Business, Risk, and Carbon Pricing:

Business Preference for Climate Change Instruments in Canada

Kaija Belfry Munroe

Department of Political Science,
University of British Columbia

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Sustainable Prosperity

BACKGROUND REPORT

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Sustainable Prosperity
c/o University of Ottawa
555 King Edward Ave
Ottawa, ON K1N 6N5
www.sustainableprosperity.ca

I. Abstract

This report publishes the findings of a two-year study into business preferences for climate change instruments in Canada. Surprisingly, the study found that the business community in Canada is overwhelmingly in favour of a price on carbon. There is, however, considerable variation in the type of carbon price supported, with some firms and associations supporting a cap-and-trade program, while others support carbon taxation.

This study also researched the factors behind these preferences. It found that the analytical framework utilized by business officials to determine policy preferences focused on risk management and not cost minimization. Three implications of this finding are discussed in detail: first, organizational survival is a key objective of business-government relations; second, investor confidence and policy certainty are significant factors in policy preference development; and, finally, subjective factors, such as the personal experience and beliefs of key officials, also influence corporate preferences. The report finishes with recommendations for future policy directions.

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1. Introduction

It has been eight years since the Government of Canada first indicated it was prepared to adopt policy measures in the fight against climate change. Since that time, no federal government – Liberal or Conservative – has followed through on the promise to create a framework aimed at decreasing carbon emissions. It is only natural in the face of such significant policy failure to start looking for someone to blame and the business community provides an easy target. After all, approximately 50% of Canada's emissions come from the major industrial sectors and policy instruments would be expected to increase the cost of industrial production in Canada. Surprisingly, however, these criticisms are misplaced. **The business community in Canada overwhelmingly supports a price on carbon** and, indeed, has done so since 2006-2007.

This report presents this and other findings of a two-year study into business preferences for climate change policy instruments in Canada. In addition to a review of the policy preferences for 13 associations and 17 large firms, this report also provides evidence on the main factors influencing the development of business policy preferences. In particular, this study found that risk management, not cost minimization, was the main lens through which business officials analyzed climate change policy instruments and made decisions as to which policies to support, and which to fight.

The focus on risk management has three implications for our understanding of business preferences for government policy. First, risk implies a negative lens, suggesting that organizational survival is a central motivation for corporate decision-making. Second, this study found that business preferences are strongly influenced by investor confidence and, in particular, that policy certainty is a significant concern. Finally, while attempts are made at objective analyses, risk assessments always have a subjective component and, consequently, the experiences of individual decision-makers (particularly the CEO) played a significant role in preference development. Business officials seek not only to thrive, but to survive in the current economic, political and social environment; in order to do so, they must pay close attention not only to the risks associated with their own investments but also to the risk assessments of their investors. How they perceive those risks has as much to do with their own perspectives and experience as any objective analysis. Business preferences for climate change policy instruments, therefore, are complex and cannot be reduced to a simple analysis of the costs associated with any policy instrument.

2. Policy Research Context

In May 2010, the Canadian government indicated that it would continue to delay implementation of any climate change policy instruments while the United States Congress debates the issue. The Government of Canada contends that a continental approach should be adopted and that the process cannot begin until after the Americans act (McCarthy: 2010). This postponement continued a pattern of false starts and delays on the part of successive federal governments in relation to the implementation of climate change regulation since 2002. While European countries have over five years of experience with a cap-and-trade program and many have enacted carbon taxation, Canadian climate change policy remains weak and ineffective. Indeed, at the moment, at the federal level, it is practically nonexistent.

This is not because government is without policy options. In the battle to decrease a country's emissions, five policy instruments are available to government: subsidies (public spending), voluntary programs, traditional (command and control) regulation, cap-and-trade (emissions trading) and taxation (Field and Olewiler: 1994). Of these, subsidies and voluntary agreements are purely persuasive in nature. Subsidies provide individuals and/or industry with public funding for emissions reduction. Voluntary programs can involve either individuals or corporations. When business is involved, industry associations or individual firms agree to decrease emissions by a certain level and, often, a formal agreement is signed. There is generally, however, no penalty for non-compliance.

Cap-and-trade, command and control regulation, and taxation programs, on the other hand, are regulatory and include punitive action for noncompliance. Cap-and-trade involves government setting a limit (cap) on the number of emissions within the entire economy and allocating emission credits to firms up to that amount. Firms requiring more credits may purchase them from other firms who require fewer credits than their allocation. Command and control regulation, as the name suggests, involves government setting a target for industry and enforcing compliance through penalties, whether financial or criminal. Finally, a carbon tax would increase the cost of carbon emissions, providing an incentive for firms and individuals to decrease the amount that they emit.

Approximately fifty percent of Canada's emissions result from heavy industry, referred to as Large Final Emitters (LFE), and consequently Canadian climate policy has generally focused on influencing the behaviour of business actors (Bramley: 2004). Prior to 2001, both industry and government agreed that voluntary agreements and subsidies were the best available climate policy instruments. In 2001, however, the government began to recognize that these policies had not succeeded in decreasing the nation's emissions and, indeed, emissions had grown substantially since 1990 (Macdonald: Forthcoming). As government prepared to ratify the Kyoto Protocol in 2002, it indicated a shift in policy: Canada would now consider action (Government of Canada: 2002a; Government of Canada: 2002b). In the eight years since, however, no Canadian federal government has succeeded in implementing a policy framework, despite the fact that at least two such complete frameworks have been developed within the bureaucracy.

