union Emissions Trading Scheme, Buhr (2012) shows how institutional entrepreneurs in the aviation industry opposed regulatory constraints and additional taxation and created a window of opportunity to promote emissions trading as the most 'flexible' and 'business friendly' climate policy. Emissions trading became an acceptable policy (as opposed to taxation) through a process of hegemonic accommodation where over time climate policy discussions shifted from analyzing the effectiveness of emissions trading as a policy measure to focusing on the design of such a scheme and how it would be implemented. For industry actors the aim was to avoid taxation or any other regulatory measure. As political and social pressures to implement climate policy increased the aviation industry also became a proponent of emissions trading because it would provide firms the legitimacy it needed to expand their operations. There was now a policy to address the problem of climate change as well as the political conditions to adopt such a policy. The NGO sector remained skeptical about the effectiveness if emissions trading as a measure to reduce emissions but ultimately accommodated the policy as a 'practical' necessity because they did not want to alienate the European Commission which wanted the aviation industry to

pay more attention to their climate impact. Buhr's analysis shows that the timing of the policy was not just due to favorable conditions but was an outcome of specific actions by institutional entrepreneurs to promote a policy that suited their interests.

Emissions trading and carbon markets are also the subjects of the next paper by Veal and Mouzas (2012). The basic assumption of carbon markets appears logically sound from a purely economic perspective: putting a price on carbon would reduce externalities and provide financial incentives for polluting firms to reduce their emissions. However, like most economic theories this assumption breaks down in practice because of the political contestations involved in the policy making process. In their analysis of carbon markets Veal and Mouzas (2012) found significant discrepancies between the aims of carbon markets and its operation in practice. While the aim of pricing carbon was to provide incentives that would make emissions reduction a strategic issue, in practice the firms that the authors studied framed emissions trading as a compliance issue. The interest of the regulators was to reduce CO_2 at least cost and make carbon a strategic issue for firms participating in emissions reductions. However, in practice emissions trading was seen as just another regulatory mechanism or a threat that needed to be managed and the firms strategic focus remained focused on maximizing production, improving quality and reducing costs. There were no significant innovations or investment in low carbon technologies because the carbon price was too low to change corporate behavior. Contestations about the design of the policy also saw an over-allocation of permits. Emissions trading, which is the center piece of a market-based climate policy measure is a perfect example of regulatory capture where regulators intending to control polluting behavior of firms instead end up protecting the interests of the firms. Risk management and compliance strategies will not reduce emissions significantly nor will it spur innovation. The fact that the energy sector is continuing to construct new coal powered plants that have a 40-year lifespan makes it clear that we are not going to see any

radical change based on current policy measures. Again, as in Buhr's study (2012) the conditions in which firms participated in emissions trading were created through a process of hegemonic accommodation.

The papers thus far have examined climate change responses at the individual, organization and institutional levels. The final paper by Böhm, Misoczky and Moog (2012) takes an international political economy approach to develop a critique of carbon markets and the green economy. While the Buhr (2012) and Veal & Mouzas (2012) papers highlight how the politics of climate policy are ultimately undermined by the economics of climate changed as defined by powerful corporate interests interacting with state and civil society actors, Böhm, Misoczky and Moog (2012) provide a more powerful critique of carbon markets. Capitalism under the assumption of limitless growth is largely responsible for the environmental crisis facing the world. But capitalism has also shown remarkable resilience in adapting to crises in the past and has adapted its accumulation process accordingly. Not surprisingly the received view in the organization and management literature is that capitalism will adapt itself to solve the environmental and social crises it created, according to management gurus like Michael Porter and Base of the Pyramid advocates C.K. Prahalad and Stuart Hart. Böhm, Misoczky and Moog (2012) not only reject this assumption but, drawing from Marxist critiques argue that rather than represent a transformation of capitalism to more sustainable forms of organizing the political economy, carbon markets reflect the ongoing expansion of capitalism through the commodification of nature leading to more inequities and uneven development. So called 'climate capitalism' is not the solution but the problem. Carbon markets may lead to some degree of decarbonization of the economy (although as the authors point out, current evidence indicates otherwise) but rather than being a benign force carbon markets are a form of accumulation by dispossession by global elites leading to further impoverishment and disempowerment of the global underclass. The

authors develop a Marxist analysis of international policy mechanisms under the Kyoto Protocol and argue that carbon markets will further exacerbate inequities, promote uneven development and deepen the North-South divide.

