Environmental Leadership:
Policy Implications for Provincial Governments in Canada

by

Julie Williams
Bachelor of Arts, Queen's University, 1992
Bachelor of Laws, Queen's University, 1996
Master of Public Administration, University of Victoria, 2003

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of

DOCTOR OF PHILOSOPHY

in the School of Public Administration

Supervisory Committee

Environmental Leadership:
Policy Implications for Provincial Governments in Canada

by

Julie Williams
Bachelor of Arts, Queen's University, 1992
Bachelor of Laws, Queen's University, 1996
Master of Public Administration, University of Victoria, 2003

Supervisory Committee

Dr. Catherine Althaus, School of Public Administration
Supervisor

Dr. Lynda Gagné, School of Public Administration
Departmental Member

Professor Chris Tollefson, Faculty of Law
Outside Member

Abstract

Supervisory Committee
Dr. Catherine Althaus, School of Public Administration
Supervisor
Dr. Lynda Gagné, School of Public Administration
Departmental Member
Professor Chris Tollefson, Faculty of Law
Outside Member

This research explores how provincial governments in Canada can foster environmental leadership in business firms, and develops a framework to guide provincial policy and regulatory decisions with respect to environmental leadership. The research question is: *How can provincial governments in Canada support environmental leadership in businesses?* Environmental leadership is defined as voluntary beyond compliance behaviour. In order to answer the research question, what motivates and challenges environmental leadership must also be explored. Three case studies are used in this research: the electronics extended producer responsibility (EPR), marine and agriculture sectors. Data was collected through surveys and interviews with businesses, officials and organizations in each of the case studies. The focus is on British Columbia, although data was also collected from other Canadian provinces.

Results demonstrate that the electronics EPR sector is characterized by compliance and coordination issues: businesses focus on meeting rather than exceeding regulations, and they identified a strong need for improved harmonization and coordination between jurisdictions on EPR regulations. The marine sector is characterized by businesses taking matters into their own hands, due to weak regulations accompanied by strong community pressures. The agriculture sector is characterized as one of contestation and capacity: contestation over what is environmental leadership (whether or not it requires beyond compliance steps such as organic certification), and capacity concerns, due to the high need identified for support, education and training for farmers.

Five themes cut across the three case studies. First, environmental leadership is an ongoing process rather than a relatively fixed category in which businesses can be placed. Second,

although social licence is important in all three cases, the licence comes from different sectors of society: consumers, community or citizens. In the electronics EPR sector, the social licence pressures come primarily from customers; in the marine sector, from communities; and in the agriculture sector, from citizens as a whole, comprised of both customers of agricultural products and communities that live near farms. Third, corporate culture or visionary leadership is important in driving environmental leadership. Fourth, a need exists for greater leadership by government, by strategic planning, taking advantage of new markets, resolving conflicts, greater harmonization and coordination of regulations. Fifth, continuous learning within a firm is important in environmental leadership, be it through formal training, sharing of expertise and knowledge, or through ongoing reflection on business practices.

Key policy implications are that provincial governments use a broader mix of regulatory tools: accompanying stringent standards with training and education; support for transition to greener technologies or processes; and public education on the purpose of regulations, how they work, and the role of all sectors of society in achieving social goals. Cross government cooperation and harmonization of regulations could be improved, especially in the electronics EPR sector. The results of this research should assist in identifying ways for government to foster environmental leadership in businesses, through new approaches to governance and selection of policy instruments.

Table of Contents

List of Tables

List of Figures

CHAPTER 1: Introduction

Governments struggle to address complex policy issues largely because the traditional regulatory approaches are unsuitable for rapid change and require considerable resources to enforce. One way of addressing this problem is for governments to draw more heavily on all actors in society to foster motivations for parties to regulate their own behaviour. Using a case study approach, this thesis explores how provincial governments can foster environmental leadership in business firms and develops a framework to guide provincial policy and regulatory decisions with respect to environmental leadership. Three case studies are used: the electronics extended producer responsibility (EPR), marine and agriculture sectors. Data was collected through surveys and interviews with businesses, officials and organizations in each of the case studies. The focus is on British Columbia, although data was also collected from other Canadian provinces. Because the focus is on what organizational, legal, and social factors encourage businesses to become leaders, the results of this research should assist in identifying ways for government to regulate indirectly, using a reflexive, meta- or self-regulatory approach that leverages the internal motivations of businesses rather than trying to impose/regulate them directly. The results of this research will also be useful in addressing complex problems, which require approaches that are not reliant solely on government, but instead draw on the capabilities of all actors in society: individuals, businesses, communities, and consumers.

While the literature on policy approaches generally is relevant to this thesis and may provide broader lessons for policy approaches, this thesis focuses on environmental regulation and on environmental leadership of businesses. Although the evolution of policy models that will be discussed here applies more generally, the focus is on environmental issues because it is a sector particularly challenging to regulate due to its complexity, long term effects, and transcendence of borders. In addition, environmental issues tend to be subjected to much public scrutiny, making environmental regulation a good candidate to study social licence. Social licence is relevant to environmental leadership because social licence to operate derives not from legal requirements but from "the degree to which a corporation and its activities meet the expectations of local communities, the wider society and various constituent groups" (Gunningham et al., 2004, p. 313).

The purpose of this chapter is to provide an introduction to the thesis, including the rationale for the focus on the environmental sector, a summary of the literature regarding regulatory approaches and environmental leadership, explanation of the research question, an outline of the case study methodology used for the research, and the research assumptions.

1.1 Thesis rationale

There have been few studies of how internal (institutional characteristics or corporate leadership) and external (regulatory, market, social licence) factors affect business behaviour in Canada, and even fewer on the policy implications for provincial governments. Generalizations from case studies are always difficult, but the limited number of Canadian-specific studies, and ones that consider beyond compliance behaviour in the province from perspectives other than pollution reduction, enhance the difficulties in developing an understanding of what encourages beyond compliance behaviour within the province. For example, the Canadian Council of Ministers of the Environment (CCME) (2009) has stated that because of the relatively small size of the Canadian market, market signals to producers may not be strong enough to achieve regulatory goals, and therefore a variety of instruments may be needed. This problem may be magnified for individual provinces within Canada. Another study suggested that companies operating within a Canadian province may have difficulty influencing the market and manufacturers may be unwilling to redesign their products to meet more stringent requirements in a particular jurisdiction if only a small percentage of their sales occur in that jurisdiction (Five Winds, 2009). However, neither report offered empirical evidence of whether or how the size and nature of the national or provincial markets affect beyond compliance behaviour, nor how the Canadian federal or provincial contexts affect the effectiveness of regulatory instruments in general.

This thesis is important for three reasons. The first is the continued stress on the environment. For example, land use activities have negative impacts on freshwater quality, with freshwater quality rankings in the areas of agriculture and mining being poor or marginal (Environment Canada, 2013). The environmental effects of ports include negative impacts on water quality, coastal hydrology, bottom contamination, marine ecology, coastal ecology, air quality, noise and vibration, and waste management (UNESCAP, 1992). In BC, recycling and waste diversion

programs have been in place for over 15 years, but the amount of waste per person is not declining. Rather, per capita solid waste remained essentially unchanged between 1997-2007, and there is concern that the municipal solid waste growth rate exceeds the population growth rate. Between 2004 and 2005, for example, the population increased by 1.25 percent, but there was a 3.9 percent increase in the amount of waste that ended up in landfills and incinerators (British Columbia Ministry of Environment, 2013). Data collected at BC climate stations between 1950 and 2007 show the effects of climate change in the province. Air temperatures have risen throughout British Columbia, with average increases of 0.3 to 0.5 ºC per decade at most locations in the province (British Columbia Ministry of Environment, 2013). These environmental concerns are not restricted to British Columbia. Across Canada, severe weather in recent years has resulted in increased insurance claims, with payments from extreme weather events doubling every five to ten years since the 1980s (IBC Facts, 2014). Globally, 14 of the 15 hottest years on record have been in the 21st century (World Meteorological Organization, 2014).

The second reason why this thesis is important is that government's traditional instruments to address environmental issues are inadequate or inadequately used. Compliance and enforcement activities are an example of this. For example, in July 2013, BC's Forest Practices Board (2013) reported that inspections of forestry operations on public land have dropped one third over the past three years, due to pressure on inspectors' time. One response to this situation would be to provide more resources for compliance and enforcement. However, most regulatory regimes have insufficient resources to monitor compliance to the degree necessary (Gunningham, Grabosky & Sinclair, 1998). The "sad fact is that there will rarely if ever be enough financial resources or inspectors available, enforcement actions undertaken or sufficiently high standards in place to fully and properly address a given public-policy problem" (Webb, 2005, p. 244).

While compliance and enforcement activities will always be an important component of government regulation, motivating businesses to become environmental leaders is helpful where compliance and enforcement resources are in short supply. This is the third reason why this thesis is important. There is a gap in policy understanding regarding how governments can create the conditions that induce organizations outside of government to self-regulate, self-enforce, and generally to demonstrate environmental leadership. If better understanding is reached of why

businesses become environmental leaders, it will make clearer the mechanisms that lead businesses to take additional steps towards environmental sustainability.