Given that large final emitters are the primary targets of climate change policy instruments, and that costs to business would be expected to increase if policy action were taken, business obstruction of these policies could only be expected. Indeed, the argument that business discontent has led to the government's current policy lethargy is compelling, if we assume that firms are profit maximizing and, therefore, view cost minimization as a central objective. Very little research is available, however, into business preferences for climate change policy instruments in Canada. These assumptions, consequently, have not been tested in Canada.

This study corrects this omission by providing a systematic review of business preferences for climate change policy instruments in Canada and the factors behind their development. Interviews were carried out with thirteen major business associations and seventeen firms in Canada in 2008 and 2009. The vast majority of the business associations from the large final emitting industrial sectors took part in this research. On the firm side, participants were limited to companies operating in the oil and gas, cement, and forestry sectors. This limitation was required to ensure comparability between sectors and firms. Finally, government and nongovernmental organization (NGO) officials were also interviewed to

provide corroborating evidence for corporate testimony. In total, sixty interviews were undertaken. Interview data was supplemented with a comprehensive review of available documentation on business preferences from 1988-2009, including corporate annual reports, press releases, parliamentary committee testimony, and meeting minutes. The following report describes the findings of this study, first, by providing a summary of preferences in 2008-2009 and, secondly, by discussing the central analytical framework found to be employed in corporate preference development: risk management. It then provides a brief discussion of three implications of the latter finding for our understanding of business-government relations on climate change in Canada.

3. Findings

3.1 - Business preferences for climate change policy instruments in Canada

Despite the fact that climate change policy instruments would increase the cost of production for large final emitters, the Canadian business community is not against the implementation of these policies. In 2008-2009, the vast majority of associations and firms clearly articulated support for a price on carbon. While participating firms and associations remained reticent about command and control regulation, the majority had developed preferences either for a cap-and-trade system or a carbon tax. Table 1 below lists the preferences of the participating industry associations; Table 2 lists the preferences of participating firms along with association preferences for each sector.

As the tables illustrate, there is considerable variation in the type of carbon price supported by industry. The majority of firms supported a cap-and-trade program; however, five firms and one association articulated official organization support for a carbon tax. Of the four firms and seven associations without official preferences for either cap-and-trade or carbon tax (yet supporting carbon pricing), officials at one firm and four associations articulated personal (unofficial) support for taxation, suggesting that there may be greater support within the business community for this policy option than the list of official preferences suggests. Nonetheless, the data clearly show a broad consensus in favour of carbon pricing within Canada's business community.

Table 1. Association Preferences as of 2009

Name	Supports price on carbon?	Official Preference	Unofficial (personal) preference
Canadian Electricity Association (CEA)	No	Time, Money (through increase in price where regulated)	
Mining Association of Canada (MAC)	Yes	No	Carbon Tax
Canadian Vehicle Manufacturer's Association (CVMA)	Yes	Cap-and-trade	
Canadian Steel Producers Association (CSPA)	Yes	No	No
Canadian Gas Association (CGA)	Yes	No	Carbon Tax
Canadian Petroleum Products Institute (refiners and retailers) (CPPA)	Yes	No	Carbon Tax
Canadian Council of Chief Executives (CCCE)	Yes	No	Carbon Tax
Canadian Chemical Producers Association (CCPA)	Yes	Cap-and-Trade	
Railway Association of Canada (RAC)	Yes	Cap-and-Trade	
Forest Products Association of Canada (FPAC)	Yes	No	Cap-and-Trade
Aluminum Association of Canada (AAC)	Yes	Cap-and-Trade	
Canadian Association of Petroleum Producers (CAPP)	Yes	Modified Carbon Tax[1]	
Cement Association of Canada (CAC)	Yes	No	

[1] CAPP supports a carbon tax on marginal emissions above a set quota. It is therefore different than traditional carbon taxation, which would tax all emissions.

Table 2. Firm Preferences as of 2009 Associations for included sectors also listed in bold)

Sector	Firm	Accepts a price on carbon?	Official Preference	Unofficial (personal) preference
FPAC		**Yes**	**Cap-and-trade**	
Forestry	Weyerhaeuser	Yes	Cap-and-trade	
Forestry	Canfor	Yes	No	Cap-and-trade
Forestry	Catalyst Paper	Yes	No	Carbon Tax
Forestry	West Fraser	Yes	No	No
Forestry	AbitibiBowater	Yes	Cap-and-trade	
CAC		**Yes**	**No**	**No**
Cement	Essroc	Yes	Voluntary, then Carbon tax	
Cement	St Mary's Cement	Yes	Cap-and-trade	
Cement	Holcim	Yes	Cap-and-trade	
Cement	Lehigh	Yes	No	Cap-and-trade
CGA		**Yes**	**No**	**Carbon Tax**
Natural gas	EnCana	Yes	Carbon Tax	
Natural Gas	Union Gas	Yes	Carbon Tax	
Natural Gas	Gaz Metro	Yes	Cap-and-trade	
CAPP		**Yes**	**Modified Carbon Tax**	
Petroleum	ConocoPhillips Canada	Yes	Carbon tax in Canada (Cap-and-trade in US)	
Petroleum	Suncor	Yes	Cap-and-trade	
Petroleum	Nexen	Yes	Carbon tax	
Petroleum	Petro-Canada	Unclear[2]	No (although support of CAPP position)	No
Petroleum	Shell Canada	Yes	Cap-and-trade	

[2] Petro-Canada's views on carbon pricing were contradictory and thus no preference is recorded.