So where do we go from here? As a thought experiment if this special issue was to be convened in 2050 what would a call for papers look like? Would we still be researching the same tiresome win-win questions and bemoaning the lack of action by world leaders? Or would the catastrophic effects of climate change have already occurred and the focus would have shifted to mitigation and addressing the economic, social and political upheavals arising from mass migration of millions of people? The kinds of questions we ask now to inform climate policy will determine the questions we will ask 30 years later so it is imperative we move beyond quick fixes like energy efficiency or public relations exercises like CSR to ask fundamental questions about the purpose of a firm and how it should be governed.

According to McKibben (2012) based on the record of failure in addressing climate change we know what strategies and policies don't work: changing individual consumerist lifestyles for example, because current participation in 'green' lifestyles is so minimal that it has a negligible impact. Nor can we expect that the invisible hand of enlightened self-interest will stop global warming. And as we have seen earlier (also Böhm, Misoczky and Moog, 2012) putting a price on carbon still does not enable internalizing externalities because the fossil fuel industry and their lobbyists will accommodate any price as long as it does not threaten the profitability of their industry. Expecting meaningful action on climate change through the political system has also produced limited outcomes and hopes of reaching an international binding agreement limiting emissions are at the lowest ebb since negotiations began 20 years ago. McKibben (2012) claims there is a need for 'moral outrage' for a truly global social movement on climate change to emerge. The key question then is how does this

moral outrage come about and in what way can it inform policy and bring about institutional and political change?

Perhaps one way to reframe the climate change debate is to shift the focus from climate change to climate justice. Carbon trading is a technical fix for what is basically a political problem over resource access. There is no doubt that over the past 250 years there has been both overuse and unequal use of the atmosphere. Millions of people in the developing world have suffered untold misery as resources have been extracted from their land in the name of development, which continues to elude them (Banerjee, 2008b). The proposed solutions– carbon markets, carbon offsets, clean development mechanisms – merely transfer the right to pollute while continuing unequal and undemocratic use of resources and deflecting attention for collective political action (Whiteman, Dorsey & Wittneben, 2010). For moral outrage to acquire critical mass what is required is the mobilization of dispossessed people at global, national, regional and local levels and direct action against the fossil fuel industry in an attempt to disrupt the 'institutional settlement' (Zysman, 1994) of climate policy regimes. A climate change social movement by global elites will see a continuation of policies that consolidate their power. The discourse needs to shift from corporate social responsibility and corporate citizenship to corporate accountability and more democratic control over corporate activity. Organization and management theory has a crucial role to play in this transformation process. Our theories of capital accumulation and resource utilization have been largely responsible for the current crisis. It is time we turn our attention to theories of wealth and resource distribution. But that is a story for another special issue.

Special thanks for this special issue

A tremendous effort has gone into making this special issue a reality. We are indebted to David Courpasson, Editor-in-Chief at *Organization Studies,* for his encouragement and

support as well as the Managing Editor, Sophia Tzagaraki, for her remarkable help and endless patience. Of course none of this would be possible without our reviewers who have worked tirelessly to provide constructive criticism and develop the manuscripts. Their names are listed on a separate page at the end of this special issue and we would like to thank them for their outstanding work. We would like to thank all authors who have answered our call for papers. It was not an easy task to select the seven papers that make up this special issue from the large number of quality submissions we received. We are sure that many of the papers that were not included here will be published in other outlets and we encourage these authors to continue their important work. We thank the fifteen authors who are part of the special issue for their excellent scholarship and willingness to work with the reviewers and ourselves to develop their ideas. We are particularly pleased that so many female scholars are amongst the authors of this special issue. As climate change is a global issue, it is also very appropriate that the special issue authorship and the empirical work conducted span continents and hemispheres.