In summary, this thesis serves both a theoretical and practical purpose. It adds to the theory of regulatory literature by proposing a conceptual framework of why businesses demonstrate environmental leadership. Its findings can also be used practically to inform policy decisions that foster environmental leadership among businesses that serve Canadian markets.

1.2 Regulatory approaches

Government regulates to deter prohibited behaviour or to achieve social goals (Florida, Atlas & Cline, 2001; Priest, Stanbury & Thompson, 1980; Sparrow, 2000). Traditionally, law was created by the state, and usually took the form of "command and control," in which the state outlined a prohibition or standard to be met and regulated parties were punished if they did not comply (Esty, 2001; Gunningham, 2009; Stewart, 2001). Command and control regulation requires government to not only define and pass a regulation, but to monitor and enforce it. Over time, problems with reliance primarily on command and control approaches became apparent. The traditional command and control forms of regulation assumed that it was possible for government to possess enough information, to identify targets, and to have sufficient resources to monitor and enforce. Common criticisms were that command and control regulations are too inflexible, stifle innovation, and put undue burdens on the state to monitor and enforce where resources to do so were constrained (Esty, 2001; Fiorino, 1999; Khanna, 2001; Orts, 1995). The rapid pace of technological innovation and reduced domestic control brought by global interdependence has added to these challenges (Esty, 2001; Gunningham et al., 1998; Stewart, 2001; Parker, 2002).

In the 1990s, results-based regulation became a popular alternative to the command and control model, as one that sets the outcome to be achieved while leaving it to the regulated parties to determine how to achieve the required result. While this approach is generally more flexible and less of an inhibition to innovation, it retains some of the shortcomings of command and control

regulation, including the burden on the state to define the desired outcome, and to monitor and enforce. The increased use of results-based regulations arose at the same time as growing awareness of complexity and the difficulties of the state in keeping up with often rapid change. Governments started to seriously reconsider the role of nongovernment actors in regulation, considering their role in a variety of responsibilities such as setting standards, monitoring, and delegated authority. By the 1980s, a debate had emerged among scholars, politicians, and the public around whether government should regulate and the extent to which it should regulate, and there was a strong push by governments, businesses and other groups for deregulation (Gunningham & Sinclair, 2002). The debate shifted from a regulate/deregulate argument into arguments that recognized the importance of context, and that multiple instruments could be used by government to address problems or achieve goals, rather than as a dichotomous choice between regulating and not regulating (Ayres & Braithwaite, 1992; Gunningham et al., 1998).

New approaches to regulation proliferated. Major ones included responsive regulation, meta-regulation, self-regulation, reflexive regulation and informational regulation. These concepts overlap, with all being a form of process-oriented regulation (Gilad, 2010). Responsive regulation involves regulators choosing different approaches to suit different situations rather than applying one regulatory approach consistently, utilizing a graduated sanction approach that starts with self-regulation and moves up through enforceable sanctions only where necessary in the particular circumstances (Ayres & Braithwaite, 1992; Sparrow, 2000). Meta-regulation involves holding regulated parties accountable for setting up and incrementally improving their internal processes (Gilad, 2010; Parker, 2002; Scott, 2010). Self-regulation is a form of meta-regulation and involves allowing regulated parties who are deemed trustworthy enough to conduct and report their own audits and inspections (Sparrow, 2000) and includes measures such as Environmental Management Systems, which are a firm's collective, internal steps to establish and implement policies and plans that are of benefit not only to the firm, but to society as well (Coglianese & Nash, 2001; Fiorino, 1999; Orts, 1995). Reflexive regulation is any regulation designed to encourage consideration and deliberation by the regulated party, where government creates a structure of rules and procedures in which incentives work so that parties are self-interested in compliance. A type of reflexive regulation is informational regulation, which requires disclosure of information such as level of pollutants emitted, thereby providing an

incentive for the polluters to critically assess their activities (Fiorino, 1999; Gunningham & Sinclair, 2002).

There is a significant degree of overlap in the different concepts of regulation and to some extent the different labels mask their similarities (Gilad, 2010). Meta-regulation, reflexive regulation, self-regulation and informational regulation share the common characteristic of being process-based regulations (Gilad, 2010; Gunningham & Sinclair, 2002). The move towards process-based regulation recognizes the inherent limits in attempting to establish substantive outcomes, and the need to involve the regulated parties more actively in the regulatory process. Over the course of these developments in regulation, industry and its associations have moved from a purely lobbying role to one in which they have significant self-regulatory dimensions (Webb, 2007).

Common issues that arose with process-oriented regulation included ensuring robust accountability, designing incentives for compliance, and defining the appropriate roles of government and nongovernment actors. Initially, the focus was on incentives for compliance, later evolving into an interest in determining what motivates a party to go beyond compliance, inspiring studies regarding voluntary Environmental Management Systems (Coglianese & Nash, 2001; Orts, 1995; Stewart, 2001). Studies of regulation and compliance focus on the roles of government and regulated parties (often businesses), but the importance of consumers, citizens, and the public generally became increasingly recognized. The role of civil society became increasingly important (Afsah, Laplante & Wheeler, 1996; Gunningham, 2009; Harrison, 2001; Hutter & Jones, 2007), and the evolution of instruments reflected broader changes in which a state-centric approach was replaced with a new governance approach in which government's role is more to ensure information is exchanged appropriately, and to focus on how to integrate society's goals as represented by decision makers (Salamon, 2002; Stewart, 2001). For example, in shifting from reliance primarily on prohibitions against emissions over a specified level to encouraging businesses to voluntarily reduce their emissions by requiring them to disclose their emissions (as done with reflexive regulation or informational regulation), the role of the public was implicitly, if not explicitly, recognized. If there was no one to review the information and act on it by exercising their purchasing power, then the newer models of regulation would not be

effective. The parties involved in regulation evolved from being conceived as a government to regulated party relationship, to one in which society (communities and NGOs) were also involved. The market was no longer simply a place where businesses sold their merchandise, but one in which consumers and investors took an interest in how the firm conducted its business in terms of labour practices, and its environmental record (Afsah et al., 1996; Gibson, 1999a).

The increased understanding of the importance of social and political factors in developing and implementing regulations led to growing literature on voluntary initiatives, corporate social responsibility and the importance of social licence in guiding corporate behaviour. One way in which businesses can improve their social licence is to exceed regulatory requirements, because doing so generates community goodwill (Prakash & Potoski, 2006). Several studies identified social pressure as a critical factor in motivating businesses to go beyond regulatory requirements (Gardner, 2003; Kagan, Gunningham & Thornton, 2003; Lynch-Wood & Williamson, 2007). However, internal factors such as organizational resources, capacity for innovation, performance management systems, and management ethics also strongly influence whether a firm will do more than comply with minimal regulatory standards (Bansal & Roth, 2000; Florida, Atlas & Cline, 2001; Howard-Grenville, Nash & Coglianese, 2008; Kagan et al., 2003; Sharma, 2000; Wu, 2009). Studies on what motivates businesses to comply have found that compliance behaviour is influenced by a complex interaction between factors internal to the business in question and external factors such as regulation and social licence (Bansal & Roth, 2000; Gunningham et al., 2003; Kagan, Thornton & Gunningham, 2003; May, 2004; May, 2005; Nielsen & Parker, 2008; Nielsen & Parker, 2012; Stanbury, 1986; Winter & May, 2001). Regulatory approaches traditionally have assumed that businesses engage in rational choice analysis and have economic motives involving a calculation of the costs and benefits of complying (Nielsen & Parker, 2012). Studies have shown however that businesses may have social motives (avoiding social disapproval) or normative motives (decision makers have a sense of moral duty and believe that compliance with the law is the right thing to do) (Nielsen & Parker, 2012; Winter & May, 2001).

A common way for businesses to demonstrate environmental leadership is to join a voluntary program such as the IS014000 series or ecolabelling. Voluntary initiatives gained increasing

popularity in the 1990s, in the context of business concerns about over-regulation, and public concerns about the environmental effects of business activities (Moffet & Bregha, 1999). While joining a voluntary program may entail exceeding regulatory requirements, engaging in voluntary initiatives does not necessarily mean that a business is compliant or exceeding compliance, and concerns arose that businesses used voluntary programs to forestall regulatory requirements (Gibson, 1999b; Macdonald, 2007; Moffet, Bregha & Middelkoop, 2004).

The purpose of this thesis is not to determine if governments can replace traditional regulatory standards with voluntary initiatives or other corporate social responsibility programs, but to explore whether and what provincial governments can do to foster environmental leadership as a supplement to a regulatory baseline. It starts from the assumption that there is no dichotomous choice between regulating or not regulating, but that the policy and regulatory approaches of provincial governments could be designed to do more in encouraging voluntary environmental leadership of businesses. Regulation has been defined in the literature broadly, as including any activity of government that intentionally restricts choice of activity, including steps such as moral suasion, taxation measures, expenditures, and public ownership, and more narrowly as "the imposition of rules by a government, backed by the use of penalties, that are intended specifically to modify the economic behaviour of individuals and firms in the private sector" (Priest et al., 1980, p. 5). The broader concept of regulation, encompassing all policy instruments, is used for this thesis because it is more relevant to considering social licence. The broad concept of regulation includes government enlisting the support of nongovernment actors, by guiding market forces, measures to influence public interest groups, and using third parties (including businesses) as regulators themselves (Gunningham et al., 1998).