3.2 – How do firms determine preferences?

These findings are surprising because the traditional assumption of most observers of business-government relations is that the firm's main objective is profit maximization (a staple of classical economic theory) and, therefore, that firm preferences are largely based on the requirement to minimize costs. If cost were the main factor in business preferences for climate change policy instruments, however, we would expect firms to have a clear and fixed order of preference for those instruments. They would prefer, first, subsidies and voluntary agreements – the theoretically cheapest policies – and, then, cap-and-trade, command and control regulation, and carbon taxation in that order (Field and Olewiler: 1994). The findings of this study did not correspond with these expectations and, consequently, they undermine the overwhelming assumption of profit maximization as a predictor of firm action.

If firms do not base their preferences solely on cost, what does determine business policy preferences? A significant number of interview subjects pointed to another perspective: risk management. As the president of the Forest Product Association of Canada put it, "Cost minimization is not my number one priority. My number one priority is risk minimization" (Lazar: 2009). Others echoed this view, referring again and again to the "risks" of climate change policy for their association or firm.

What do they mean? Since the mid 1990s, the loose concept of "risk management" has become the central operating principle of corporate governance, although there is considerable evidence that perceptions of risk influenced business decision-making as early as the 1970s (Power: 2007; March: 1987). While risk management practices include the examination of costs to the firm, a perspective of business preferences based on risk provides a more nuanced understanding of firm behaviour than one based on pure profit maximization. In particular, it suggests another fundamental objective of the firm – survival – and allows for influences beyond objective analyses of policy costs, such as the effects of investor confidence and subjective interpretations on corporate policy preferences. The following three sections of this report will examine these implications, demonstrating that the influence of the risk management paradigm of corporate decision-making has a considerable effect on business-government relations in Canada. In doing so, it will provide clarity on the meaning of risk within the business context, even if no unique definition exists.

4 - Implication 1: The survival motive

4.1 - Implication of risk management perspective: A negative focus

Risk in the business context is a very loose term. Despite its common usage, most interview subjects struggled to define the term, either providing no definition or a circular definition that used the term risk to define risk. A discourse analysis of interview data and risk management texts, however, suggests that business officials used the term in three different contexts: to refer to an event that might lead to a negative consequence for a firm (a hazard), the probability of that event-taking place, or the consequence of that event. Nonetheless, "while expert commentators may bemoan the lack of consensus about what 'risk' is. . . it has become an empirical fact that the concept of risk in its raw form has acquired social, political and organizational significance as never before" (Power: 2007: 248). This significance propels us to examine the concept and its implications more closely.

The first question is, thus: why has the idea of risk – a loose reference to the possibility of unexpected negative outcomes – gained such currency in the business community? Power (2007) argues that the overwhelming focus on risk management can be traced to 1995 when two venerable multinationals faced major threats from unexpected sources. That year, Barings Bank, the oldest merchant bank in London, collapsed due to the actions of one rogue trader in its Singapore office. The same year, the multinational oil company, Royal Dutch Shell, faced an enormous public relations disaster after a decision to scuttle a marine oil storage facility, the Brent Spar, in the North Sea set off major public protests. The protests, led by Greenpeace, included boycotts and were followed by bombings in the company's German gas stations. While Shell survived the year, Barings did not – a fact that highlighted the vulnerability of even the most respected firms to myriad unexpected threats.

Risk management as a corporate governance practice, then, attempts to "manage the unmanageable" by putting in place systems and structures to prevent such catastrophes (Power: 2004a: 73). Indeed, over the past two decades, the need to manage "risk" has led to the expansion of a veritable industry of consultants and scholars aimed at providing structures, often through the means of rudimentary ordinal scoring systems, to assist organizations in determining and mitigating risk (Hubbard: 2009). Governments and professional organizations have also gotten into the game, implementing rules and frameworks to impel firms to adopt these "best practices". The Sarbane-Oxley legislation in the US and the international Basel II accords for the banking industry provide perhaps the best examples of this phenomenon (Power: 2004b). These legislative changes have transformed risk management from a practice into a regime, increasing its significance in all areas of corporate decision-making

Nonetheless, while the industry, systems and regime surrounding the concept of risk management may be relatively new, earlier studies demonstrated that perceptions of risk influenced corporate decision-making as early as the 1970s. March and Shapira (1987) reviewed two studies that established that corporate leaders held, even then, a similar perspective on risk as is now profuse within the business community. In particular, March and Shapira noted: risk was a much looser term in business than in most technical professions; managers felt that while taking risks was a significant part of business success, they ought to be able to control and mitigate those risks; and, finally, managers were less likely to take risks if the company's survival was threatened. The latter finding represents a significant implication of the focus on risk management for our understanding of firm preferences for government policy, as the following section will demonstrate.

4.2 – What this means for business preferences: Survival as a central objective of firm action

What does the focus on risk management mean for our understanding of firm preferences for government policy? First, it implies an attention to preventing negative outcomes, rather than promoting positive ones. This suggests a second and perhaps more fundamental objective than profit maximization, which March and Shapira highlighted above. The focus on profit maximization suggests a positive frame: developing and growing the organization and providing the highest possible return to shareholders. Risk management, on the other hand, seeks to prevent catastrophe. It focuses on the negative, the detrimental, and

even the fatal. It is no coincidence that the urgency surrounding risk management within the international business community increased drastically following the collapse of Barings Bank, one of the worlds most respected financial institutions. Risk management is about preventing such disasters and, therefore, implies the significance of survival as an operational objective for the modern firm and its officials.