References

Banerjee, S.B. (2001). Managerial perceptions of corporate environmentalism: Interpretations from industry and strategic implications for organizations. *Journal of Management Studies,* 38(4), 489-513.

Banerjee, S.B., Iyer, E.S. & Kashyap, R.K. (2003). Corporate environmentalism and its antecedents: Influence of industry type. *Journal of Marketing*, 67(2), 106-122.

Banerjee, S.B, (2003). Who sustains whose development? Sustainable development and the reinvention of nature. *Organization Studies*, 24(1), 143-180.

Banerjee, S.B. (2008a). Corporate social responsibility: The good, the bad and the ugly. *Critical Sociology,* 34 (1): 51-79.

Banerjee, S.B. (2008b). Necrocapitalism. *Organization Studies*, 29 (12): 1541-1563

Banerjee, S.B. (2010). Governing the global corporation: A critical perspective. *Business Ethics Quarterly***,** 20(2), 265-274.

Banerjee, S.B. (2011a). Voices of the governed: Towards a theory of the translocal. *Organization*, 18 (3), 323-344.

Banerjee, S.B. (2011b). Embedding sustainability across the organization: A critical perspective. *Academy of Management Learning & Education,* 10 (4): 719-731.

Bernstein, S. (2001). *The compromise of liberal environmentalism*. New York: Columbia University Press.

Biermann, F. (2007) 'Earth system governance' as a crosscutting theme of global change research. *Global Environmental Change*, 17(3-4), 326-337.

Böhm, S., Misoczky, MC, & Moog, S. (2012). Greening capitalism? A Marxist critique of carbon markets. *Organization Studies,* 33(11)

Bond, P. (2010). Maintaining momentum after Copenhagen's collapse: Seal the deal or 'Seattle' the deal? *Capitalism Nature Socialism,* 21(1), 14–27.

Bowen, F., & Wittneben, B.B.F. (2011). Carbon accounting: Negotiating accuracy, consistency and certainty across organizational fields. *Accounting, Auditing and Accountability Journal,* 24(8), 1022-1036.

Boykoff, M. T. (2008). The cultural politics of climate change discourse in UK tabloids. *Political Geography*, 27(5): 549-569.

Brown, H. S., & Vergragt, P. J. (2006). Bounded socio-technical experiments as agents of systemic change: The case of a zero-energy residential building. *Technological Forecasting & Social Change*.

Buhr, K. (2012). The inclusion of aviation in the EU emission trading scheme: temporal conditions for institutional entrepreneurship. *Organization Studies,* 33(11)

Carter, C., Clegg, S., & Wåhlin, N. (2011). When science meets strategic realpolitik: The case of the Copenhagen UN climate change summit. *Critical Perspectives on Accounting,* 22, 682–697.

Clark, D. (2012). Phasing out fossil fuel subsidies 'could provide half of global carbon target'. Such a move could save the equivalent of Germany's annual emissions by 2015, says chief economist at the IEA. *The Guardian,* 19 January 2012.

Christensen, C. M. (1997). *The innovator's dilemma: when new technologies cause great firms to fail.* Boston: Harvard Business School Press.

Costanza, R., et al. (1997). The value of the world's ecosystem services and natural capital. *Nature*, 387: 253-260.

Cox, R. W. (1987). *Production, power, and world order*. New York: Columbia University Press.

den Elzen, M., Höhne, N., & van Vlieta, J. (2009). Analyzing comparable greenhouse gas mitigation efforts for Annex I countries. *Energy Policy,* 37(10), 4114–4131.

DiMaggio, P.J. (1988). Interest and agency in institutional theory. In L. Zucker (Ed.), *Institutional patterns and organizations* (pp. 3-22). Cambridge, MA: Ballinger.