1.3 Environmental leadership

Businesses that seek to improve their social licence by going beyond compliance with environmental regulations have become known as environmental leaders (Kagan et al., 2003; Nielsen & Parker, 2008). The literature includes different streams regarding environmental leadership: leadership of businesses in relation to regulatory requirements; leadership of

individuals within businesses regarding environmental management; effectiveness of particular programs such as the ISO14000 series; environmental leadership at the national level; and environmental leadership challenges specific to small and medium sized enterprises (SMEs). This thesis focuses on the first of these streams: leadership of for-profit businesses in relation to regulatory requirements.

The literature on business environmental leadership characterizes the behaviour of businesses in a variety of ways. For example, Nielsen and Parker (2012) distinguish between dissenters, good citizens, and social citizens. Kagan et al. (2003) use a five category typology that includes laggards, reluctant compliers, committed compliers, environmental strategists, and true believers. Willard (2005) identifies an evolutionary distinction between businesses: those in a pre-compliance phase; those in a compliance mode; those that have moved beyond compliance status; those that have an integrated strategy of environmental and economic goals; and the rarest and most advanced, those with purpose and passion.

Most of the literature on why businesses become environmental leaders focuses on behaviour at a particular point in time or place (such as reduction of emissions from a smokestack or waste emitted from a pipe), or on why businesses engage in voluntary programs (for example, Berkhout & Rowlands, 2007; Coglianese & Nash, 2001, Florida et al., 2001; Moffet et al., 2004; Wu, 2009). Although some literature recognizes forms of environmental leadership other than meeting end of pipe standards, such as taking into account the full life cycle of a product, the empirical studies that exist tend to be case studies, from which it is hard to generalize (Florida et al., 2001). The geographic, social and regulatory context in which businesses operate is important in explaining firm behaviour, as those factors affect the constraints and opportunities businesses face. Motivations of businesses differ, and different contexts lead to different motivations (Bansal & Roth, 2000; Branzei, Devereaux Jennings & Vertinsky, 2002; Lynes & Andrachuk, 2008).

A number of studies have considered the compliance behaviour of Canadian firms, particularly in the industrial sector. A study of the Canadian oil industry conducted by Sharma & Vredenburg (1998) found that how businesses respond to environmental issues depends partly on

organizational characteristics such as capacity for higher order learning, capacity for innovation, and connection to stakeholders. Further studies indicated that whether managers interpret external factors as threats or opportunities affected whether or not the firms undertook voluntary environmental actions (Sharma, 2000; Sharma, Pablo & Vredenburg, 1999). Sound management practices and good relations with employees and suppliers were found to be behind environmental policies of manufacturing firms in Canada (Roy, Boiral & Lagacė, 2001). Whether actual reductions in environmental impact were achieved by Canadian chemical companies was found to be linked to high operator involvement rather than to the mechanical application of environmental management systems (Boiral, 2005). SMEs with environmental management policies tend to be led by managers with a higher level of environmental consciousness and ability to proactively address complexity and lead change (Boiral, Baron & Gunnlaugson, 2014). A study of compliance behaviour of pulp mills in British Columbia found that compliance behaviour is influenced not solely by internal factors or external ones, but by a combination of the two (Kagan et al., 2003). A study of the voluntary adoption of green electricity by Ontario-based companies found that organizational values and context were important in the decision making process to adopt green electricity (Berkhout & Rowlands, 2007). In particular, businesses that used green electricity did so because it was consistent with organizational values, not for reasons of efficiency.

For the purposes of this thesis, environmental leadership is defined as an organization taking steps beyond compliance with the general regulatory requirements at whatever level they may be, because the research question focuses on why businesses do more than avoid violations of the law, not whether the standards of the law are adequate. In the electronics EPR sector for example, environmental leadership would be comprised of recovering more than the minimum 75% of products required under BC's *Recycling Regulation*. In the marine sector, it could be comprised of taking steps to avoid damaging any fish or fish habitat, even though current federal *Fisheries Act* prohibitions against damage to fisheries only apply to fisheries of commercial, recreational or Aboriginal use. In the agriculture sector, environmental leadership could be comprised of taking steps to reduce the use of pesticides or water although not required by law to do so.

1.4 Research question and methodology

The research question of this thesis is: *How can provincial governments in Canada support environmental leadership in businesses?* Within this primary research question is the question of what motivates and challenges environmental leadership, because in order to identify the policy implications for provincial governments, the circumstances leading to environmental leadership must be understood. The focus of this thesis is on what provincial levels of government can do, in the context of a federal system with concurrent jurisdiction between the federal and provincial governments, and in which provinces may not have jurisdiction to use traditional regulation but may nevertheless have influence through the use of a policy instruments that do not rely as heavily on legal jurisdiction as do legislative requirements.

This thesis develops a framework of factors that influence businesses to demonstrate environmental leadership in order to inform policy decisions of government to encourage such leadership. Frameworks "organize diagnostic and prescriptive inquiry" and "provide the most general list of variables that should be used to analyze all types of institutional arrangements" (Ostrom, 2005, p. 826). A framework is different from a theory, which analyzes more specific elements within the framework and that makes general working assumptions about the elements. A framework is developed during the process of research, based on the data obtained (Glaser & Strauss, 1967). However, instead of avoiding the initial development of any propositions to guide the research as done with grounded theory, this thesis starts with propositions derived from the literature then, using Yin's approach, this study continually refines the propositions as data is collected and analyzed, resulting in a framework inductively developed from the data (Yin, 2009). This research uses an emergent approach in which the researcher remains flexible and open to modifications as the data is collected and analyzed (Hesse-Biber & Leavy, 2013).

This thesis addresses: (1) what factors internal to businesses contribute to the firm's environmental leadership; (2) what factors external to businesses contribute to a firm's environmental leadership; (3) how the internal and external factors interact to motivate the firm to demonstrate environmental leadership; (4) what policy instruments the answers to these questions suggest; and (5) what conclusions can be drawn from the answers to these questions.

The results inform what, if any, influence can be brought by government on the factors that motivate businesses, and the conclusions are used to develop a provincial regulatory approach that supports environmental leadership of businesses.

The data collection was structured around what is known in the literature about environmental leadership, using three relevant theories: rational actor decision making, institutionalism, and reflexive law. These three theories were chosen because they offer different perspectives on how decisions are made within businesses, the influence of external factors on decision making within businesses, and on how regulated parties respond to regulatory efforts by the state. Together with the literature on environmental leadership, these three theories provided a set of propositions to be explored during the research, and a framework for developing the questions asked of research subjects in the interviews and surveys used to collect data. The propositions and the conceptual framework were adjusted as necessary during analysis of the data collected, in order to develop a framework to guide provincial policy responses to environmental leadership in Canada.

Case studies are appropriate where rich, in depth contextual information is required to answer the research question (Patton, 2002; Yin, 2009). A case study approach is appropriate for the research question in this thesis because case studies provide in depth information, providing rich context for the decisions firms make regarding environmental leadership. Within each case study, the unit of analysis is the firm. However, in order to address the limitation of case studies in generalizing beyond the case, particularly because one purpose of this thesis is to develop a conceptual framework regarding environmental leadership, three case studies are used. The research question is addressed by using three case studies selected based on their diversity and their ability to provide insights to environmental leadership in Canada. The first case study looks at the electronics sector regulated by provincial extended producer responsibility (EPR) legislation. EPR legislation exists in various forms in all Canadian provinces, and seeks to make producers responsible for the waste they produce, rather than leaving it for consumers and governments (typically local governments) to handle. EPR legislation provides incentives for producers to design products and packaging in a manner that reduces waste in the first place, rather than focusing on recovery and recycling. The electronics sector is chosen because it is an example of a regulated sector that includes members that minimally comply (for example,

meeting the specified recovery rate of materials and submitting a plan that addresses required topics), but also includes members that demonstrate a level of leadership by recovering a higher percentage than the minimum required, or by redesigning products to avoid waste, or by recovering and recycling products. Several companies that sell electronics products in Canada have developed corporate sustainability programs, including in some cases specific design for environment policies.

The second case study looks at shipping companies, stevedoring companies, and port authorities. Some of these companies have joined voluntary programs that set a baseline for environmental performance beyond what is minimally required by law. Several shipping or stevedoring companies and port authorities in Canada have joined voluntary programs such as the ISO14001, the Sustainable Shipping Initiative, or Green Marine. The Green Marine program is the only one with an office based in Canada. Established in 2007, Green Marine "offers a detailed framework for maritime companies to first establish and then reduce their environmental footprint" (Green Marine, 2013)**.** Informants include ports, ship owners, terminals, shipyards and St. Lawrence Seaway corporations. Members of Green Marine exist in five Canadian provinces: British Columbia, Ontario, Quebec, Nova Scotia, and Newfoundland. Some shipping companies and port authorities are members of more than one voluntary program. Others have developed their own substantial sustainability or corporate social responsibility (CSR) programs in addition to joining an external voluntary program. Although shipping is an area of federal jurisdiction, provinces could have some impact, particularly on influencing social licence.