Interview data supports this view. Amongst oil companies in this study, there was a correlation between those who viewed the risks of climate change policy in terms of survival and firms that clearly supported strong action. The industry leaders on the file perceived climate change policy as potentially threatening the organization's survival. Petro-Canada, on the other hand, appears to have not held this view. That company's representative articulated doubt about the need for a price on carbon, while declaring that firm officials did not believe that climate change or the related policies could threaten the company's existence. Unfortunately, as oil firms known to be laggards on climate change largely refused to participate in this study, the data is limited to four leading firms and one apparent laggard, Petro-Canada. The finding that a perceived threat to survival impacts decision-making, however, is supported by earlier work demonstrating the significance of the survival motive for managerial risk perceptions (March: 1987) and, thus, while further study is required, the evidence remains strong. When survival is perceived to be threatened, company officials adapt their decision-making to mitigate the threat and, therefore, are more likely to support higher cost policies.

This is not to say that firm officials do not care about profit or that costs are not expected to influence business preferences. Instead, findings from this study merely suggest that the profit motive is not the *only* determinant of business preferences for government policy. The need to ensure the continuance of the corporate entity for which they work also influences managerial decision-making. Indeed, the two motives appear interconnected; after all, insolvency– resulting from negative profit margins – is the traditional process leading to the termination of a corporation. Insolvency and bankruptcy are not, however, the only manner through which a corporation would cease to exist. Hostile acquisition is a common occurrence in many industries and, as the following section demonstrates, the possibility broadens the range of risks confronted by firm officials.

5. Implication 2: Risk and Investment.

5.1 – Implication of risk management perspective: The importance of the investor

While colloquial usage of risk leaves the term loose and largely undefined, in one area of business administration a formal definition is provided. In portfolio management, risk is "uncertainty that an investment will earn its expected rate of return"(Reilly: 2006). Investors analyze potential investments based on the returns they expect to receive and the risk (the uncertainty related to receiving that return) of the investment. The greater the risk, the greater the return required to compensate the investor. This is called the risk-return tradeoff (Reilly: 2006). In this study, the only official to provide a formal definition of risk quoted the portfolio management definition almost verbatim. Others later confirmed the significance of the portfolio management definition to their conceptualization of risk, both directly and through continued reference to the significance of investor confidence for policy preferences. This suggests that while the business conceptualization of risk remains loose and transferable, it is grounded in the importance of investment for business success.

Investment matters to business officials because it significantly impacts corporate survival. Two types of investments concerned individuals in this study. First, firms were concerned about the impacts of climate policy on the investments internal to the firm. If a climate change policy instrument were to increase the cost of production, a facility previously amortized over 25 or 50 years may cease to be profitable. The lack of certainty over what that climate change policy might be and how much it might cost increases the risk of investment for the firm. This is a real and significant problem for companies operating in Canada today. Nexen, an oil company operating in Alberta and overseas, has delayed aspects of a major development at Long Lake, Alberta until further details on Canada's climate change plan are available (Haggett: 2009; Nexen: 2009). Company officials were concerned not only that a carbon price would make the investment unviable, but that the corporation would be forced to develop a carbon capture and storage facility at the plant – a process that would be both more efficient and less costly to implement at the development stage (Blackwell: 2009). The effects of climate policy on this type of investment, therefore, are a concern to firms because changes in climate change policy instruments may impact the firm's profitability and, in the worst case, lead to bankruptcy if business decisions do not take into account increased costs over the long term.

The second type of investment that concerned interview subjects is investment in the firm itself; in other words, managers were concerned about the perceptions of the firm held by the company's investors, both shareholders and institutional investors. Just like the firm itself, external investors choose whether to invest in a firm based on their calculations of risk and return. Government policy changes effect investor risk perceptions and, consequently, can undermine a firm's capacity to gain access to the funding it requires to operate. In 2002, the Canadian Association of Petroleum Producers and the Government of Canada negotiated an agreement limiting any future carbon price to $15 per tonne and the quantity of reductions to 15% of business as usual in 2010 (Dhaliwal: 2002). The catalyst for the negotiations and the subsequent agreement was the concern of institutional investors who refused to provide funding for multi-billion dollar oil sands developments without greater certainty about a possible future price on carbon (Alvarez: 2010; Confidential Interview with a government official: 2009). One major oil sands project, the TrueNorth development at Fort Hills, Alberta, was cancelled that year with uncertainty over climate change policy as one of the stated reasons for the decision (CBC: 2003; Evidence: 2002). Thus, despite the fact that CAPP had shown no interest in accepting carbon pricing prior to 2002, it was forced to agree at least temporarily with the policy in order to placate concerned bankers.

