Journal of Business Ethics (2009) 86:241–255
DOI 10.1007/s10551-009-0194-x © Springer 2009

Business Responses to Climate Change Regulation in Canada and Germany: Lessons for MNCs from Emerging Economies

Burkard Eberlein
Dirk Matten

ABSTRACT. This article proposes a novel mapping of the complex relationship between business ethics and regulation, by suggesting five distinct ways in which business ethics and regulation may intersect. The framework is applied to a comparative case study of business responses to climate change regulation in Canada and Germany, both signatories to the Kyoto Protocol. Both countries represent distinctly different approaches which yield significant lessons for emerging economies. We also analyze the specific role of large multinational corporations in this process.

KEY WORDS: Canada, climate change, Germany, multinational corporations, regulation

ABBREVIATIONS: CCRES: Canadian Coalition for Responsible Environmental Solutions; Ceres: Coalition for Environmentally Responsible Economies; CSR: Corporate Social Responsibility; EU: European Union; GE: General Electric; GHG: Greenhouse Gases; MNC: Multinational Corporations; WTO: World Trade Organization

Climate change, emerging economies and the role of business ethics

International climate negotiations have entered a new phase that is certain to pose tremendous challenges to emerging economies, especially to the fast-growing and carbon-intensive Asian powers, China and India. Under the 1997 Kyoto Protocol, set to expire in 2012, the principle of 'common but differentiated responsibilities' was interpreted to place the burden of binding emissions reduction targets exclusively on the shoulders of industrialized countries, not least based on ethical principles of international equity (Garvey, 2008). As emerging economies had contributed relatively little to historic emissions and argued for their right to prioritize economic development, they were exempted from any mandatory emissions targets.

However, this constellation is coming under increasing scrutiny and pressure as negotiations for a post-Kyoto agreement, scheduled to be concluded at the December 2009 Conference of Parties in Copenhagen, are underway. Most notably, the dramatic *current* emissions growth (which exceeds even gloomiest previous scenarios) is driven by the fast-growing emerging economies of Asia. China is widely believed to have surpassed the US as the largest CO2 emitter in 2007 or 2008 (although *per capita* emissions are only one-fifth of the US, Pew Center, 2007, p. 1), and India is projected to be the third largest emitter by 2015 (IEA, 2007b).[1]

While there is debate on what exactly a new regime for emerging economies might look like (Whalley and Walsh, 2008), it is safe to assume that emerging economies will face increased carbon constraints going forward. Governments will tighten existing and issue new regulation to contain carbon emissions growth, and businesses, both domestic and international, will have to navigate an increasingly complex regulatory landscape.

The purpose of this article is to analyze how business in two developed countries (Germany and

Burkard Eberlein is an Assistant Professor of Policy at the Schulich School of Business, York University.
Dirk Matten is Professor of Strategy and Hewlett-Packard Chair in Corporate Social Responsibility at the Schulich School of Business, York University.

Canada) with very different regulatory approaches to climate change has reacted to this challenge. As both countries in some ways represent opposite extremes on the spectrum of approaches to the problem the breadth of lessons is particularly important.

From a business ethics perspective, this debate is challenging as for a long time it was considered a business ethics truism that business ethics starts where the law ends. For example, in Carroll's pyramid model of CSR, ethical responsibilities are clearly distinct from legal compliance (Carroll, 1991). Recently, however, this distinction has come under scrutiny (for an overview, see Crane and Matten, 2004). With a burgeoning field of self-regulation (such as codes of conducts, industry agreements, self-commitments), we witness increasing corporate involvement in the regulatory process. In many cases, corporations are even intricately involved in developing governmental regulation, such as in the context of the World Trade Organization (WTO) and of numerous national regulatory approaches influenced by corporatist traditions (such as the Dutch polder model). Arguably, many initiatives of corporations towards higher ethical standards nowadays result in some form of regulation. Against this backdrop, this article specifically addresses three research questions:

- What are the ethical antecedents, values and outcomes of corporate involvement in regulatory processes? How and why do corporations become involved in the first place?
- What is the role of specific regulatory frameworks for ethical decision making in business? This question leads beyond the simple question of compliance and seeks to understand whether (and if so, how) corporations not only react to different regulatory frameworks but in fact also have a crucial role in shaping and influencing their environment, including the ethical values that govern regulatory processes.
- What are specific lessons from our two cases, Canada and Germany, for MNCs from emerging economies?

From the perspective of the MNC, our research contributes in two ways. First, for MNCs from industrialized countries this research maps out possible options in addressing climate change in emerging markets in the next decade. For MNCs headquartered in emerging economies, our research not only provides an orientation for potential strategic options regarding climate change in their home countries in the future but also provides an overview over the various options available to them in host countries in the developed world today.

This article proceeds by mapping five distinct ways in which business ethics and regulation may intersect and presents implications for the realm of climate change and business. The third section provides a critical review of the literature on business and climate change and explains how this article's approach adds value. The fourth section briefly sets out the methodological rationale for the Canadian–German comparison. The two following sections constitute the empirical core of the study: whereas the fifth section presents the climate change profile and regulatory framework of the two countries, the sixth section provides a detailed comparison of the business responses in Canada and Germany. The seventh section reviews the results of the case studies in light of the proposed mapping of how business ethics and regulation intersect. The eighth and final section concludes by offering lessons from the comparative case study for MNCS in emerging economies.

Business ethics and regulation: a conceptual framework

Regulation describes the entirety of rules, laws and codified norms which are part of the legal framework of business and which govern its ethical, social and environmental responsibilities (Matten, 2007). Regulation is normally issued by governmental bodies or supranational institutions with governmental authority, such as the European Union (EU) Commission or the WTO. On a generic level then, one could assume that complying with regulation is an intrinsic part of the ethical conduct of business. In this sense, it could be argued that regulation frees business from dealing with ethics as the questions of right and wrong are codified and the company's task is solely to comply. However, even in the context of existing regulation, business cannot always escape ethical considerations entirely. For instance, ethical issues may arise in the context of the interpretation of regulation, as many debates on the ethics of tax paying

and accounting show (e.g. Gramlich and Wheeler, 2003). Companies may comply with the letter of the law but may in fact infringe 'the spirit of the law', i.e. its desired societal intent. Contestation might also arise with regard to legislation which is considered ethically problematic. A blatant case was the Apartheid legislation in South Africa pre-1994 (Sethi and Williams, 2001) where many companies felt that non-compliance was the ethical route to embark on. More recently, and in the context of this article, we witness growing unrest about the ethics of climate change (non-) regulation, in particular in the US and Canada, where federal governments so far have refrained from consistently regulating carbon emissions. Conspicuously, some of these calls are coming right out of the business community which are admittedly also motivated by not only ethical but also economic, in particular risk-oriented motivations.[2]

These few reflections show that the issue of regulation has a far more complex relation to business ethics than one would argue on the surface of it. However, the literature on business ethics so far – notwithstanding some exceptions (e.g. Scherer et al., 2006) – has yet to fully appreciate this field of inquiry. In the following, we map five distinct ways in which business ethics and regulation intersect and will sketch out basic implications for the debate on climate change (see also Figure 1).