Eisenstadt, S.N. (1980). Cultural orientations, institutional entrepreneurs and social change: Comparative analyses of traditional civilizations. *American Journal of Sociology*, 85; 840-869.

Emery, F. E., & Trist, E. L. (1965). The causal texture of organizational environments. *Human Relations*, 18, 21-32.

Foster, J. B. (2002). *Ecology against capitalism*. New York: Monthly Review Press.

Fortson, D. (2012). As states cut their budgets, renewable power is losing support across the EU. *The Sunday Times,* 29 January 2012.

Foucault, M. (1980). *Power/knowledge: Selected interviews and other writings,* 1972-1977. New York: Pantheon Press.

Garud, R., & Karnoe, P. (2001). Path creation as a process of mindful deviation. In R. Garud, & P. Karnoe (Eds.), *Path dependence and creation*. Mahwah, NJ: Lawrence Erlbaum Associates.

Geels, F. W. (2004). From sectoral systems of innovation to socio-technical systems: Insights about dynamics and change from sociology and institutional theory. *Research Policy*, 33, 897–920.

Geels, F. W., & Schot, J. (2007). Typology of sociotechnical transition pathways. *Research Policy,* 36, 399-417.

Giddens, A. (2011). *The Politics of Climate Change* (2nd Edition). Cambridge, UK: Polity Press.

Gill, S. (Ed.). (1993). *Gramsci, historical materialism and international relations*. Cambridge: Cambridge University Press.

Gladwell, M. (2000). *The tipping point: How little things can make a big difference*. NY: Little, Brown, and Company.

Goodall, A. H. (2008). Why have the leading journals in management (and other social sciences) failed to respond to climate change? *Journal of Management Inquiry,* 17(4), 408–420.

Gramsci, A. (1971). *Selections from the Prison Notebooks*. London: Lawrence and Wishart.

Greenwood, R., and Hinings, R. (1996). Understanding radical organizational change: Bringing together the old and the new institutionalism. *Academy of Management Review*, 21(4), 1022-1054.

Gulati, R., Nohria, N., & Zaheer, A. (2000). Strategic networks. *Strategic Management Journal*, 21(3), 203-213.

Haigh, N., & Griffiths, A. (2012). Surprise as a catalyst for including climatic Change in the strategic environment. *Business & Society*, 51(1), 89-120.

Hajer, M. A. (1995)**.** *The politics of environmental discourse: ecological modernization and the policy process*. Oxford: Clarendon Press.

Handy, C. (1989). *The Age of Unreason: New Thinking for a New World*. London, UK: Arrow Books.

Hoffman, A. J. (1999). Institutional evolution and change: environmentalism and the U.S. chemical industry. *Academy of Management Journal*, 42(4), 351-371.

Hoffman, A. (2005). Climate change strategy: The business logic behind voluntary greenhouse gas reductions. *California Management Review*, 47 (3): 21-46.

Hulme, M. (2009). *Why We Disagree About Climate Change: Understanding Controversy, Inaction and Opportunity*. Cambridge: Cambridge University Press.

Jessop, B. (2010). Cultural political economy and critical policy studies. *Critical Policy Studies*, 3(3): 336-356.

Jones, C. A., & Levy, D. L. (2007). North American business strategies towards climate change. *European Management Journal*, 25(6), 428-440.

Knox-Hayes, J., & Levy, D. L. (2011). The politics of carbon disclosure as climate governance. *Strategic Organization*, 9(1).

Kolk, A. (2010). Trajectories of sustainability reporting by MNCs. *Journal of World Business*, 45(4), 367–374.

Kolk, A., & Pinske, J. (2005). Business response to climate change: Identifying emergent strategies. *California Management Review*, 47(3), 6-20.

Kolk, A., Levy, D., & Pinkse, J. (2008). Corporate responses in an emerging climate regime: The institutionalization and commensuration of carbon disclosure. *European Accounting Review*, 17(4), 719–745.