The third case study looks at agriculture. Environmental leadership in the agriculture sector could involve participation in a voluntary certification program, such as organic certification. The national standards for organic certification are set out in the Canadian Organic Standards, which became mandatory on June 30, 2009 when the *Organic Products Regulation* (2009) came into effect. The *Organic Products Regulation* requires organic products to be certified according to the Canadian Organic Standards if they are sold across provincial or international borders or if they use the Canada Organic Logo. In addition, two provinces have their own organic certification program. These are British Columbia's *Organic Agricultural Products Certification Regulation* (1993) and Manitoba's *Organic Agricultural Products Act* (2013). Under these

programs, agricultural producers can voluntarily become certified organic producers, provided they meet the required standards. This thesis also considers other forms of environmental leadership of agricultural producers, such as participation in other voluntary programs and efforts of farmers to exceed regulatory compliance without participating in an organized program.

These cases were chosen because they are all subject to environmental regulation and they represent a diversity of business sectors and regulatory contexts from which comparisons can be made. In all three case studies, the focus was on the role of the provincial governments. This provincial focus is important because provinces in Canada have significant jurisdiction and responsibility over land use, natural resources and the environment, and because provincial governments are (regardless of jurisdiction) often involved in working with other levels of government on addressing social, economic and environmental issues. The three case studies were also selected because they each involve a variety of practices that range in conventional to demonstrating environmental leadership, and therefore serve to draw comparisons between sectors. For example, in the agriculture sector, both conventional farms and organic farms are considered; in the electronics sector, businesses both with and without additional efforts such as a Corporate Social Responsibility program are considered; and in the marine sector, both businesses that are and are not part of a voluntary program are included. In addition, each of these cases includes dozens, if not thousands, of members (i.e., farms, marine companies, electronics companies, as well as regulators and associations), which provide a large number of units within each case from where to gather data. Further, each of the cases are to some extent involved in current controversies or debates around environmental protection or regulatory requirements, and therefore are likely to include members that are attuned to the issue of environmental leadership, although the issue may be expressed in different terms such as social licence or corporate social responsibility. Together, the three case studies represent different regulatory contexts: marine versus land; point source pollution versus life cycle; area of broad provincial jurisdiction versus areas of limited provincial jurisdiction. In order to attempt a balance at breadth and depth, the approach of this thesis is to focus on one province (British Columbia) for all three cases, combined with data collected from at least one additional province per case. The individual provinces in Canada provide data sources that are similar enough to be compared, yet different enough to reflect different regional contexts.

Research findings were strengthened through triangulation, which "refers to the designed use of multiple methods, with offsetting counteracting biases, in investigations of the same phenomenon in order to strength the validity of inquiry results" (Greene et al., 1989). For each of the case studies, three sources of information were used: documents, interviews and surveys. Primary data was collected using interviews and surveys of key informants. An informant is someone who is well versed in the research context and who does not simply provide the researcher with information about him or herself, but who "is a member of the group who can talk directly about the group per se" (Babbie, 2010, p. 195). Interview and survey informants were selected using a purposive sampling approach in which different types of farms, marine businesses and electronics companies were selected in an attempt to obtain interview or survey data from at least some informants that met a variety of characteristics: large or small companies; international and national; organic and conventional; western, central and eastern Canada; as well as different types of products developed in each sector. Purposive sampling is a type of nonprobability sampling "in which the units to be observed are selected on the basis of the researcher's judgment about which ones will be the most useful or representative" and is used where there is no list of all potential informants from which to select a random sample (Babbie, 2010, p.193). In this research, there is no list of all potential environmental leaders or environmental noncompliers in Canada, nor of every business in each case study. Further, a purposive sampling approach is appropriate where the samples are chosen to provide in depth information on the characteristics of particular groups, and to facilitate comparisons between groups (Patton, 2002).

British Columbia businesses were selected as the main source of informants for this study because British Columbia provides a diversity of government sponsored and voluntary environmental initiatives related to land and the marine environment to study. Further, British Columbia has an EPR framework that requires publication of Stewardship Plans, which are required to identify whether businesses are making progress in redesigning their products, and the province has numerous ports and is a place of business for various shipping companies and stevedoring companies. British Columbia has a large and diverse agricultural sector, and is one of only two provincial governments that have initiated their own organic agricultural certification program. Interviews were also conducted with businesses and appropriate associations in

Manitoba, Ontario, and Nova Scotia. This approach was taken in order to broaden the data sources to at least two provinces per case study.

In addition to the interviews, surveys were distributed more widely to representatives of the cases. The survey was distributed to selected businesses in all three cases in British Columbia, as well as shipping companies, stevedoring companies and ports in Nova Scotia, Ontario and Quebec; to farms in Manitoba; and to electronics businesses regulated by EPR legislation in Ontario. The purpose of surveys to businesses in provinces other than British Columbia was to determine whether additional issues or contextual factors arise in other provinces, rather than to create a representative sample of businesses in Canada.

1.5 Assumptions

This thesis includes a number of assumptions. One is that businesses in Canada are motivated by internal and external factors similar to those identified in previous studies of other jurisdictions, but that some differences in the Canadian context exist and are relevant in shaping the behaviour of businesses in Canada, such as foreign ownership and export dependency as identified by Stanbury (1986) and cultural differences as identified by Branzei et al. (2002) and Lynes and Andrachuk (2008). This thesis is also based on the assumption that government can take steps to support societal or market actors or forces that foster environmental leadership, beyond the narrow concept of "regulation" as traditional command and control regulations. It is further based on the assumption that federal and provincial jurisdictions within Canada have not yet fully availed themselves of the available regulatory instruments to foster environmental leadership as found in Winfield (2008) and Wood, Tanner & Richardson (2010). This thesis does not suggest that provincial governments currently do nothing to encourage environmental leadership. As the literature review indicates in Chapter 2, provinces do have some programs that could be considered supportive of environmental leadership. This thesis also does not assume that an optimal state of regulation exists to achieve environmental leadership that can be identified and measured. Rather, the thesis is based on the assumption that learning and

improvement can always occur, and that there is potential to maximize the influence of social licence.

1.6 Summary

This thesis addresses the question of how provincial governments in Canada can encourage environmental leadership, using case studies in three environmental sectors: electronics EPR, marine, and agriculture. Data was obtained through a series of interviews and surveys with key business, regulatory and related associations from each sector. This thesis serves both a theoretical and practical purpose. It adds to the theoretical literature on environmental leadership by developing a framework of what circumstances will support or hinder environmental leadership, and serves a practical purpose by considering the policy implications to provincial governments of the findings regarding environmental leadership. Although this research focuses on the environmental sector, the lessons learned in this research has the potential to address complex regulatory problems in other fields such as health or energy, which also draw on the capabilities of all actors in society (individuals, businesses, communities, and consumers).

The remainder of the thesis is organized as follows. Chapter 2 provides a review of the literature on regulation, environmental leadership and relevant theoretical models. Chapter 3 provides an overview of the regulatory context for each of the case studies sectors and includes a literature survey on extended producer responsibility, marine voluntary programs, and organic certification. Chapter 4 provides greater detail on the research methodology. Chapter 5 contains the analysis of the results, and Chapter 6 provides conclusions and recommendations.

CHAPTER 2: Literature Review

Several areas of literature are relevant to this thesis. The literature on the types and evolution of regulation is generally applicable to any regulatory context, as is the literature on the nature of and motivation for compliance and beyond compliance behaviour. For environmental regulations specifically, the literature on environmental leadership and corporate social responsibility are particularly relevant to this thesis. In addition, there are a number of theoretical models that help explain businesses behaviour: the rational actor model, institutional theory, and the theory of reflexive law. Although previous studies have specifically considered the Canadian regulatory context, this literature review demonstrates that few such studies exist. Even fewer specifically consider how businesses in Canada behave, their motivations and constraints, and what regulatory responses are available to provincial governments in Canada to encourage environmental leadership.

The literature review is organized into two sections. The first provides key background and contextual information regarding policy instruments of government. It reviews research on the evolution of regulation, compliance and beyond compliance behaviour, environmental leadership, incentives, corporate social responsibility, and the literature on the different types of policy instruments and new governance. The second section reviews relevant theoretical literature on the rational actor model, institutional theory, and the theory of reflexive law. These theories provide different perspectives on understanding business behaviour in the face of regulation. The chapter concludes by suggesting that the literature provides a robust understanding of the history and purpose of regulation, of the different models of regulation and regulatory tools, of motivations for and types of environmental leadership, and of evaluations of individual programs. However, practical policy implications for governments, and particularly provincial governments in Canada, with their inherent jurisdictional limits warrant further research.