'Business ethics as surrogate regulation'

First, one could argue that governmental regulation and business ethics have a mutually exclusive relation: Business ethics addresses areas where regulation either does not exist or is insufficiently enforced. Addressing sweatshop working conditions or voluntary programmes for greenhouse gas (GHG) reduction are cases in point. Consequently, we see that companies such as Ford or General Motors, in

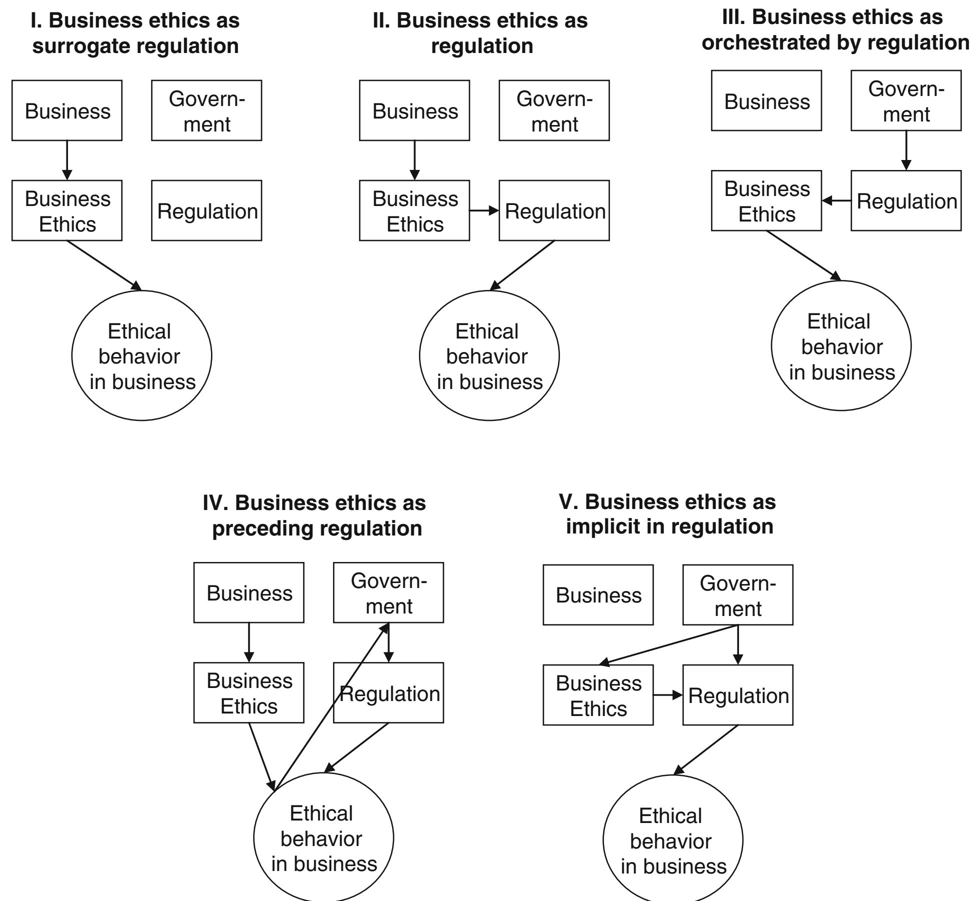

Fig. 1. A conceptual framework for analyzing the link between business ethics and regulation.

the absence of governmental regulation on climate change, have developed policies and practices with regard to an ethical response to the issue.

Yet, on closer examination, even here governmental regulation cannot simply be treated as an external variable which draws a clear line between situations where business has to comply and those situations, where in the absence of regulation, business has to apply ethical reasoning to make decisions. After all, regulation is often introduced – or prevented from being issued – due to heavy lobbying by business. In the case of climate change, there is ample evidence that the US government's abstinence on regulation is a result of the influence of the powerful oil and automobile industries in the US (Levy and Egan, 2003). The question which arises then from a business ethics perspective is twofold. First, there is ethical contestation about the legitimate influence of business on governmental decision making (Barley, 2007). Second, even if the means chosen are ethically sound, there is still contestation about the proper ethical norms which should guide business influence. While companies such as ExxonMobil have tried for a long time to argue against business responsibility for global warming, competitors such as BP or Shell more recently have come to the conclusion that there is a moral responsibility for business to engage in GHG emissions reduction (Levy, 2005). This raises the immediate question for business ethics about what the morally right attitude of business towards climate change should be and which values should govern business influence on regulatory frameworks.

'Business ethics as regulation'

Second, one could argue that business ethics and regulation are synonymous. Many ethical initiatives of business result in approaches of (self-) regulation – be it in the form of codes of ethics for companies, industries or professions, or in the form of wider regulatory regimes, such as the Forest- or Marine Stewardship Councils or the regulations of the Fair Trade label. In the context of climate change, we have seen a few approaches along these lines, such as the Carbon Disclosure Project (CDP)[3] and other voluntary emission reporting, trading and reduction frameworks (Kolk et al., 2008).

'Business ethics as orchestrated by regulation'

A third view would be to see business ethics – often in the form of its more popular label of 'corporate social responsibility' (CSR) – as orchestrated by governmental regulation. An example would be the EU which in its Green and White Papers on CSR as well as through the 'European Alliance on CSR' has attempted to provide a broader frame of incentives and procedures designed to encourage more CSR in Europe. In this view then, regulatory frameworks by governments – though not prescribing CSR as mandatory – aim at managing a wider economic and political process towards more ethical business practices. Arguably, the EU Emission Trading Scheme can be interpreted along these lines.

'Business ethics as preceding regulation'

Fourth, one could think of business ethics as preceding regulation. A number of initiatives by CSR proactive companies have led governments to make these activities mandatory for business in general. In the area of climate change, this is probably one of the most interesting laboratories for business ethics. The central question here would be in how far and in which ways individual businesses or industries, by taking a proactive approach to GHG emissions, will provide templates that might later on inform regulatory approaches by governments. A good example in the North American context is the corporate involvement in voluntary emission trading schemes such as the Chicago Climate Exchange and its Canadian partner, the Montréal Climate Exchange. The hope is clearly to be able to influence the design of future regulatory policies in which trading mechanisms are expected to play a major role (Kolk and Pinske, 2008a).