Le Menestrel, M. & de Bettignies, H. C. (2002). Processes and consequences in business ethical dilemmas: The oil industry and climate change. *Journal of Business Ethics*, 41(3), 251-266.

Lefsrud,. LM. & Meyer RE. (2012). Science or science fiction? Experts' discursive construction of climate change. *Organization Studies*, 33(11)

Levy, D. L. (2008). Political contestation in global production networks. *Academy of Management Review*, 33(4), 943-963.

Levy, D. L. (2011). Private sector governance for a sustainable economy: A strategic approach. *Review of Policy Research*, 28(5), 487-493.

Levy, D. L., & Egan, D. (2003). A neo-Gramscian approach to corporate political strategy:

Conflict and accommodation in the climate change negotiations. *Journal of Management Studies*, 40(4), 803-830.

Levy, D. L., & Kolk, A. (2002). Strategic responses to global climate change: Conflicting pressures on multinationals in the oil industry. *Business and Politics*, 4(3): 275-300.

Levy, D. L., & Newell, P. J. (2005). *The business of global environmental governance*. Cambridge, MA: MIT Press.

Levy, D., & Scully, M. (2007). The institutional entrepreneur as modern prince: The strategic face of power in contested fields. *Organization Studies*, 28(7), 971-991.

Levy, D. L., & Lichtenstein, B. (2012). Approaching business and the environment with complexity theory. In A. Hoffman, & P. Bansal (Eds.), *The Oxford Handbook of Business and the Environment* (pp. 591-610). Oxford: Oxford University Press.

Levy, D.L., & Kaplan, R. (2008). Corporate social responsibility and theories of global governance: Strategic contestation in global issue arenas. In A. Crane, A. McWilliams, D. Matten, J. Moon, & D. Siegel (Eds.), *Oxford Handbook of Corporate Social Responsibility* (pp. 432-451). Oxford: Oxford University Press.

Lohmann, L. (2010). Uncertainty markets and carbon markets: Variations on Polanyian themes. *New Political Economy*, 15(2), 225-254.

MacKay, B. and Munro, I. (2012). Information warfare and new organizational landscapes: an inquiry into the Greenpeace0ExxonMobil dispute over climate change. *Organization Studies*, 33(11)

McAdam, D., & Scott, R. W. (2005). Organizations and movements. In G. F. Davis, D. McAdam, R. W. Scott, & M. Zald (Eds.), *Social movements and organization theory*, (pp. 4-40). Cambridge, UK: Cambridge University Press.

McKibben, B. (2012). Global warming's terrifying new math. *Rolling Stone*, August 2. http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-

20120719. Accessed September 15, 2012.

McCright, A. M., & Dunlap, R. E. (2011). Cool dudes: The denial of climate change among conservative white males in the United States. *Global Environmental Change*, 21, 1163–1172.

Meadowcroft, J. (2011). Engaging with the politics of sustainability transitions. Environmental Innovation and Societal Transitions, 1, 70-75.

Newell, P., & Paterson, M. (1998). A climate for business: Global warming, the state and capital. *Review of International Political Economy, 5*(4), 679-703.

Newell, P., & Paterson, M. (2010). *Climate capitalism: Global warming and the transformation of the global economy*. Cambridge: Cambridge University Press.

Okereke, C. (2007). An exploration of motivations, drivers and barriers to carbon management: The UK FTSE 100. *European Management Journal*, 25(6), 475-486.

Okereke, C., Bulkeley, H. & Schroeder, H. (2009). Conceptualizing climate change Governance beyond the international regime. *Global Environmental Politics*, 9(1), 58-78.

Okereke, C., & Russel, D. (2010). Regulatory pressure and competitive dynamics: Carbon management strategies of UK energy-intensive companies. *California Management Review*, 52(4), 100-124.

Okereke, C. & McDaniels, D. (2012). To what extent are EU companies susceptible to climate loss due to climate policy? *Energy Policy*, (46), 203-215.