2.1 Evolution of environmental regulations

A number of substantial shifts in environmental regulatory approaches have taken place over the last several decades. Traditionally, law created by the state usually took the form of what is known as "command and control", in which the state outlined a prohibition or standard to be met, and regulated parties were punished if they did not comply (Esty, 2001; Gunningham, 2009; Stewart, 2001;). Over time, problems with the command and control approach became apparent, including the inability of government to know what standard to set (particularly the case in the environmental sector), rigidity of laws in a social and economic context that were changing more rapidly, lack of government resources for monitoring and enforcement, and perverse effects due to constraints on innovation and adaptation (Esty, 2001; Fiorino, 1999; Gunningham, 2009; Orts, 1995; Parker, 2002; Stewart, 2001). Limitations of command and control regulation are that it relies on agencies to monitor and enforce, it focuses on negative incentives and is punitive, static, inflexible, and unwieldy (Gunningham, 2009; Orts, 1995; Parker, 2002; Stewart, 2001). Command and control approaches are particularly ineffective for regulating transitory, mobile and/or remote businesses that are difficult to identify; in addressing diffuse, non-point sources of pollution; in respect of pollution that transfers from one medium to another; and where technological and economic circumstances are rapidly changing (Gunningham et al., 1998).

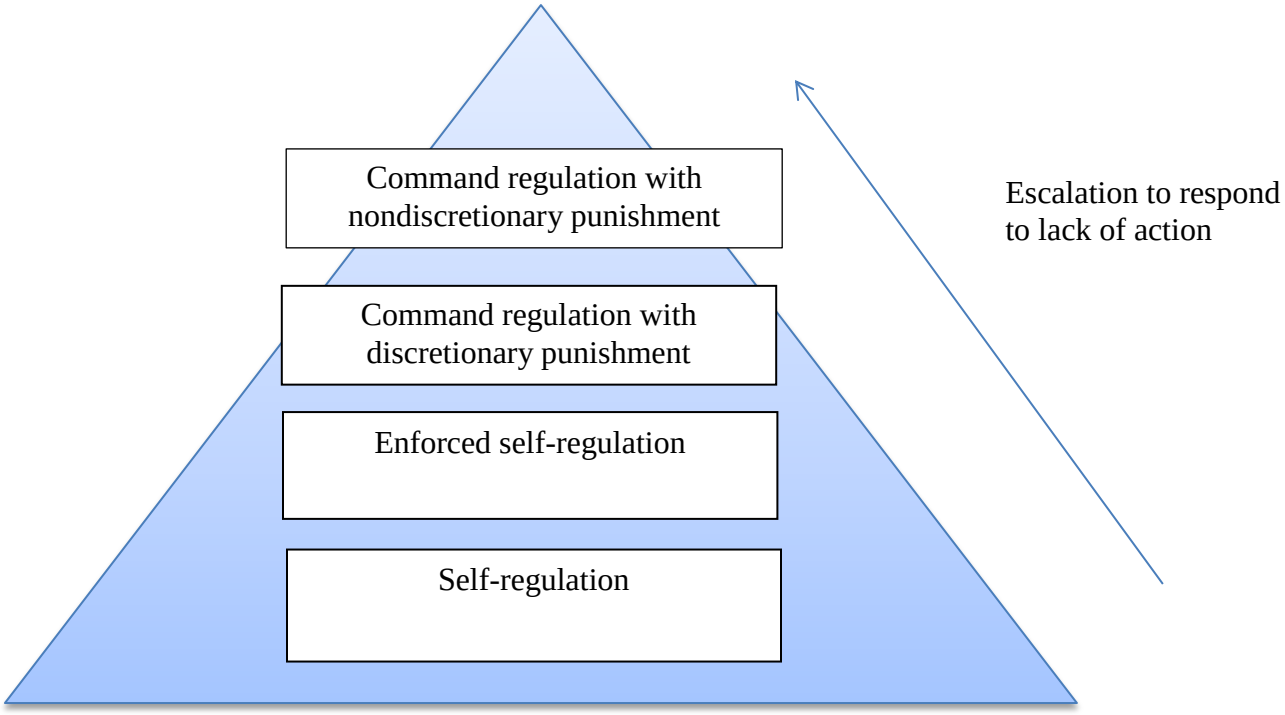
Although command and control regulation is most effective in controlling point source pollution, this approach has also been criticized for stifling innovation (Gunningham et al., 1998). However, Porter and van der Linde (1995a & 1995b) argue that regulation and innovation are not necessarily incompatible, provided that regulations build in flexibility by specifying outcomes rather than process, use market incentives (eg: pollution taxes), focuses on information dissemination and incentives, are developed in consultation with industry, include phase-in periods and periods of regulatory stability, and are harmonized or converged in associated fields.

New models and instruments for environmental regulation were developed in address concerns with the command and control approach. These include economic instruments, voluntary initiatives, cooperative and performance based regulation, management or meta-regulation, and smart regulation (Gunningham, 2009; Gunningham et al., 1998; Stewart, 2001). Throughout this

evolution, the role of civil society became increasingly important (Gunningham, 2009), and the new instruments reflected broader changes in which a state-centric approach was replaced with a governance approach in which governments' role is more to ensure appropriate information exchange, and to focus on how to integrate society's goals as represented by decision makers (Salamon, 2002; Stewart, 2001). A greater understanding was also developed of the need to use a combination of multiple instruments instead of relying on one approach (Gunningham et al., 2003; Webb, 2005).

Ayres and Braithwaite (1992) argue that regulation should be responsive to industry structure and that government should regulate and enforce in a manner attuned to the different motivations of different regulated actors. Further, the regulatory approach should recognize that the regulations themselves "can affect structure (e.g., the number of businesses in the industry) and can affect motivation of the regulated" (p. 4). Responsive regulation is based on the notion that appropriate enforcement depends on the context. Ayers and Braithwaite developed the concept of the regulatory pyramid, in which self-regulation is at the widest point of the pyramid and is the preferred regulatory strategy because "[w]here self-regulation works well, it is the least burdensome approach from the point of view of both taxpayers and the regulated industry" (p. 38). The next level up is enforced self-regulation, in which firms must propose and meet their own regulatory standards. If they do not meet the set standards, they will be subject to more stringent and less tailored approaches. Ayres and Braithwaite argue that self-regulation is "enforced" in two ways: first, the firm is required to self-regulate, and second, the privately written standards are publicly enforced. They advocate for the regulatory pyramid approach because it is responsive to the particular circumstances and moves beyond the idea of regulation as "a game played with single firms," recognizing the importance of business subcultures and industry-wide forces on the compliance of individual firms (p. 39). Ayers and Braithwaite's regulatory pyramid is illustrated in Figure 1.

Figure 1: The regulatory pyramid



Source: Ayres & Braithwaite, 1992, p.39

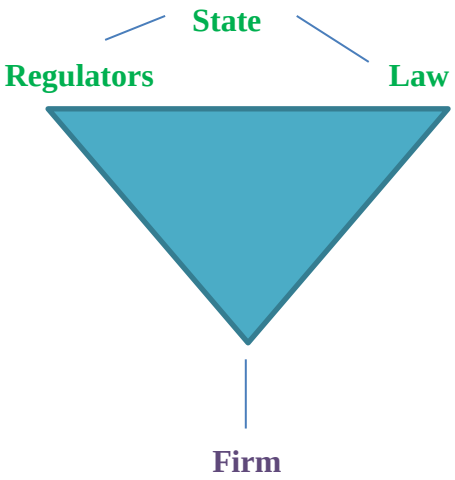
Another example of the multiple instrument approach is smart regulation, developed by Gunningham et al. (1998)[1]. Smart regulation recognizes the limits of any one regulatory approach and advocates the use of a variety of regulatory instruments, including ones that make use of the contribution that commercial and noncommercial, government and nongovernment actors can make to influencing environmental performance of regulated parties. Smart regulation does not put forward determinative regulatory prescriptions. Instead, smart regulation provides a process and principles that can be applied to specific regulations in specific circumstances. Regulators are advised to first ask the right questions by doing a regulatory impact analysis that includes: identification of the problem to be addressed; the objective of the intervention; options, including nonregulatory ones; analysis of impacts; consultation; identification of the preferred solution; and implementation. Further, throughout this process, regulators are advised to adhere

[1] Gunningham et al.'s concept of smart regulation is distinct from the concept in the Government of Canada's 2004 Smart Regulation report, which developed five principles to guide the development of regulations: effectiveness (with a results-based rather than process-based focus), cost-efficiency (costs commensurate with risks), timeliness (regulations to keep pace with technological and knowledge advances), transparency (of the regulatory system), and accountability and performance (of the regulators, not the regulated) (Canada, 2004).

to a set of regulatory design principles. These principles include: preference for regulatory mixes; "the virtues of parsimony"; the benefits of an escalating response; empowering third parties; and maximizing opportunities for "win-win" outcomes, such as ways to encourage beyond compliance behaviour by businesses (Gunningham et al., 1998, p. 377). Smart regulation places great emphasis on instrument combinations, with the regulatory issue not being whether to combine instruments, but which ones to combine, in what order to combine them, and the design of triggers and buffer zones to invoke sequencing of the different regulatory instruments. For example, government may choose to use a self-regulatory approach, but failure of industry to meet a certain target will trigger a more compulsory approach with a trigger point for the escalation well within safe limits of pollution or the international obligations the government seeks to achieve (Gunningham et al., 1998, p. 407).