'Business ethics as implicit in regulation'

Finally, we may think of business ethics as being implicit in regulation. Business ethics – or its more popular contemporary manifestation CSR – as an explicit management idea has only come on the agenda of business outside of North America fairly recently. The responsibilities of business to wider

society, for instance in Europe, are still largely part of a negotiated, consensus-driven approach between governments, corporations, business associations and powerful trade unions. No German or French company needed to concern themselves with formal 'codes of ethics' with regard to their workers' health plans or their emission levels – these issues are implicitly part of the wider regulatory framework. As Matten and Moon (2008) have suggested, CSR can be framed in two different ways: 'explicit CSR' (largely synonymous with business ethics) is CSR in the sense of voluntary corporate policies, programs and strategies which determine basic ethical conduct of business towards wider societal interests. 'Implicit CSR' (largely synonymous with regulation), on the other hand, consists of values, norms and rules which result in (often codified and mandatory) requirements for corporations. From this perspective then, business ethics and regulation are in a complementary relationship.

In the context of climate change, the question of whether explicit or implicit approaches to business ethics are most effective counts among the most hotly debated issues. While implicit CSR often tends to free business from ethical dilemmas and reasoning as it prescribes the societal consensus on the 'right' level of emissions to the corporation, we at the same time witness more deliberate and thorough engagement with business ethics in parts of the world, where governments are less reluctant to regulate business. The expectation then would be that in countries such as the US or Canada companies would dedicate much more attention to the business ethics of climate change as in countries, such as Germany or France, where these ethical decisions are implicit in the institutional framework for business. The crucial question though lies in the outcomes: If we assume that reduction of carbon emissions is an ethically desired behaviour of business, which approach is more effective in implementing these behaviours?

In order to sum it up, the relation between business ethics and regulation is more complex than the initial textbook answer would make us want to believe. In fact, this problem feeds into some of the most current debates in international business, namely the role of MNCs in transnational institution building and the co-evolution and the co-alignment of environment and strategy through MNCs' strategic choices. The first strand of research (see Geppert et al., 2006 for an overview), mainly using institutional theory, has empirically and conceptually identified the growing role of MNCs in particular in building transnational economic, social and regulatory institutions, and MNCs are anything but a passive pawn simply reacting to external environmental change. Rather they actively shape and participate in this aspect of global governance, and given their transnational reach and size, are often one of the most powerful players in this context. In more detail, the second strand of research based on Tan's and co-author's ground-breaking research on Chinese state-owned MNCs (Tan and Litschert, 1994; Tan and Tan, 2005), has analysed the complex mechanisms of MNC's strategic interaction with their environment, including their regulatory environment. As Tan and Tan (2005, p. 143) argue, ''the mechanism of this co-creation, co-evolution, and co-alignment involves the recursive interaction of environment and strategic adaptation [...] and can be conceptualized as a continuously evolving cycle of environment–strategy interdependence.'' Our study on the role of MNCs in the context of climate change regulation, then, can be regarded as yet another empirical field where we witness the complex and recursive mechanisms which lead to co-evolution of both the MNCs' ethical approach to climate change as well as its regulatory environment which shapes – and is shaped by – MNCs' approaches to climate change.

The literature on business and climate change

Over the last decade or so, a considerable number of contributions have been published on the issue of business and climate change (Begg et al., 2005; Hoffman, 2005, 2006; Kolk and Pinkse, 2005, 2008b; Levy and Kolk, 2002; Pinkse and Kolk, 2007). A considerable part of the literature has used the backdrop of climate change to elucidate new arenas of global governance and, in particular, the role of private corporations in this new policy arena (Kolk and Pinkse, 2008a). There are, however, only few contributions in the specific business ethics literature. Contributions here have investigated the effectiveness of self-regulation, the ethical status of different regulatory approaches and case studies looking at individual companies and climate change

(Arnold and Bustos, 2005; Burress, 2005; Le Menestrel et al., 2002). Little attention has so far been paid to the role of corporations in creating and contributing to regulatory regimes, on the one hand, and, on the other, to the effect that regulation has for the ethical business approach to climate change. It is exactly at this intersection of key issues that this article contributes.

Climate change and the need to reduce GHG emissions is increasingly recognized as a fundamental, strategic (as opposed to environmental) challenge for business (Hoffman and Woody, 2008; Porter and Reinhardt, 2007). The panoply of actions now categorized under corporate responses to climate change is extremely broad, ranging from operational (efficiency) improvements over political lobbying and reputation enhancement to risk management, the identification of new low-carbon products and processes, and the participation in emissions trading (Hoffman, 2005, 2006; Sullivan, 2008). Attempts to classify relevant business strategies beyond the non-market versus market distinction typically distinguish, first, between *internal and external* control approaches: Do firms seek to achieve emissions reductions internally ('make') or do they 'buy' externally, within or beyond their supply chain? A second dimension, typically presented as a continuum, asks whether firms are *reactive* and try to simply compensate for excess emissions or whether they are *proactive* and explore new product and process improvements and new product/market combinations tailored to a new low-carbon market (e.g. Dunn, 2002; Kolk and Pinkse, 2004, 2005). Participation in emission trading schemes, based on elaborate emission inventory and assessment of risks and opportunities, is often considered as hallmark of an innovative strategy.

In regulatory perspective, the extant literature has noted a marked shift away from an early focus on defensive, non-market lobbying against regulatory measures towards increasingly sophisticated market strategies, in a context of more constructive engagement with climate change policies, emphasizing business opportunities (e.g. Jones and Levy, 2007). At the same time, not only the presence – but also the absence of – regulatory requirements affect the choices available to firms and shape the degree to which they can engage in proactive and innovative behaviour. In this perspective, a stringent regulatory regime may not only constrain but also *enable* certain strategic adaptations and proactive choices, while, in turn, business involvement and participation can be an important factor in regulatory framework stability and performance. Conversely, the lack of a coherent regulatory framework, resulting in uncertainty, may hamper innovative business responses, while also offering opportunities to shape a future regulatory framework.

Methodology

Our approach is that of case study research which – in the situation of novel phenomena and thus in the absence of large sets of empirical data – is considered an established approach in management research (Eisenhardt, 1989; Yin, 1994), in particular in the field of international business (Ghauri, 2004). Our research, in particular, contributes, first of all, a typology of different approaches to climate change by identifying two extreme opposites and secondly, categorizes typical corporate strategies in a co-evolving, recursive engagement in various approaches by business and regulatory bodies.

Our choice of countries follows the rationale of contrasting the effects of opposite regulatory regimes on ethical business challenges and responses: on a continuum of different approaches to regulation, Germany and Canada can be considered as two extremes or 'most different systems' (Eberlein and Doern, 2009). Germany has a long standing tradition of both strict environmental governmental regulation and broad industry involvement in rule-setting, which is reflected in its climate policy approach. Canada, by contrast, has earned a reputation as climate policy laggard, and business participation is traditionally confined to defensive lobbying activities. While Germany has been quite successful in meeting its emission reduction targets as set out in the Kyoto protocol, Canada has so far failed dramatically to comply with its Kyoto obligations. As an EU member country, Germany participates in the EU Emissions Trading Scheme, while Canada does not have any comparable regulatory approach and framework in place at the federal level. These contrasting attributes provide a perfect empirical terrain to study expected variations of the relationship between business ethics and regulation.