Shareholders are the second type of external investor whose perceptions of the firm influence corporate behaviour. They, too, choose their investments based on perceptions of risk and return. While shareholders are a diffuse group and do not generally articulate their concerns as clearly as institutional investors, their influence on firm survival remains significant. As one petroleum executive explained:

> When I talk about shareholders, it's just a recognition that it's not our money, it's their money. So, they expect and deserve a competitive rate of return. If they don't get it, you run the risk of having them withdraw their funds and having them go invest in someone else. Where you get into real big differences for what the cost of producing a barrel of oil is here vs. the cost of producing a barrel of oil in the United States, you get into competition issues and if you are interested in investing in the oil and gas sector and you are going to get a more competitive rate of return

> from investing in Hess or in El Paso or some equivalent American organization or somewhere else, investors may choose to do that and then you end up with Canadian companies being disadvantaged. *Their credit rating goes done, their share price goes down, they still have reserves, someone comes along and takes them out* (Robson: 2009).

While this fatal chain of events may sound unlikely to some, concerns of this sort are not misplaced. Studies have shown that the likelihood of hostile acquisition increases as share prices decrease (Powell: 1997). Hostile takeover is also a commonplace occurrence in many industries. Moreover, it is often the senior executives who are deemed redundant after a takeover; during the period of study, two senior oil executives lost their positions due to corporate takeover, one hostile and one friendly, before they could be interviewed. The connection between share prices and hostile acquisition, therefore, means that corporate decision-makers cannot ignore shareholder concerns when making policy preference decisions. Investor confidence is a key determinant of business success and survival.

5.2 – What this means for business preferences: What matters to investors will matter to business

The significance of investor confidence for firm survival and success implies that what matters to investors will matter to the firm. There is considerable evidence that perceptions of shareholder concern influenced the Canadian business community's shift in support of a price on carbon. While there is now near unanimity within industry over the need for a price on carbon, this was not always the case. Prior to 2006, all but a few firms and one association (the Forest Products Association of Canada) remained hostile to regulation. In the fall of 2006, however, a shift in business preference became discernable. John Dillon, Vice President of Regulatory Affairs at the Canadian Council of Chief Executives (CCCE), testified to the House of Commons Standing Committee on Environment and Sustainable Development: "Industry is not opposed to regulation, as many of our critics have tended to suggest"("Evidence": 2006). Despite the implication of a long held policy preference, this was the first indication given by CCCE, or any other association, that the majority within the business community was moving to support climate change policy instruments. In the following year, the majority of firms and associations shifted their preferences in favour of carbon pricing, a finding supported both by documented evidence from the time and interview testimony from firms and associations, the majority of whom trace their current preference to 2006-2007.

Why did industry preferences for climate change policy instruments shift, almost *en masse*, in 2006-2007? While the Harper government remained reticent to regulate at the time of Dillon's testimony in the fall of 2006, public opinion was clear: by summer 2006, the environment had moved into second place in the list of "most important issues facing the nation" and, for the first time in 15 years, it was the most important issue as of January 2007 (The Strategic Council: 2009). Internationally, climate change was gaining popular attention at that time with the release of Al Gore's movie, *An Inconvenient Truth*, in summer 2006 and the Stern Review on the Economics of Climate Change in the UK in October. In other words, world-wide attention was focused on climate change and industry reacted to this pressure by not only accepting that policy action was inevitable, but by shifting their own preferences so that, as of 2008-2009, business officials appeared to believe that the implementation of a price on carbon was the best policy for their firm or association.

Why does industry care about public opinion? The most obvious answer would be that members of the public are customers, and that industry is concerned that going against public opinion could result in decreased demand for their products. While there is likely some truth to this, we would expect that the susceptibility of demand to external changes like public opinion would depend on the characteristics of the product – whether it is a luxury or a necessity, and whether it has any substitutes. Given that industry as a whole moved to support a price on carbon with no observable variation related to product, demand as an explanation remains unsatisfactory.

Expectations for future government policy, however, do appear to play a role. A few interview subjects pointed to the fact that Stephen Harper, despite his declared distrust of climate change policy, was forced to move towards regulation in the spring of 2007. This was, they said, significant to their preference change. Prime Minister Harper's concession indicated that climate policy action was coming, no matter which party was in government. The timing of Dillon's comments to Parliament, however, before the Harper government had relented to public opinion, suggests that expectations for future government action alone cannot explain the shift in corporate preference.

The significance of risk management for corporate preferences implies a third possibility, one for which there is considerable evidence: firms care about public opinion because it acts as a proxy for shareholder preferences. The shift in public opinion corresponds with the beginning of a shift in business preferences, which continued throughout 2007. The shift in corporate preferences also corresponds with a significant increase in reference to climate change within the annual reports of firms within this study. In the petroleum industry, for instance, firms mentioned climate change on average 2.47 times from 2001-2006 in the publicly available reports for participating corporations. In 2007, the average increased drastically to 8 references, decreasing to 4 mentions in 2008 and returning to 8 mentions in 2009. As annual reports are the main forum through which firms communicate with shareholders, this suggests a link between the public opinion shift and perceptions of shareholder concern. Firms, it appears, viewed public opinion as an indicator of shareholder concern and acted accordingly, shifting preferences in favour of regulation.

This is not to say that expectations of government policy do not matter to industry. Many of the annual reports mentioned above list climate change policy under the heading of "risk management" or "risks" and argue that even when government implements a price on carbon, the firm will be prepared and will remain profitable. Thus, expectations for government policy do matter, but they matter most when they are deemed important by investors. When investors are paying attention to an issue, industry will act to assuage any fears associated with the policy area. The salience of the climate change issue in 2006-2007 drew investor attention to expected policy changes and forced industry to adapt.