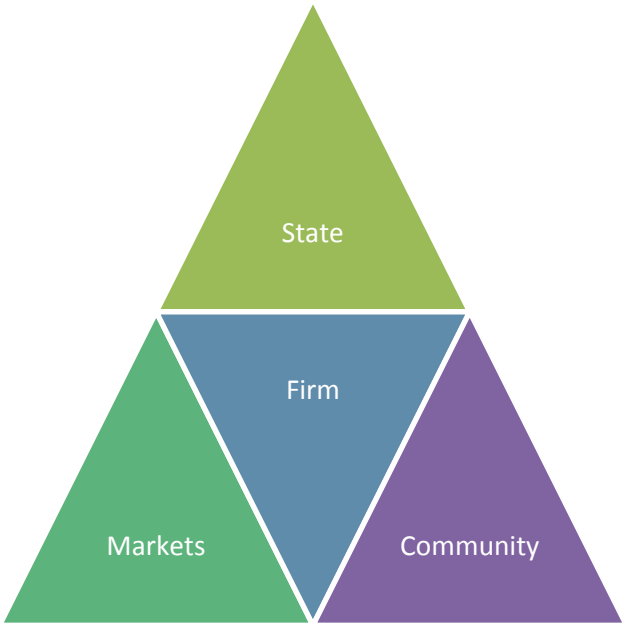
The concept of parties involved in regulation evolved from being about a government-to-regulated party relationship, to one in which society (communities and NGOs) is also involved, and where the market was not simply a place where businesses sold their merchandise, but one in which consumers and investors took an interest in a firm's environmental practices (Afsah et al., 1996; Gunningham et al., 2004). The regulatory relationship evolved from Figure 2 to Figure 3 below.

Figure 2: Traditional relationship between the state and regulated parties



Adapted from Afsah et al., 1996, p. 2

Figure 3: Updated relationship between government and regulated parties



Adapted from Afsah et al., 1996, p. 7.

2.1.1 Motivations for compliance

What is meant by the term "compliance" varies in the literature because it is an imprecise concept, addresses different variables, entails different legal interpretations, and is subject to deliberately different interpretations by diverse parties due to the associated social, legal and financial implications (DiMento, 2003). DiMento distinguishes between specific compliance and general compliance. Specific compliance is the response of the regulated individual or business targeted by a regulation, and general compliance is the response of the industry or other group whose behaviour the regulation tries to affect. This thesis focuses on deriving lessons with respect to general compliance because it seeks to determine what government can do to foster environmental leadership at an industry-wide or sector-wide level, though it will do so partly through understanding how specific businesses within an industry respond to regulation.

Previous research on whether incentives encourage compliance has found that actual rewards are counterproductive because they interfere with internal motivations to comply (Braithwaite, 2002;

Grabosky, 1995; Shogren, 2012). In researching what is an effective incentive, studies have found that regulation is important (Gunningham et al., 2003; Gunningham, Thornton & Kagan, 2005; Harrison & Antweiler, 2003; Lynch-Wood & Williamson, 2007; Rennings & Rammer, 2011) but that it is not only the threat of penalty flowing from noncompliance with the regulation that drives compliance (Gunningham et al., 2005; Harrison & Antweiler, 2003). Instead, regulation "`works' through a complex mixture of pressures, fear, and normative duty" (Gunningham et al., 2005). A study of what motivates management in businesses to comply with environmental regulations found that management in small and medium enterprises were not motivated for compliance by a calculation of the likelihood and severity of punishment, but by "implicit general deterrence", in which it was the simple existence of the regulation and the inculcation of a compliance culture by sustained inspection and enforcement that promoted a tendency to comply: rather than "simply providing a threat, regulations and inspections acted as a reminder or guide to enterprises as to what was required of them" (Gunningham et al., 2005, p. 312). Similarly, in a study of pulp mill compliance with regulations, Kagan et al. (2003) found that regulation is important in improving pollution standards, but does not account for differences between pulp mill facilities in three countries studied in which some mills went beyond compliance. Rather, they attribute beyond compliance behaviour to corporate management style and social licence. Regulation was found to be fundamentally important in producing large gains in performance, not so much because regulation involves uniform rules, but because regulation interacts with market pressures, environmental activists and the management culture of businesses. Other research has identified similar drivers of business actions in response to environmental issues. These include legislation, stakeholder pressures, economic opportunities, and ethical motives (Bansal & Roth, 2000). Ethical motives involve taking environmentally beneficial steps because they are the "right thing to do" (Bansal & Roth, 2000, p. 718). These motivations may simultaneously exist to different degrees in a firm and form a continuum rather than discrete categories (Bansal & Roth, 2000; Kagan et al., 2003; Lynch-Wood & Williamson, 2007).

Winter and May (2001) and Nielsen and Parker (2012) identify three reasons for compliance: calculated motives (a cost-benefit analysis of the perceived risk of detection and likelihood of and severity of sanctions); normative motives (a sense of duty to comply for moral reasons); and

social motives (wanting to be viewed as good citizens). In a study of Danish farmers, Winter and May (2001) found that normative and social motivations are as influential as calculated, economic decisions in bringing about compliance. Nielsen and Parker (2012) assert that the distinction between social and economic motives has significant public policy implications because where economic motivations are strongest, large fines might be sufficient; however, if the firm is motivated by social concerns, a small fine may be sufficient, as long as the firm's leadership knows that the violation will bring social disapproval. In a study of compliance with Australia's *Trade Practices Act* 1974, Nielsen and Parker found that differences in the normative motives of businesses created the biggest differences in compliance behaviour, but that social motives were also important. They also concluded that variations in motives is only one factor among many to explain compliance, and that the "path from fundamental interest of motives to behavior is filled with constraints and contingent factors at the individual, organizational and structural levels" (p. 430).

Gonzales-Benito and Gonzales-Benito (2005) identified four general types of motivations: ethical (true ecological awareness), productive (interest in improving financial returns), commercial (interest in improving competitive advantage) and relational (seeking legitimacy and wanting better relationships with stakeholders). They further distinguish between three levels at which these motives play out in businesses: the management system, the operations system, and the commercial system. In a study of 186 manufacturing firms, they found that the type of motivations that prevail in an organization will condition the environmental practices of the firm. Commercial motivations will, for example, lead to the prioritization of superficial and visible initiatives, and a stronger focus on transforming the management and commercial system. Operational motivations will result in deeper and less externally visible changes, because these motivations relate to decreasing costs and increasing efficiency. Relational motivations were not found to condition particular environmental practices, though the researchers speculated that the relatively lower environmental concerns of consumers in Spain may have influenced that outcome in their study sample.

These different motives were identified in the context of considering why businesses comply with regulations, not the issue of why some businesses choose to go beyond compliance. One

reason for taking steps beyond minimal compliance is the impact that the extra steps can have on the social licence of the firm (Kagan et al., 2003; Lynch-Wood & Williamson, 2007). Previously, licence to operate entailed only the legal obligations of businesses, but now businesses must also meet community expectations regarding matters such as safety of their operations and environmental performance (Gunningham, Kagan & Thornton, 2004). Social licence pressures take shape through an interactive relationship between the business and society, and not all businesses respond to social licence pressures in the same way: "Managers reinterpret and operationalize external licence pressures in different ways, resulting in differences in environmental performance even among facilities subject to ostensibly similar external license[2] terms" (Gunningham et al., 2003, p. 17). These observations do not mean that regulation does not matter; rather, Gunningham et al. (2003) argue that regulation is the most important factor in compliance. It does not however tell the whole story of why some businesses comply why others do not, nor why some businesses go beyond compliance while others do not. Kagan et al. (2003) considered why some businesses overcomply and found no one determining factor, but that management style is significant. Management style includes variables such as openness and responsiveness in dealing with regulators and environmental groups, how "imaginatively and energetically" managers scan for win-win opportunities, and how managers calculate the benefits of investments in improvements (p. 155-156).

Since the causes of performance are complex, no one policy instrument will suffice. Ayres and Braithwaite (1992) and Gunningham et al. (1998) recommend that government develop and enforce a combination of policy instruments rather than relying on command and control regulations. A second suggestion is to leverage the power of social licence by requiring disclosure of information relating to compliance, performance, and other significant actions of businesses. This addresses the information asymmetry between the regulated firm and the public. Third, because management style of businesses is so important, they identify government influence over management attitudes as a potentially fruitful area, but recommend further research to further understand why management attitudes differ (Gunningham et al., 2003). Compliance is the result of an interaction of a variety of factors. These are internal (management

[2] The Canadian spelling "licence" for a noun is used throughout this thesis except where a quote or title of another source uses "license."

of the firm), external (social licence), intra-organizational (firm size) and internal and external interaction (how management style intermediates between risks and stakeholders). Social pressures also shape firm behaviour, for example, neighbours not liking emissions, reputation over environmental record, labour practices (Kagan et al., 2003).