Climate change policy profile and regulatory framework in Canada and Germany

At first glance, Canada and Germany seem to share a common climate policy trajectory. Both countries have been at the forefront of international climate policy since the late 1980s. Also, both nations signed and ratified the 1997 Kyoto Protocol that sets mandatory targets for GHG emission reductions in industrialized countries. Table I shows the basic features of both approaches, highlighting, that below the surface of formal commitments, Canada and Germany quite radically part company (Bernstein et al., 2008; Rivers and Jaccard, 2009; Simpson et al., 2008; Weidner and Eberlein, 2009; Weidner and Mez, 2008). Whereas Germany is basically on track to meet its Kyoto target, having achieved an 18% reduction of GHG emissions by 2006, Canada's emissions increased dramatically by over 21% compared to the 1990 baseline, putting Canada almost 30% above its Kyoto target by 2006.

Since the early 1990s, Canada has relied primarily on non-compulsory, voluntary approaches and policies to address climate change, eschewing emission caps, regulation and taxation as policy instruments (Rivers and Jaccard, 2009). This approach is unlikely to achieve the government's new overall commitment of a 20% reduction from 2006 levels by 2020, let alone the much more ambitious Kyoto targets based on 1990 levels (Jaccard and Rivers, 2007). There are, however, some recent initiatives at the provincial level, the most radical measure being the general carbon tax introduced by British Columbia in July 2008: set initially at \$10/tC02, it will be raised annually by \$5 to peak at \$30 by 2012.

In contrast to Canada, Germany has not shied away from strong regulatory and tax policies with a high degree of 'compulsoriness' that impose significant costs on businesses and the general population (Weidner and Eberlein, 2009). All the three levers of climate protection policies have been used: the control (and taxation) of emissions (emission caps); the improvement of energy efficiency (efficiency gains in housing and transport) and the shift to low-emission fuels and technology (renewables). Climate change policies go back to the mid-1980s, growing out of broadly shared environmental concerns. Yet, the most significant policy measures were introduced on the watch of a coalition government between Social Democrats and the Green Party (1998–2005), under the comprehensive 2000 'National Climate Protection Programme' that listed specific carbon reduction targets for seven different sectors. A key – and very controversial – policy instrument is the so-called eco-tax, a levy on electricity consumption and a surcharge on existing mineral oil taxes. The most successful policy measure is the aggressive promotion of renewable energy sources through generous subsidy and guaranteed take-off programmes. Between 2000 and 2005 alone, Germany's total renewables' supply increased by 70%, and Germany surpassed its target to have renewables provide 4.2% of primary energy supply by 2006 already (IEA, 2007a, pp. 11, 65). By 2007, Germany was the world leader in installed wind energy capacity (with 22,247 MW installed capacity).

The single-most important climate policy instrument is Germany's participation in the mandatory EU Emission Trading System (ETS), the largest emission trading system worldwide that was launched in 2005 for a first trial period of 3 years (Egenhofer, 2007). The second period coincides with the Kyoto commitment period 2008–2012. Initially, the ETS covered power generation and energy-intensive industries only, representing about 55% of total CO2 emissions in Germany. Subject to EU framework rules and approval, individual countries allocate emission permits to industrial installations and power plants.

Business responses to climate: Canada and Germany compared

Canada

At first sight, the Canadian case seems to provide evidence for the dominance and political success of a defensive lobbying strategy designed to hinder the emergence of regulatory carbon constraints. Aligned with the position of many US counterparts at the time, Canadian business associations vigorously campaigned against the ratification of the Kyoto Protocol in the fall of 2002. A lobby group, the Canadian Coalition for Responsible Environmental Solutions (CCRES), composed of more than 30 business organizations and industry associations with a heavy input from oil and gas interests ran an advertising campaign denouncing the destructive

TABLE I

Regulatory context for climate change policies in Canada and Germany

		Canada	Germany
Kyoto protocol: signed and ratified		Yes	Yes
Kyoto protocol GHG reduction targets (2008–2012 commitment period, 1990 as base year)		6%	21% Reduction as part of EU collective commitment (Germany taking 75% of the reduction of EU-15)
Kyoto performance (prospective)		30% over target	On target
Policy approach	Early phase (1990–ca. 2005)	Non-compulsory, voluntary approach	Mandatory regulation • Specific carbon reduction targets • Eco taxation • Regulation on new buildings and bio fuel • Aggressive incentives for renewable energy
	Late phase (since ca. 2005)	Federal level: setting of modest intensity targets, continuation of existing approach Provincial level: Ontario, Quebec (both plan cap and trade), British Columbia (eco tax) imposed some mandatory regulation	EU wide mandatory regulation with EU emissions trading system (EU-ETS): cap and trade system for CO2
Drivers of policy approach	Political system	• Federal powers relatively weak, provincial powers relatively strong • Majoritarian electoral system prevents green movement from gaining political representation	• Checks and balances between provincial and federal system urge consensus • Strong political influence of Green Party
	Civil society	Weak green movement	Strong green movement, incl. political representation in government
	International context	US position on climate change fuelled fears of competitive disadvantage	EU supportive of progressive climate change regulation
	Natural energy resources	Strong opposition to addressing climate change by energy-rich Western provinces	Poverty in energy resources facilitated consensus at provincial and federal level

effects on the economy of compliance with the Kyoto targets (Harrison, 2007).

After 2002, the business community continued to voice its concerns about the excessive costs – but also the ineffectiveness – of federal plans to implement the Kyoto targets. Yet, a significant shift was under way: In late 2005, in a surprising reversal of position, prominent business leaders called for climate change action, through a letter to the Prime Minister wherein the leaders of major Canadian MNCs such as Alcan, Bombardier, Shell Canada, Falconbridge and Home Depot Canada acknowledged corporate responsibilities under the Kyoto Protocol and called for a long-term Canadian strategy to combat climate change.[4] Within a few years only, business attention shifted from resistance against regulatory carbon constraints to concerns about a regulatory gap in federal climate policy, and to attempts to influence future federal regulation.

In October 2007, the Canadian Council of Chief Executives issued a policy declaration that acknowledged the need for government action and endorsed the need for absolute emission cuts and carbon price signals including trading schemes and taxation.[5] In short: the lack of a strong and consistent regulatory framework is now seen as a liability, and attention shifted to shaping the future regulatory framework.