5.2.2 – What matters to investors? Certainty and business preferences

If what matters to investors matters to industry, then the question remains: what do investors want? One clear answer is that investors and industry seek increased certainty in climate change policy areas. In general, investors seek higher returns and lower risks. Risk, as stated above, is defined in an investment context as "uncertainty that an investment will earn its expected rate of return"(Reilly: 2006). Consequently, where certainty in the realm of climate change policy is provided, the risk decreases or disappears – investors can calculate the level of

return with confidence. Where there is uncertainty, the risk increases and investors may forego investment in favour of less risky options.

Indeed, the pattern of firm preferences for climate change policy instruments in Canada over the past decade indicates a clear partiality for certainty. In 2002, after investors articulated concern, the Canadian oil industry negotiated an agreement with government that provided certainty on the worst-case scenario for a price on carbon, even though government had yet to develop a clear policy framework on the issue. In 2006, after public opinion shifts made regulation in Canada and the US more likely, industry moved to support, instead of obstruct, the implementation of such policies. While public support for action in Canada decreased in 2008 following the economic crisis, industry remained supportive of a price on carbon in 2009. At first glance, this may appear puzzling; however, when political changes in the US are taken into account, particularly the election of Barack Obama in 2008, this is less surprising. While climate change may have ceased to be a top-of-mind issue for the Canadian public, movement towards a cap-and-trade program in the US kept it at the top of concerns for internationally-minded investors.

Thus, with respect to climate change policy, uncertainty becomes significant within the investment context when the status quo – the previously certain policy situation – becomes untenable or when changes in the political realm make policy change more likely than policy stagnation. In both cases discussed above, an external event led investors to readjust their analyses of climate change policy risk. In 2002, Canada's impending ratification of the Kyoto Protocol led institutional investors to demand greater certainty on a potential price on carbon. In 2006, the shift in public opinion *and* indications of impending political changes in the US again made policy change more likely than policy stagnation. In both those cases, industry moved to create greater certainty, in 2002 by negotiating a deal with government and in 2006-2007 by advocating a carbon price the implementation of which would create a new equilibrium status quo and, therefore, greater certainty. It should be noted that it was not until after industry was provided with indication that investors cared about climate change policy uncertainty – either directly as in 2002 or indirectly through public opinion in 2006 - that industry acted. The current policy void, which continues to exacerbate uncertainty, would likely continue to undermine investor confidence. Industry would, therefore, be expected to advocate policy adoption. This is indeed what this study found.

6. Implication 3: A Matter of Perception

6.1 – Implication of risk management perspective: subjectivity

In addition to highlighting the significance of investor confidence for policy preference, risk management also points to the subjective nature of corporate preference development. Considerable research in psychology has demonstrated that risk perceptions vary greatly between individuals. In other words, risk is a matter of perspective. Indeed, findings for this study demonstrate that policy preferences are significantly influenced by subjective factors. Business preferences for climate change policy instruments are generally developed by a small group of people at the senior levels of an organization. For some firms, a proposal is created by a committee, agreed to by the CEO, and then approved by a board of directors. On the whole, 20 individuals would be involved in the process. In most firms, however, subjects suggested that the decision was made by the CEO in consultation with the executive in charge of environmental

matters. Indeed, interview subjects pointed time and again to the importance of the CEO for business preferences for climate change policy instruments, arguing that, "the CEO sets the tone" of corporate decision-making (Former Official at Petro-Canada: 2009).

6.2 – What this means for business preferences: learning and experience are significant

This finding suggests that learning and experience may contribute significantly to policy preference changes within a corporation. While more research is required, interview subjects often told personal stories about the company's CEO in explaining the direction of corporate decision-making. The President of Union Gas, for instance, talked about how its parent company's CEO (President of Spectra Energy) had experienced an epiphany on environmental matters while running a mining company in Australia. He had become convinced of the efficiency of carbon taxation after meeting an author whose work advocated the instrument (Dill: 2009). In this and other cases, officials believed that the company's policy preference had been influenced by the personal experience of its leaders.

The risk management perspective also suggests that past experience on the part of the firm with a particular policy option – and, thus, of decision-makers within the firm – should increase support for that policy. Familiarity with a policy would be expected to decrease uncertainty related to the effects of the policy and, therefore, reduce the associated risks, giving firms confidence that, having survived the policy once, they would be able to do so again. Firms who previously worked within a jurisdiction having a cap-and-trade program or carbon tax, therefore, should be more likely to support that policy.

Indeed, a clear correlation was found between corporate experience with a policy option and support for that policy. Seven companies in all three sectors (cement, oil and gas, and forestry) pointed to previous positive experience with cap-and-trade as influencing their current policy preference. Only in one case was experience with cap-and-trade viewed as negative, leading the firm to support carbon taxation. Moreover, familiarity with carbon taxation also appeared to increase support for that policy. Among forestry firms headquartered in BC where a carbon tax was implemented in 2008, no official preference was given. As forestry firms are expected to earn revenue through sales of credit under cap-and-trade, this in itself is surprising[3]. The two participating forestry firms headquartered outside of BC, having no experience with carbon taxation, had clear and strong preferences for cap-and-trade as expected. This dichotomy in preference between BC and non-BC firms suggests that, while experience with a policy may not lead to outright support, it makes it more palatable compared with policies that have yet to be experienced. This is the case even if the alternative policy would theoretically provide greater opportunity for revenue.