A number of studies have considered compliance behaviour of Canadian businesses, particularly in the industrial sector. A study of the Canadian oil industry conducted by Sharma and Vredenburg (1998) found that how businesses respond to environmental issues depends partly on organizational characteristics such as capacity for higher order learning (ability to reinterpret past and current events based on new knowledge), capacity for innovation, and connection to stakeholders. Reactive firms "emphasized the role of legal and public relations departments in handling concerns of stakeholders with noneconomic motivations", whereas the proactive firms worked on developing trust and credibility with stakeholders and created an environment that supports experimenting and seeking opportunities (p. 739). Further studies indicated that whether managers interpret external factors as threats or opportunities affected whether or not the firms undertook voluntary environmental actions (Sharma, 2000; Sharma et al., 1999). Organizational influences affect how managers interpret events, yet managers' interpretations also affect how the organization responds, suggesting that external events cannot be considered entirely external to the firms. Managers' categorization of an environmental issue as a threat or an opportunity will result in a response consistent with the manager's interpretation (Sharma et al, 1999). A further study of the Canadian oil and gas industry found that managerial interpretations are shaped by how integrated environmental issues are to the company, supporting the earlier finding that external events and internal interpretations are intertwined (Sharma, 2000). Sharma also found that the greater the degree of discretion and flexibility provided to managers, the more innovative managers will be in responding to environmental issues.

The leadership of management was found to be important in several studies. Sound management practices and good relations with employees and suppliers were found to be related to environmental policies of manufacturing firms in Canada (Roy et al., 2001), and SMEs with environmental management practices are likely to have management with a post-conventional stage of consciousness, marked by the ability to proactively and effectively address complexity

and lead change through steps such as questioning and improving rules, and consulting with stakeholders (Boiral et al., 2014). Whether the adoption of environmental management systems resulted in an actual reduction in the environmental impact of Canadian chemical companies was found to be linked to high involvement by a particular type of employee (operators), because environmental decision making is more likely to be integrated into day to day decisions (Boiral, 2005). A study of compliance behaviour of pulp mills in British Columbia found that compliance behaviour is influenced not solely by internal factors or external factors, but by a combination of the two (Kagan et al., 2003). Research regarding the voluntary adoption of green electricity by Ontario-based companies found that organizational values and context were important in the decision making process to adopt green electricity (Berkhout & Rowlands, 2007). In particular, there was a marked difference in the organizational values of firms that adopted green electricity, with the firms adopting green electricity having a more complex set of organizational values that incorporated more than the desire for improved efficiency. This study further found that organizational structures such as environmental management systems or environmental reporting requirements will also support the adoption of an initiative that is good for the environment but not necessarily good for the firm.

Some researchers have noted that the motivations for small and medium enterprises (SMEs) are different than those of larger businesses (Ambec, 2010; Aragon-Corréa, 2008; Battisti & Perry, 2011; Blundel, Monaghan & Thomas, 2013; Ciliberti, Pontrandolfo & Scozzi, 2008; Lefebvre, Lefebvre & Talbot, 2003; Lynch-Wood & Williamson, 2007; Roberts, Lawson & Nicholls, 2006; Simpson, Taylor & Barker, 2004; Thornton & Byrd, 2013; Wagner & Hansen, 2005; Williamson, Lynch-Wood & Ramsay, 2006). Nielsen and Parker (2008) found that larger organizations were more likely to implement compliance programs and manage compliance better due to more resources available, as well as a higher level of management oversight and planning. In addition, smaller businesses may not have the training or resources to identify profitable opportunities (Ambec, 2010), or capacity for specialized engineering and management (Kagan et al., 2003). Another reason is that SMEs have lower public profiles, thus less to gain from public initiatives that enhance their reputation, and they are also subject to less pressure from environmental stakeholders (Gardner 2003; Kagan et al., 2003; Lynch-Wood & Williamson, 2007). On this basis, one would expect SMEs to be more influenced by traditional

regulation. In other words, because the driver (stakeholder expectations) and the impact (on reputational capital) are both lower with SMEs than with larger businesses, response will also be lower (Lynch-Wood & Williamson, 2007). Lynch-Wood and Williamson (2007) propose a five-factor framework for what may induce a company to take steps beyond compliance. The five factors are the environmental impact of a product, customer power, customer interest, corporate and brand visibility, and community pressure. Policy makers, they argue, should consider these five factors and how they can increase the drivers and impacts on all businesses in order to subsequently increase the responsiveness of those businesses and push them beyond simple compliance.

In summary, the literature has found that corporate environmental behaviour appears to be complex and shaped by the interaction between external and internal variables. The external variables are legal, economic, social, and political (Bansal & Roth, 2000; Kagan et al, 2003; Lynch-Wood & Williamson, 2007). The internal variables include corporate managerial culture and leadership (Gunningham et al., 2003; Kagan et al., 2003). In addition, there is some evidence that SMEs are less influenced by social licence because of their lower capacity and lower public profile than larger businesses (Ambec, 2010; Gardner 2003; Kagan et al., 2003; Nielsen & Parker 2008).

2.1.2 Corporate social responsibility and environmental leadership

There are different streams of literature on environmental leadership and social responsibility of businesses. One stream focuses on the leadership of a business as a whole in relation to regulatory requirements, and includes studies of how businesses build social licence, what motivates compliance behaviour, and the effectiveness of particular initiatives such as voluntary programs (Coglianese & Nash, 2001; Florida et al., 2001; Kagan et al., 2003; Nielsen & Parker 2008; Wu, 2009). A second stream addresses the leadership of individuals within a business and how to successfully implement the vision of the firm's executive or management in relation to environmental concerns, including how to motivate employees and manage change (Aguinis & Glavas, 2013; Annandale, Morrison-Saunders & Bouma, 2004; Boiral et al., 2008; Egri & Frost, 1994; Egri & Herman, 2000; Fernandez, Junquera & Ordiz, 2006; Flannery & May, 1994; Forte,

2004; Fowler & Hope, 2007; Gallagher, 2012; Hilliard 2013; Moffet et al., 2004; Portugal & Yukl, 1994; Post & Altman, 1994; Ramus, 2002; Smith & Sarros, 2013; Timmer, Buckler & Creech, 2008). A third stream considers studies of the effectiveness of particular programs (Anton, Deltas & Khanna, 2003; Barla, 2007; Stenzel, 1999). A fourth stream studies the relative degrees of environmental leadership demonstrated by national governments in how they regulate businesses within their jurisdictions, and make recommendations for a national approach in Canada (Boyd, 2003; CCCE, 2010; OECD, 2008). A final stream considers the corporate social responsibility and environmental management challenges and opportunities of SMEs in particular (Aragon-Corréa et al., 2008; Battisti & Perry, 2011; Ciliberti et al., 2008; Lefebvre et al., 2003; Roberts et al., 2006; Simpson et al., 2004; Thornton & Byrd, 2013; Wagner & Hansen, 2005; Williamson et al., 2006). This thesis focuses on the first area of environmental leadership: leadership of for-profit businesses in relation to compliance with regulatory requirements. Although the other streams are related, the focus of this thesis is on what and how decisions in an industry, not on human resource management within specific businesses, nor on corporate leadership, national strategies, nor issues specific to SMEs.

Environmental leadership relates to the emergence of corporate social responsibility (CSR) as a prominent concept relating to business behaviour. CSR originated in the 19th century around antitrust concerns, evolved into concerns about transnational corporate behaviour in the 1960s and 1970s, then into the current era of increased concerns and efforts to regulate corporate behaviour (Malloch, 2013). A number of different terms for environmental leadership or corporate social responsibility exist: corporate responsibility and the environment, sustainable development, global citizenship, community leadership, and corporate responsibility (Sratos, 2007). Further, what comprises CSR has been the subject of some debate. There are at least three schools of thought on CSR (Malloch, 2013). One is the neoliberal approach in which CSR comprises the adoption of voluntary policies, codes or guidelines, initiated by the corporation. The neoliberal view is that the one and only social responsibility of businesses is to "engage in activities designed to increase its profits so long as it stays within the rules of the game" (Friedman, 1970, p. 124). Consequently, in this school of thought, any engagement in CSR is done out of the belief that it will be profitable in the long run (Malloch, 2013). The second school of thought is the neo-Keynesian approach, which recognizes that corporate behaviour can

have negative effects and therefore engagement in CSR is motivated by wanting to minimize or avoid these problems. In the neo-Keynesian approach, CSR is also considered something businesses voluntarily do to minimize social and environmental effects. The third school of thought includes the radical political economy approaches, which are concerned about corporate power and the abuse of that power. This school of thought considers voluntary CSR to be ineffectual and a cynical divergence of attention away from socially and environmentally destructive behaviour of businesses.

The three types of CSR outlined above align generally with the type of environmental leadership pursued by a firm. The neoliberal approach to CSR corresponds with businesses in the non- or minimal-compliance category, the neo-Keynesian roughly with the compliance category, and the beyond compliance behaviours (particularly the more proactive, leadership types) align more closely with the radical political economy form of CSR. CSR is essentially about voluntary steps taken by businesses, perhaps out of socially-altruistic motivations, perhaps out of an effort to avoid the consequences of noncompliance. Environmental leadership is fundamentally about businesses doing more than they are required to do. Gunningham, Grabosky and Sinclair (1998) put forward two reasons why businesses have not always and do not always move beyond compliance with regulatory requirements: the emphasis on short term profits, and bounded rationality. The emphasis on short term profits is "probably the single largest impediment to improved environmental performance" because most environmental benefits will pay for themselves in the medium or long term (p. 416). Bounded rationality of the decision makers means they do not have sufficient knowledge nor the ability to make calculations necessary to proactively adopt even those policies that would be in their interest (Simon, 1957; Simon, 1997).