The uncertainty surrounding the shape of future government regulations has also been an important factor in the – so far – uneven and hesitant market strategies of Canadian corporations in the climate change field. In the 2007 Carbon Disclosure Project Report for Canada, based on submissions of the 200 most valuable publicly traded companies, ''continued lack of regulatory clarity is cited by respondents as a major impediment to implementing a carbon emissions reduction strategy and assessing potential compliance costs''.[6] The profile of large industrial emitters that account for about 50% of Canada's total GHG emissions is particularly interesting in this respect. A recent Deloitte GHG Emissions Management survey sent to 220 Canadian large emitters found that for the majority of respondents (80) emissions management remains ''on the backburner'', confined to environmental management or sustainable development departments (Deloitte, 2007).

The broader Canadian picture is rather uneven: Some individual companies from high-carbon sectors are actually leaders. MNCs, such as Alcan, rank first in the metals and mining sector of a global corporate governance and climate change ranking presented by Coalition for Environmentally Responsible Economies (Ceres), a responsible investor coalition (Cogan, 2006). Alcan, together with energy companies, such as Suncor Energy, TransAlta Corp. and EnCana Corp., are the four best-ranked out of the 16 Climate Disclosure Leaders identified in the 2007 Carbon Disclosure Project Report for Canada.[7] However, the overall picture suggests that Canadian companies, and especially large emitters, lag behind when it comes to moving from awareness and inventory exercises to targets, integrated strategies and actions.

In summary, the Canadian situation is characterized by an underdeveloped regulatory framework that, while offering flexibility to companies, may also have hampered bottom-up company initiatives that are slowly emerging. The regulatory gap – ironically the result, among other factors, of defensive lobbying – is indeed increasingly viewed as an obstacle for proactive emissions abatement strategies as climate change matures into a core strategic challenge for business. Yet, at the same time, the current regulatory gap is viewed as an opportunity to shape future regulation, considered inevitable.

Germany

Contrary to the Canadian business community, German corporations collectively never campaigned against the principle of climate change policy or the landmark Kyoto Protocol. German industry signed on to an early national consensus on the need for mitigation and abatement action. To be sure, business associations have voiced strong concerns about or resisted specific instruments and policy measures. For example, the Federation of German Industries (BDI) initially lobbied vigorously against the launch of a mandatory cap-and-trade scheme on the EU level that would replace voluntary industry commitments. Similarly, the introduction of the eco-tax on mineral fuels was deeply unpopular with German business, and while industry could not stop it, it managed to achieve extensive exemptions from the new tax (Michaelowa et al., 2005).

The first voluntary cross-sector agreement between the Federation of German Industries (BDI) and the federal government was signed in 1995,

which was revised and updated over the years (Weidner and Eberlein, 2009). However, compliance with and overall success of these agreements has been mixed at best. German industry, for example, did not comply with the specific CHP commitment (of 2001 and 2004) to reduce CO2 emissions by 20 million tonnes by 2005. Instead, energy industry emissions rose by 30 million tonnes.

Given these mediocre outcomes, and against the background of the transition to the mandatory EU cap-and-trade scheme, voluntary industry-level commitments are not actively pursued anymore. The German utility, energy, and energy-intensive industry now (successfully) focussed its political attention on lobbying for a favourable allocation of emission permits under the National Allocation Plan of Germany for the first trading period of 2005–2007 (Ziesing, 2009).

The general approach of constructive engagement is illustrated by a recent, 2007 BDI initiative "Business for Climate Protection", bringing together leading industrialists from large MNCs such as Allianz, Deutsche Telekom, Siemens, or Vattenfall to offer corporate support for progressive climate protection policies on the national and international level.[8] More specifically, the emphasis is on how German industry as global market leader in climate protection products can offer solutions to the climate challenge. While cost and competitiveness concerns about regulatory measures do exist, the dominant view is that, due to technological and market leadership, German industry stands to gain from aggressive policy measures.

This reflects how the German regulatory framework not only imposes cost constraints on businesses and consumers but also offers enabling benefits, although these benefits are not equally shared across sectors. First of all, the mature regulatory framework offers relative certainty and stability. Second, the relatively stringent framework has compelled German industry to innovate and develop low-carbon products and processes. Companies now harvest the benefits of competitive advantage as markets for climate-friendly products grow. There is little evidence that the straightjacket of the regulatory framework has either dictated or stifled individual corporate responses to climate change, or relieved companies from initiative and strategic climate choices.

On an individual level, German companies have had a prominent presence in the Climate Disclosure Leadership Index over the last 4 years. In the automotive sector, MNCs such as Daimer Chrysler and BMW consistently ranked among the selected companies. In chemicals, it has been the MNC, BASF. Siemens, another large German MNC, has been a member of the Climate Leadership Index since 2005, one of only two industrial conglomerates (next to GE) to be listed. In 2006, the energy company, RWE, earned first place, with 95/100, in the Electric Utilities – International category.

In summary, a strong regulatory framework has not consigned corporate actors to passivity. Rather it has compelled German companies to innovate and search for less carbon-intensive products, processes and technologies. Next to cost constraints, the German regulatory framework offers two enabling benefits: regulatory certainty, and financial and other incentives that have helped in the emergence of an entire eco-industrial sector, especially in alternative energy technology.

Discussion

On the surface then, comparing climate change policies and the role of business in Canada and Germany, one might argue that the dichotomy between business ethics and regulation is still rather distinct: while Germany is a highly regulated environment for climate change, we see less voluntary initiatives by business; however, the largely absent regulatory framework in Canada seems to leave space for a number of ethically motivated initiatives by industries, business groups and individual businesses. Analysing our account in more detail, however, we see that this simple dichotomy is no longer tenable. On the one hand, this is partly due to the fact that 'the law' has become a much more sophisticated, differentiated regulatory tool which is rarely just constituted of mandatory rules, but that is increasingly – as the German case shows – a result of incentives and frameworks which still leave considerable degrees of discretion to companies. On the other hand, it is also due to the fact that business is in fact deeply involved and entrenched in the regulatory process at various levels – next to government as the traditional law-maker and increasingly civil society.

Analysing our two country cases in the light of our framework of business ethics/regulation relations as

discussed earlier, we actually see a more complex and fine-grained picture (see Table II for overview). Looking at *business ethics as surrogate regulation*, we see, indeed, a number of initiatives in Canada, which in the absence of regulation, have prompted business, individually or collectively, to take the issue of climate change in a proactive manner. Notwithstanding the inhibiting factor of regulatory uncertainty, individual corporations have taken internationally recognized leadership roles in GHG emission reduction efforts: for example, Alcan (Rio Tinto Alcan), a global materials company, has since 2001 implemented its own GHG emission reduction program (TARGET), which achieved an average of 2% per year emissions reduction over 4 years.[9] Collectively, we have seen how Canadian businesses, after initial resistance, are now constructively engaged in the national debate on a federal regulatory framework, mainly through the Canadian Council of Chief Executives. Similar initiatives in Germany are much less prevalent – though not completely absent. While the Canadian initiatives, however, reflect the absence of regulation, the German case points to the fact that with strong civil society pressures towards greener business practices there are strong incentives for voluntary business initiatives towards ethical behaviour – even within a relatively coherent and strong legal framework for ethical behaviour.