Thus, while concerns over investor confidence were clearly significant in the shift within the business community away from obstruction of regulation to support for it, ideational factors appear to be a significant force in determining which policy options are supported. Managers

[3] The availability of a low-emitting and free alternative fuel source in the form of waste biomass puts forestry firms in a far better position to cut emissions than other sectors. As a result, they would be able to sell extra credits in an emissions market. For this reason, the industry moved early (2003) to support cap-and-trade and most firms in the sector have clear preferences for that instrument.

may attempt an objective analysis of the potential risks to the firm, both in terms of cost and investor perspectives, but ultimately their experience, values and beliefs will strongly influence that analysis. This suggests that there is considerable scope for learning in the process of business-government relations.

7. Recommendations & Next Steps

7.1 – Put a price on carbon

The assumption that a price on carbon would be bad for business in Canada is clearly untrue. The business community is nearly unanimous in its support of a carbon price. Indeed, the continued delays and obfuscations on the part of the federal government create a climate of uncertainty that is far worse for economic growth and development than a clear and reliable policy regime would be. The current policy void undermines planning and increases the risks of investment in Canadian companies, putting them at a disadvantage vis-à-vis other jurisdictions. Consequently, the best policy choice for the Government of Canada would be to concede to business demands and put in place a price on carbon as soon as possible.

7.2 – Don't assume that all business cares about is cost

The general assumption that business preferences are based solely on cost minimization is clearly false. While costs do matter to business and, all other things being equal, the business community attempts to limit cost increases, the important thing here is that, in the area of climate change policy, all other things are *not* equal. Environmental issues create a complex set of risks that are both difficult to predict and threaten firm survival. Firms must weigh the pros of cost minimization against the possible disasters that could befall the firm if it minimizes costs too much. The recent disturbing events in the Gulf of Mexico provide a sad example of a situation in which decisions to cut costs on the part of a firm may have increased costs by a sum far greater than the initial savings. British Petroleum (BP) has been accused of cutting costs to such an extent that it caused the explosion of the Horizon oil rig and the massive oil leak, which caused such devastation in the area (Reguly: 2010). While what exactly happened is uncertain, with share prices dropping and the US government calling for the company to pay billions of dollars in damages (Reguly: 2010), BP's competitive standing in the industry has clearly been undermined. Trying to predict and prevent this sort of event is what risk management is about. With respect to climate change policy, this means that firms are going to consider the effects of their policy preferences, not only on the firm's bottom line, but also on its reputation. Reputation matters both because the public are consumers and can vote with their wallets, and because risk perceptions on the part of investors are as subjective as those of the firm's managers themselves. A firm with a good reputation provides investors with confidence, while a firm with a bad reputation fills them with concern. The more attention being paid to a policy area by the public, the more likely investors are to notice and care about a firm's reputation in a particular policy area. This realization is part of the reason that corporate attention to "reputational risks" has grown since Shell's negative experience with the Brent Spar in 1995 and the concept has now become a clear focus of corporate decision-making. Indeed, in 2004, the World Economic Forum declared, "corporate brand reputation outranks financial performance as the most important measure of corporate success" (World Economic Forum: 2004).

7.3 – Create certainty

Policy certainty is key to creating an advantageous business environment within any jurisdiction. The greater the uncertainty about a policy option, particularly one that would increase costs, the more concern it causes for investors. This is to say that the increased costs themselves are less detrimental than the uncertainty over the level of cost. Consequently, governments should attempt, wherever possible, to create clear policy frameworks in the least amount of time possible. Undoubtedly, eight years of policy uncertainty on climate change in Canada has been very bad for business.

The need for certainty can also be expected to overcome the division within the business community over the type of carbon price that ought to be implemented. While some firms and associations are strongly in favour of a cap-and-trade program and others prefer carbon taxation, in most cases, business officials can be expected to react positively to policy that fills the current void, even if it is not their first preference. Moreover, increased experience with a policy correlated with increased support for that policy, suggesting that negative views of particular policies can be expected to decrease as corporations gain experience. In other words, put a price on carbon in place, create certainty, and expect industry support to grow not recede. The only exceptions to this are cases where the survival of the industry itself is threatened by the policy.

7.4 – Engage business

Finally, the subjective nature of risk assessments implies the significance of learning for business preferences. Consequently, governments and advocates should engage business in a dialogue on environmental topics and not assume that something in the nature of the corporation means that business officials do not care about climate change. Corporate leaders are attempting to ensure that their organization thrives and survives in the current and future economic, social and political environment. They will, therefore, be more open to arguments that point out the risks of policy inaction to the firm, as well as the advantages to the corporation of policy certainty. While the subjective nature of risk assessments also means that personalities matter and some corporate leaders may be unresponsive to particular risk-based arguments, the more experience and discussion in which industry is involved, the more likely it is that preferences will change. Business, therefore, should be seen as a partner with ENGOs and government in reducing emissions. It is certainly not an intransigent foe.

8. Conclusion

Business preferences for government policy are complex. They cannot be predicted through a quick analysis of the costs associated with a given policy instrument. Instead, business officials must examine the risks of a policy option for the firm, an exercise that involves predicting not only the impact of the policy option on their own investments, but also the impact on investor confidence. Greater certainty is, therefore, preferable to uncertainty as it provides predictability in planning and investment. This, above all, explains the remarkable shift in business preferences for climate change policy instruments in 2006-2007. Indeed, the general consensus amongst the business officials interviewed for this study was that the Canadian government should stop delaying and put a price on carbon in place as soon as possible.

iii. Recommended Resources

Business and Environmental Policy in Canada

Macdonald, Douglas. Business and Environmental Politics in Canada. Peterborough: Broadview Press, 2007.