Ostrom, E. (2009). *A polycentric approach for coping with climate change:* The World Bank.

Patenaude, G. (2010). Climate class for business schools. *Nature*, 466, 30.

Pinske, J., & Kolk, A. (2009). *International business and global climate change*. London: Routledge.

Raven, R. 2007. Niche accumulation and hybridisation strategies in transition processes towards a sustainable energy system: An assessment of differences and pitfalls. *Energy Policy*, 35(4): 2390-2400.

Rothenberg, S. & Levy, D. (2012). Corporate perceptions of climate science: The role of corporate environmental scientists. *Business & Society*, 51(1), 31-61.

Slawinski, N. & Bansal, P. (2012). A matter of time: temporal perspectives in organizational responses to climate change. *Organization Studies*, 33(11)

Smith, A., Stirling, A., & Berkhout, F. (2005). *The governance of sustainable socio-technical transitions. Research Policy*, 34: 1491–1510.

Stern, N. (2007). *Economics of climate change:* The Stern Review. Cambridge: Cambridge University Press.

Thompson, J. D. (1967). *Organizations in action: social science bases of administrative theory.* New York: McGraw-Hill.

Tokar, B. (1997). *Earth for Sale: Reclaiming Ecology in the Age of Corporate Greenwash*. Cambridge: South End Press.

Trillionthton.org (2012). http://trillionthtonne.org/. Accessed September 15, 2012.

Truffer, B., & Coenen, L. (2012). Environmental innovation and sustainability transitions in regional studies. *Regional Studies*, 46, 1-21.

Veal, G. & Mouzas, S. (2012). Market-based responses to climate change: CO2 market design versus operation. *Organization Studies*, 33(11)

Whiteman, G., Dorsey, M.K. &Wittneben, BBF (2010). Businesses and biodiversity: they would say that. *Nature*, 466, 435.

Wittneben, B. (2007). Institutional Change in the Transfer of Climate-Friendly Technology. *Business & Society*, 46, 117-124.

Wittneben, B. (2009). Exxon is right: let's re-examine our choice for a cap-and-trade system over a carbon tax. *Energy Policy,* 37, 2462-2464

Wittneben, B & Kiyar, D. (2009). Climate Change Basics for Managers. *Management Decision,* 47(7): 1122-1132.

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)

Zysman, J. (1994). How institutions create historically rooted trajectories of growth. *Industrial and Corporate Change*, 3, 243-283.

The Guest Editors would like to thank the following reviewers:

Liliana Andonova, Steffen Boehm, Katarina Buhr, Timo Busch, Peter Cebon, Peter Christoff, Jacqueline Corbett, Douglas Creed, Tina Dacin, Dror Etzion, Robert Falkner, Raghu Garud, Joel Gehman, Jean Pascal Gond, David Grant, Tobias Hahn, Nardia Haigh, Irene Henriques, Bob Hinings, Andrew J. Hoffman, Volker Hoffmann, Frank den Hond, Isabelle Huault, Charles Jones, Peter Karnoe, Younsung Kim, Hans Kjellberg, Janelle Knox Hayes, Tom Lawrence, Marc Le Menestrel, Bernard Leca, Lianne M. Lefsrud, Liang-Hung Lin, Sharon Livesey, Steve Maguire, Dirk Matten, Ian McGregor , Axel Michaelowa, Eamonn Molloy, Rasha Nasra, Peter Newell, Matthew Paterson, Charles Perrow, Nelson Phillips, Jonatan Pinkse, Alison Pullen, Steve Rayner, Sandra Rothenberg, Andreas Georg Scherer, Aarti Sharma, Jatinder Sidhu, Natalie Slawinski, Andrew Stirling, Johannes Stripple, Stefan Thomas, Paul Tracey, Bernhard Truffer, Paul Upham, Stacy VanDeveer, Gail Whiteman, Frank Wijen, Christopher Wright