Looking at the second aspect, *business ethics as regulation*, we see that mounting public awareness of climate change issues has driven proactive companies towards self-regulatory initiatives to address the issue in Canada. Regulation here is clearly reflecting the attempt to create a level-playing field for industry in Canada, and the business ethics of individual players results in regulation for industries or regions, as the flourishing of provincial initiatives demonstrates. A good example of attempts at corporate self-regulation is the establishment of the Montréal Climate Exchange, a partnership between the Montréal Exchange and the Chicago Climate Exchange, the leading platform for voluntary trading arrangements in North America.[10] In Germany, this aspect of business ethics is rather underdeveloped, and where it exists, it reflects business initiatives to respond to some of the incentives set by the regulatory framework, in particular in the area of renewable energy.

In Germany, we see specifically the aspect of *business ethics as orchestrated by regulation* gaining more momentum. It is here where we would argue that the analysis of climate change policies and the role of business offer the richest basis to further develop our thinking on business ethics. In particular, cap-and-trade systems still provide individual business or industries collectively with a range of options to respond to climate change. These might range from proactive reduction of emissions, on the one hand, to adhering to the status quo, and purchasing permits on the other. Incentive-based regulation does not simply replace ethical decision making by compliance, but it rather provides strong economic incentives for business to put ethical decision making on top of their agenda. In our cases, this was mostly visible in Germany where business is exposed to a rather broad range of national and EU-wide innovative regulatory approaches. In Canada, by contrast, where the federal government has so far refrained from any substantial regulatory framework to orchestrate ethical behaviour in business, this phenomenon is just emerging at the provincial level where business starts to be exposed to some more stringent form of regulation, as with the recently introduced carbon tax in the province of British Columbia.

A phenomenon, that is, however, quite strongly visible in Canada is *business ethics preceding regulation*. Most businesses, in particular bigger corporations, in Canada are aware of the fact that at some stage, there will be a new regulatory regime on climate change in Canada – either as a continuation of emerging frameworks at the provincial level or in a new overall system at federal level, as recently debated in the fall 2008 election campaign. This situation involves reflections of businesses' on their approach to this ethical issue at two levels: first, business might implement practices which would then be the basis of further regulation, providing early voluntary movers with a competitive advantage. Next to individual emission reduction schemes, this would include early involvement in trading activities through the Montréal Climate Exchange, which explicitly presents itself as a key component of a future Canadian regulatory regime. Second, and often regarded suspiciously from an ethical perspective, corporations may influence further regulation through various forms of lobbying. From an ethical perspective, it would be too simple to just discount this as a self-interest-driven manipulation of the democratic process. As the German example shows, while corporations have self-interest in

TABLE II

Business ethics/regulation in comparative perspective

	Canada	Germany
'Business ethics as surrogate regulation'	High	Medium to low
'Business ethics as regulation'	Medium to low	Low
'Business ethics as orchestrated by regulation'	Low	Medium to high
'Business ethics as preceding regulation'	Medium to high	Medium
'Business ethics as implicit in regulation'	Low	High

becoming involved, many of the issues around specifically implementing a cap-and-trade system require some in-depth knowledge of complex technological, economic and operational mechanisms whose knowledge often is the specific domain of business. An ethical approach of business would involve, in particular, constructive collaboration with the regulator to design effective and efficient ways of regulating climate change. The current phase of climate policies in Canada clearly puts business in a position to become involved at this level. The Canadian Council of Chief Executives has been keen to play the role of advisor and partner in the development of a regulatory framework, for example, through its Environmental Leadership Initiative launched in 2007.[11]

Finally, it is the German case which illustrates *business ethics as implicit in regulation*. If we agree that the reduction of greenhouse gasses is an ethical issue for business, then the fact that German business has significantly contributed to reaching the Kyoto target can be interpreted as a positive example of business ethics. It is, however, not the result of voluntary ethical decision making of individual businesses but of regulation. It directs our attention (a) to the fact that business ethics is not simply a function of a certain regulatory framework but also (b) to the crucial role business can play to implement ethical concerns in the regulatory framework in the first place.

Conclusions

Our relatively brief foray into the comparative analysis of climate change policies and business responses suggests a number of conclusions for MNCs in emerging economies.

- *The role of MNCs in shaping the regulatory regime for climate change*: conspicuously, much of the research on business and climate change has looked predominantly at how large MNCs have responded individually (e.g. Begg et al., 2005). Not surprisingly, our comparative study has also identified, in particular, large MNCs to be the key players in shaping the regulatory approach in the respective countries. This suggests for MNCs from emerging economies that – given the rise in importance of the issues of climate change – this field of policy should become a prime focus of attention for these companies. Both the Canadian and the German cases show that resistance to or ignoring the issue has not proven a successful option in the long term. In particular, the German case shows that MNCs which proactively shaped the agenda and adapted to shifting public preferences are now in a position to see climate change as an opportunity for successful new technologies and markets.
- *The role of business ethics and CSR in emerging economies*: Our study reveals an important lesson for emerging economies which have just begun to approach climate change, such as China or India. Even in a rather tight regulatory setting such as the German case, our study shows that without voluntary and active involvement of the biggest players in the relevant industries, effective regulatory approaches cannot be implemented by governments single-handedly. In particular, the orchestrating role of government in incentivizing more business ethics has proven to be crucial here. At the same time, the Canadian case demonstrates that addressing climate change is ultimately in the interest of national competitiveness. For MNCs from emerging economies, this yields the conclusion that developing corporate strategies with regard

to climate change is a necessary prerequisite of engaging in the regulatory game around governmental policies. A proactive, rather than a passive or resisting approach, has proven to be the long-term successful approach for MNCs in both countries of our study.

- *Business ethics and the co-creation of regulatory environments*: One of the aims of our study was to conceptualize the relation between voluntary business ethics and the regulatory environment of business. Rather than seeing both areas as dichotomous and distinct, our study has shown that we can think about the relationship of both areas in terms of at least five mechanisms (Figure 1). Our study then is another empirical case for understanding how MNCs, in collaboration with other players in their organizational field, including governments, co-create their regulatory environment (Tan and Tan, 2005). Their voluntary policies on CSR and business ethics then are not just filling gaps in the regulatory framework; they in fact shape and are shaped by the wider legal framework in which companies operate. Interestingly, this not only happens at the national level but, as the German and European cases show, also in the area of transnational institution building. The broader lesson for MNCs from emerging economies here seems to be that rather than reacting passively to political trends and activity they can secure considerable leeway over the shape of their regulatory environment by becoming actively involved in the political processes leading to regulatory change with regard to climate change.

Notes

[1] In China, CO2 emissions have recently grown even faster than GDP and energy use, due to the heavily fossil-fuel (coal)-based economic growth (Jotzo, 2008).