Risk Management and Business

Hubbard, Douglas W. The Failure of Risk Management: Why It's Broken and How to fix it. Hoboken, New Jersey: John Wiley and Sons, 2009.

March, James G and Zur Shapira. "Managerial Perspectives on Risk and Risk Taking." Management Science 33.11 (1987): 1404-18.

Power, Michael. Organized Uncertainty: Designing a World of Risk Management. Oxford: Oxford University Press, 2007.

Power, Michael. The Risk Management of Everything: Rethinking the Politics of Uncertainty. London: Demos, 2004.

The Survival Motive and Critiques of Profit Maximization

Cyert, Richard M. and James G. March. A Behavioral Theory of the Firm. New Jersey: Prentice-Hall, 1963 (reprint 1993).

Galbraith, John Kenneth. The New Industrial State. Boston: Houghton Mifflin Company, 1967.

Galbraith, John Kenneth. Economics and the Public Purpose. Boston: Houghton Mifflin, 1973

March, James G. "The Business Firm as a Political Coalition." The Journal of Politics 24.4 (1962): 662-78.

Shareholders and Investment

Powell, Ronan G. "Modelling Takeover Likelihood." Journal of Business Finance and Accounting 7.1997 (1997): 1009-30.

Subjectivity and Risk Assessment

Kahneman, Daniel and Amos Tversky. "Prospect Theory: An Analysis of Decision Under Risk." Econometrica 47.2 (1979).

Tversky, Amos and Craig R. Fox. "Weighing Risk and Uncertainty." Choices, Values, and Frames. Ed. Daniel Kahneman and Amos Tversky. vols. New York: Cambridge University Press, 2000. 93-117.

iv. References

Alvarez, Pierre, Former President of the Canadian Association of Petroleum Producers. "Personal Interview". Calgary (2010).

Blackwell, Richard. "Nexen Adjusts Long Lake Plan." The GLobe and Mail December 10, (2009).

Bramley, Matthew. "Large Final Emittors: The Centerpiece of Canada's Climate Change Plan." Pembina Institute (2004).

CBC. "TrueNorth Suspends Oil Sands Project." CBC January 14 2003.

Confidential Interview with a government official (2009).

Dhaliwal, Herb. "Letter to John Dielwart". Ottawa, December 18 2002.

Dill, Julie, President of Union Gas, "Personal Interview." (2009).

"Evidence". Standing Committee on Environment and Sustainable Development. Ottawa, November 28 2006.

"Evidence (minutes)." Standing Committee on Industry, Science and Technology. Ottawa, December 11 2002.

Field, Barry C., and Nancy D. Olewiler. Environmental Economics. First Canadian Edition ed. Toronto: McGraw-Hill Ryerson, (1994.

Former Official at Petro-Canada. "Personal Interview." (2009).

Government of Canada. "Discussion Paper on Canada's Contribution to Climate." (2002a.)

---. "Government of Canada Releases Climate Change Plan for Canada" Press Release. Ottawa, November 21 2002b.

Haggett, Scott. "Nexen to defer Long Lake decision, lowers spending." Reuters December 9 2009.

Hubbard, Douglas W. The Failure of Risk Management: Why It's Broken and How to fix it. Hoboken, New Jersey: John Wiley and Sons, (2009).

Lazaar, Avrim. President of FPAC, "Personal interview." (2009).

Macdonald, Douglas, David Houle and Caitlin Patterson. "L'Utilization du volontarisme afin de contrôler les émissions de gaz à effet de serre du secteur industriel: une comparaison des programmes EcoGeste et VCR." L'Expérience des ententes volontaires dans le secteur industriel au Québec. Ed. Jean Crête. vols. Québec: Les Presses de l'Université Laval (Forthcoming).

March, James G and Zur Shapira. "Managerial Perspectives on Risk and Risk Taking." Management Science 33.11 (1987): 1404-18.

McCarthy, Shawn and Gloria Galloway. "Ottawa stalls on emissions rules." The Globe and Mail April 15 2010.

Nexen. "Annual Report." (2009).

Powell, Ronan G. "Modelling Takeover Likelihood." Journal of Business Finance and Accounting 7.1997 (1997): 1009-30.

Power, Michael. Organized Uncertainty: Designing a World of Risk Management. Oxford: Oxford University Press, (2007).

---. "The risk management of everything." The Journal of Risk Finance 5.3 (2004a).

---. The Risk Management of Everything: Rethinking the Politics of Uncertainty. London: Demos, (2004b).

Reguly, Eric. "Congress accuses BP of cutting corners to create 'nightmare well'.". The Globe and Mail January 15 2010.

Reilly, Frank K. and Keith Brown. Investment analysis and portfolio management. (2006.
Robson, Wishart. Climate Change Advisor, Nexen, "Personal Interview" (2009).
The Strategic Council. "A Report to the Globe and Mail and CTV: State of Canadian Public Opinion on the Economy and the January 27th Budget." January 15 2009.
World Economic Forum. "Corporate Brand Reputation Outranks Financial Performance as Most Important Measure of Success" Press Release (2004).