[2] In early 2007, the U.S. Climate Action Partnership (USCAP), a collaboration between ten major US companies and four environmental organizations, issued a report entitled "A Call for Action" that calls for swift legislative action to create a regulated, market-driven approach to climate change. The group of prominent companies has since grown to 26 members (http://www.us-cap.org/about/index.asp, accessed November 18, 2008).

[3] The Carbon Disclosure Project (CDP) is an initiative by a large group of (385) institutional investors representing (by the end of 2007) in excess of $40 trillion in assets under management, to survey the climate change strategy of the 500 largest firms (Financial Times Global 500). The yearly surveys produce one of the best available sources on corporate emission profiles and emission management (http://www.cdproject.net/index.asp).

[4] "Business leaders call for climate change action," November 17, 2005, cbcnews.ca, at: http://www.cbc.ca/money/story/2005/11/17/kyotobiz-051117.html (accessed November 18, 2008).

[5] CEOs call for 'aggressive' action on climate change, CBC News, October 1, 2007, at http://www.cbc.ca/money/story/2007/10/01/climateceo.html (accessed November 18, 2008).

[6] Carbon Disclosure Project Report 2007 – Canada 200, Report written by the Conference Board of Canada, (available at: http://www.cdproject.net/ (accessed September 5, 2008).

[7] *Idem*.

[8] "Our most important contribution is development in this country of the technologies, processes and services that can be used worldwide for effective reduction of greenhouse gas emissions. With this in mind, we are supporting the active leadership role undertaken by Germany and the European Union on the way to a low-emission economy" (Policy Statement, German Business for Climate Protection, at: www.initiative2grad.de) (accessed November 20, 2008).

[9] For further details see: Alcan, "Targeting Climate Change," available at: http://www.alcan.com/web/publishing.nsf/Content/About+Alcan+-+Publications/$file/Alcan+TARGET+Brochure+EN.pdf (accessed November 19, 2008.

[10] "Montreal Climate Exchange launches first Canadian environmental market," May 30, 2008, TSX News Release, at: http://tsxmarkets.com/en/investor_relations/corporate_info/newsreleases/5-30-2008_TSXGroup-ClimateExchange.html (accessed 19 November, 2008.

[11] Canadian Council of Chief Executives, News Release, "Canadian Business Leaders launch major national initiative to curb greenhouse gas emissions and promote clean technologies", March 5, 2007, at: http://www.ceocouncil.ca/publications/pdf/test_91b7ae71538ae8caa7ab2ff7f842d52a/News_Release_with_list_CCCE_Launches_Environmental_Leadership_Initiative_March_5_2007.pdf (accessed November 19, 2008.

Acknowledgements

We wish to express our gratitude to the guest editor, Justin Tan, for his very helpful comments on earlier versions of the manuscript. Research assistance by Norman Tasevski is gratefully acknowledged.

References

Arnold, D. G. and K. Bustos: 2005, 'Business, Ethics, and Global Climate Change', *Business and Professional Ethics Journal* **24**, 103–130.

Barley, S. R.: 2007, 'Corporations, Democracy, and the Public Good', *Journal of Management Inquiry* **16**(3), 201–215.

Begg, K., F. van der Woerd and D. L. Levy (eds.): 2005, *The Business of Climate Change: Corporate Responses to Kyoto* (Greenleaf, Sheffield).

Bernstein, S., J. Brunnée, D. G. Duff and A. J. Green (eds.): 2008, *A Globally Integrated Climate Policy for Canada* (University of Toronto Press, Toronto).

Burress, D.: 2005, 'What Global Emission Regulations Should Corporations Support', *Journal of Business Ethics* **60**, 317–339.

Carroll, A. B.: 1991, 'The Pyramid of Corporate Social Responsibility', *Business Horizons* **34**, 39–48.

Cogan, D. G.: 2006, *Corporate Governance and Climate Change: Making the Connection* (Ceres, Boston).

Crane, A. and D. Matten: 2004, 'Questioning the Domain of the Business Ethics Curriculum', *Journal of Business Ethics* **54**(4), 357–369.

Deloitte: 2007, *Forward thinking: the importance of managing greenhouse gas emissions: A survey of Canadian emitters 2006*. http://www.deloitte.com/dtt/article/0,1002,cid%253D157840,00.html. Accessed 18 Nov 2008.

Dunn, S.: 2002, 'Down to Business on Climate Change: An Overview of Corporate Strategies', *Greener Management International* **39**(Autumn), 27–41.

Eberlein, B. and B. Doern: 2009, 'German and Canadian Multi-Level Energy Regulatory Governance', in B. Eberlein and B. Doern (eds.), *Governing the Energy Challenge: Canada and Germany in a Multilevel Regional and Global Context* (University of Toronto Press, Toronto), pp. 3–37.

Egenhofer, C.: 2007, 'The Making of the EU Emissions Trading Scheme: Status, Prospects and Implications for Business', *European Management Journal* **25**(6), 453–463.

Eisenhardt, K. M.: 1989, 'Building Theories from Case Study Research', *Academy of Management Review* **14**(4), 532–550.

Garvey, J.: 2008, *The Ethics of Climate Change – Right and Wrong in a Warming World* (Continuum, London).

Geppert, M., D. Matten and P. Walgenbach: 2006, 'Transnational Institution Building and the Multinational Corporation: An Emerging Field of Research', *Human Relations* **59**(11), 1451–1465.

Ghauri, P. N.: 2004, 'Designing and Conducting Case Studies in International Business Research', in R. Marschan-Piekkari and C. Welch (eds.), *Handbook of Qualitative Research Methods for International Business* (Edward Elgar, Cheltenham), pp. 109–124.

Gramlich, J. D. and J. E. Wheeler: 2003, 'How Chevron, Texaco, and the Indonesian Government Structured Transactions to Avoid Billions in U.S. Income Taxes', *Accounting Horizons* **17**(3), 107–122.

Harrison, K.: 2007, 'The Road not Taken: Climate Change Policy in Canada and the United States', *Global Environmental Politics* **7**(4), 92–117.

Hoffman, A. J.: 2005, 'Climate Change Strategy: The Business Logic behind Voluntary Greenhouse Gas Reductions', *California Management Review* **47**(3), 21–46.

Hoffman, A. J.: 2006, *Getting Ahead of the Curve: Corporate Strategies that Address Climate Change* (The Pew Center on Global Climate Change, Washington, DC).

Hoffman, A. J. and J. G. Woody: 2008, *Climate Change: What's Your Business Strategy?* (Harvard Business Press, Boston, MA).

International Energy Agency (IEA): 2007a, *Energy Policies of IEA Countries: Germany 2007 Review* (International Energy Agency, Paris).

International Energy Agency (IEA): 2007b, *World Energy Outlook 2007: China and India insights* (International Energy Agency, Paris).

Jaccard, M. and N. Rivers: 2007, *Estimating the Effect of the Canadian Government's 2006–2007 Greenhouse Gas Policies*, C.D. Howe Institute e-brief, June 12, 2007. http://www.cdhowe.org/pdf/ebrief_46.pdf. Accessed 19 Nov 2008.

Jones, Ch. A. and D. L. Levy: 2007, 'North American Business Strategies Towards Climate Change', *European Management Journal* **25**(6), 428–440.

Jotzo, F.: 2008, 'Climate Change Economics and Policy in the Asia Pacific', *Asian-Pacific Economic Literature* **22**(2), 14–30.

Kolk, A., D. L. Levy and J. Pinkse: 2008, 'Corporate Responses in an Emerging Climate Regime: The Institutionalization and Commensuration of Carbon Disclosure', *European Accounting Review* **17**(4), 719–745.

Kolk, A. and J. Pinkse: 2004, 'Market Strategies for Climate Change', *European Management Journal* **22**(3), 304–314.

Kolk, A. and J. Pinkse: 2005, 'Business Responses to Climate Change: Identifying Emergent Strategies', *California Management Review* **47**(3), 6–20.

Kolk, A. and J. Pinkse: 2008a, 'Business and Climate Change: Emergent Institutions in Global Governance', *Corporate Governance* **8**(4), 419–429.

Kolk, A. and J. Pinkse: 2008b, 'A Perspective on Multinational Enterprises and Climate Change: Learning From "An Inconvenient Truth"', *Journal of International Business Studies* **39**(8), 1359–1378.

Le Menestrel, M., S. van den Hove and H.-C. de Bettignies: 2002, 'Processes and Consequences in Business Ethical Dilemmas: The Oil Industry and Climate Change', *Journal of Business Ethics* **41**(3), 251–266.

Levy, D. L.: 2005, 'Business and the Evolution of the Climate Regime: The Dynamics of Corporate Strategies', in D. L. Levy and P. J. Newell (eds.), *The Business of Global Environmental Governance* (MIT Press, Cambridge, MA), pp. 73–104.

Levy, D. L. and D. Egan: 2003, 'A Neo-Gramscian Approach to Corporate Political Strategy: Conflict and Accommodation in the Climate Change Negotiations', *Journal of Management Studies* **40**(4), 803–829.

Levy, D. L. and A. Kolk: 2002, 'Strategic Responses to Global Climate Change: Conflicting Pressures on Multinationals in the Oil Industry', *Business and Politics* **4**(30), 275–300.

Matten, D.: 2007, 'Regulation', in W. Visser, D. Matten, M. Pohl and N. Tolhurst (eds.), *The A-Z of Corporate Social Responsibility – The Complete Reference of Concepts, Codes and Organisations* (Wiley, London), pp. 385–388.

Matten, D. and J. Moon: 2008, "Implicit' and 'Explicit' CSR: A Conceptual Framework for a Comparative Understanding of Corporate Social Responsibility', *Academy of Management Review* **33**(2), 404–424.

Michaelowa, A., S. Butzengeiger and S. Bode: 2005, 'Governmental and Industrial Responses to Climate Change: The Case of Germany', in K. Begg, F. van der Woerd and D. L. Levy (eds.), *The Business of Climate Change: Corporate Responses to Kyoto* (Greenleaf, Sheffield), pp. 104–130.

Pew Center: 2007, *Climate Change mitigation Measures in the People's Republic of China*, International Brief 1, April 2007 (Pew Center on Global Climate Change, Arlington, VA).

Pinkse, J. and A. Kolk: 2007, 'Multinational Corporations and Emissions Trading: Strategic Responses to New Institutional Constraints', *European Management Journal* **25**(6), 441–452.

Porter, M. E. and F. L. Reinhardt: 2007, 'A Strategic Approach to Climate', *Harvard Business Review* **85**, 26.

Rivers, N. and M. Jaccard: 2009, 'Talking without Walking: Canada's Ineffective Climate Effort', in B. Eberlein and B. Doern (eds.), *Governing the Energy Challenge: Canada and Germany in a Multilevel Regional and Global Context* (University of Toronto Press, Toronto), pp. 285–313.

Scherer, A. G., G. Palazzo and D. Baumann: 2006, Global Rules and Private Actors – Towards a New Role of the TNC in Global Governance, *Business Ethics Quarterly* **16**(3), 505–532.

Sethi, S. P. and O. F. Williams: 2001, *Economic Imperatives and Ethical Values in Global Business: The South African Experience and International Codes Today* (University of Notre Dame Press, Notre Dame).

Simpson, J., M. Jaccard and N. Rivers: 2008, *Hot Air: Meeting Canada's Climate Change Challenge* (Emblem Editions, Toronto).

Sullivan, R. (ed.): 2008, *Corporate Responses to Climate Change: Achieving Emissions Reductions Through Regulation, Self-Regulation, and Economic Incentives* (Greenleaf Publishing, Sheffield, UK).

Tan, J. and R. J. Litschert: 1994, 'Environment–Strategy Relationship and its Performance Implications: An Empirical Study of Chinese Electronics Industry', *Strategic Management Journal* **15**(1), 1–20.

Tan, J. and D. Tan: 2005, 'Environment–Strategy Co-Evolution and Co-Alignment: A Staged Model of Chinese SOEs Under Transition', *Strategic Management Journal* **26**(2), 141–157.

Weidner, H. and B. Eberlein: 2009, 'Still Walking the Talk? German Climate Change Policy and Performance', in B. Eberlein and B. Doern (eds.), *Governing the Energy Challenge: Canada and Germany in a Multilevel Regional and Global Context* (University of Toronto Press, Toronto), pp. 314–343.

Weidner, H. and L. Mez: 2008, 'German Climate Change Policy: A Success Story with Some Flaws', *The Journal of Environment & Development* **17**(4), 356–378.

Whalley, J. and S. Walsh: 2008, *Bringing the Copenhagen Global Climate Change to Conclusions*, CESifo Working Paper No. 2458, November 2008. http://www.cesifo-group.de/pls/guestci/download/CESifo%20Working%20Papers%202008/CESifo%20Working%20Papers%20November%202008%20/cesifo1_wp2458.pdf. Accessed 2 Dec 2008.

Yin, R. K.: 1994, *Case Study Research: Design and Methods*, Vol. 2 (Sage, Thousand Oaks, CA).

Ziesing, H.-J.: 2009, 'EU Emission Trading and National Allocation Plans 2005–2007: The Case of Germany', in B. Eberlein and B. Doern (eds.), *Governing the Energy Challenge: Canada and Germany in a Multilevel Regional and Global Context* (University of Toronto Press, Toronto), pp. 344–372.

Schulich School of Business,
York University, Toronto,
4700 Keele Street, Toronto, M3J 1P3, Canada
E-mail: beberlein@schulich.yorku.ca