With the growth of corporate social responsibility and voluntary environmental programs, concerns were raised about the extent to which governments should rely on them as an alternative to binding regulatory standards. The use of voluntary programs has been used by businesses to forestall regulatory requirements and does not necessarily indicate higher environmental compliance nor a cultural change within a business that indicates sincere efforts to improve environmental performance (Gibson, 1999b; Macdonald, 2007; Moffet et al., 2004). Although some researchers have identified moral and ethical motives for businesses to

demonstrate environmental leadership, others have argued that the greening of corporations does not occur through internal motivations but through external pressure exerted on businesses from societal and regulatory pressure (Macdonald, 2007).

2.1.3 Typologies of environmental leadership

A variety of typologies of environmental compliance have been put forward. Hunt and Auster (1990) identify five types of behaviour on a continuum ranging from Stage 1 "beginners", who take no steps regarding environmental protection, to Stage 5 "proactivists", who make environmental protection a priority. Wartick and Cochran (1985) and Carroll (1979) outlined a similar continuum ranging from "reactive" (no steps for environmental protection or management) to "proactive" (environmental management and protection is an integral part of business. Berry and Rondinelli (1998) outline three stages of corporate environmental management. The first was dominant in the 1960s – 1970s, and is described as an unprepared, crisis mode approach in which environmental compliance is not sought. The second came to prominence in the 1980s and is the reactive/cost mode in which businesses seek compliance with regulation, mainly to manage the enforcement and social costs of not complying. The third phase is the proactive, sustainable business mode that came about in the 1990s and continues into the 21st century. In this mode, businesses go beyond compliance and put in place an EMS. They take measures to not only reduce pollution but prevent it, to minimize waste rather than to manage it, to engage in demand side management such as encouraging reduced energy use by customers, product stewardship and designing products with their end-of-life and reuse in mind, and by engaging in full cost environmental accounting.

Another typology is offered by Kagan et al. (2003), who identified five categories: laggards, reluctant compliers, committed compliers, environmental strategists, and true believers. Laggards are businesses with management that does not require consistent achievement of regulatory standards, and in which compliance is motivated primarily to avoid enforcement. They are also slow to develop internal environmental quality management systems and to cooperate with regulators or the community. Reluctant compliers are more willing to comply than laggards, but do not see the social benefits of compliance. Instead, they will not fully

comply unless monitored closely. Committed compliers strive to comply with a margin of safety and are more cooperative with regulators than are both laggards and reluctant compliers. Committed compliers seek win-win opportunities in which both social and firm's economic goals can be met, but they do so in a narrow sense where social licence is viewed as good compliance only. Committed compliers will make investments in environmental improvements, but only if they can be justified up front as demonstrating financial benefits. Environmental strategists are future oriented and see it as being in the firm's long term interest to comply. Environmental strategists put in place highly professional internal environmental management teams and will make investments for environmental improvement even if the investments are not seen up front to have demonstrated benefits. However, environmental strategists engage in limited transparency and openness with regulators and communities. Businesses in the final category, true believers, believe that environmental responsibilities have a business case, but that they are also the right thing to do. True believers see reputation as key to business success, and environmental initiatives as a key part of corporate identity. Unlike environmental strategists, they strive to develop and maintain an open and transparent relationship of trust with communities.

Willard (2005) also identified five types of compliance behaviour based on what he characterizes as a type of evolutionary progression: pre-compliance, compliance, beyond compliance, integrated strategy, and purpose and passion. Those businesses in the pre-compliance phase are similar to Kagan et al.'s (2003) laggards: they will only comply if forced to by enforcement activities, or perhaps a public relations crisis. Those in the compliance phase will comply, but only reactively and in order to limit liability. Those businesses in the beyond compliance category realize that exceeding regulatory requirements can bring cost savings and a better reputation, but their environmental sustainability activities are marginalized within the organization. Those with an integrated strategy have integrated sustainability considerations into their operations in order to capture the benefits (primarily competitive advantages) of being a responsible corporate citizen. The final phase, termed purpose and passion, involves businesses identifying sustainability as a business end in itself. Table 1 summarizes the different approaches in the literature to compliance.

Table 1: Typologies of compliance

Willard (2005)	*Pre-compliance* Laggards: only comply if forced to through enforced regulations or a public relations crisis Feels no obligation beyond profit	*Compliance* Obeying law tied to managing liabilities. Reactively does what it legally must, and does it well	*Beyond compliance* Realizes that beyond compliance behaviour can bring cost savings and a better reputation but sustainability initiatives are marginalized	*Integrated strategy* Sustainability integrated; captures benefits (competitive advantage) of being a responsible corporate citizen	*Purpose and passion* Sustainability is a business end in itself Driven by a passionate, values-based commitment
Kagan, Gunningham & Thornton (2003)	*Laggards* No commitment to consistent achievement of regulatory standards Comply only to avoid enforcement Slow to create environmental managers Do not seek cooperative or open relationship with regulators nor with the community	*Reluctant compliers* Seek to meet minimum standards; will take short cuts and do not seek full compliance unless monitored closely No moral imperative to comply; do not see social benefits to compliance Do not seek cooperative, open relationship with regulators or community	*Committed compliers* Strive to comply with margin of safety; more cooperative in dealing with regulators but are reactive Win-win opportunities sought but in narrow accounting sense; social licence seen as linked to compliance record and no more Environmental investments only if justified ex ante financially	*Environmental strategists* Future oriented; matter of business sense to over comply Highly professional environmental management Environmental investments made even if not justified ex ante; limited transparency	*True believers* Environmental responsibilities have a business case but also underlying principle of the right thing to do Reputation is key to business success; environmental initiatives part of corporate identity Attempt to establish trust with local communities; fully transparent

Berry & Rondinelli (1998)	*Unprepared (crisis mode)* Noncompliance with regulations	*Reactive (cost mode)* Compliance with regulations	*Environmental management systems (beyond compliance)* Steps taken for: waste minimization, pollution prevention, demand side management, design for environment, product stewardship, and full cost environmental accounting		
Hunt & Auster (1990)	*Beginner* No steps for environmental protection	*Firefighter* Minimal steps for environmental protection, addressing environmental issues only where necessary and addressing problems as they occur	*Concerned citizen* Moderate steps for environmental protection, where environmental management is considered a worthwhile function and is provided a consistent, but minimal, budget	*Pragmatist* Comprehensive steps for environmental protection, with generally sufficient funding provided and steps take to minimize negative environmental impacts	*Proactivist* Maximum steps for environmental protection Environmental management is a priority and funding available to actively manage environmental problems
Wartick & Cochran (1985) and Carroll (1979)	*Reactive* No support for environmental management	*Defensive* Issue based, piecemeal approaches to environmental protection	*Accommodative* Environmental management considered worthwhile but not extensively pursued	*Proactive* Top management support for environmental management, which is considered an integral and important part of business	

Where environmental leadership measures are adopted, they can take a variety of forms. Khanna (2001) identifies the following four types of nonmandatory approaches to environmental protection: public voluntary programs established by government (eg: the US EPA's 33/50 program); bilateral initiatives negotiated by industry and government (such as the Common Sense Initiative and Project XL, also in the US); and unilateral initiatives in which firms develop their own plans and seek certification through organizations such as ISO14001; and information provision such as ecolabelling programs. Similarly, Morgenstern and Pizer (2007) identify three types of voluntary programs: unilateral steps taken by firms (such as Responsible Care); public voluntary programs initiated by government (e.g.: the U.S. Environmental Protection Agency's 33/50 program) and negotiated agreements between government and industry (such as the U.S. XL program). In addition to these categories, environmental leadership may also entail steps by businesses to exceed regulations without an actual program or announcement.

The various forms of environmental leadership can be summarized into six general categories. The first is to simply exceed the minimal regulatory requirements in the absence of any formal reporting out or membership in a program. While this meets some definitions of environmental leadership, it is a limited form, as it is focused on the issue of compliance and from a research perspective, it is difficult to identify businesses into this category, as the businesses have not joined an organization, obtained certification, or otherwise attempted to bring attention to their performance. The second type of beyond compliance behaviour is to exceed the minimum regulatory standards, but to also take the extra step of ensuring that it is publicly known. This could be done through simply advertising that the firm has exceeded requirements, or more formally through meeting planning and reporting requirements set by government. An example of this is British Columbia's EPR program, which requires Stewardship Plans and annual reports by those regulated by the program. The sectors covered by EPR regulations must meet requirements respecting certain matters such as recycling rates of products, but can also set out measures exceed compliance (by for example redesigning products to reduce waste) in their Stewardship Plans and annual reports. The remaining categories all involve voluntary membership in some form of standard-setting program, led either by government or outside agencies. Porter argued that corporations can seek sustainable competitive advantage through lower costs or through differentiation (Eisner, 2007; Porter, 1985). Joining a voluntary program

can be seen as a form of differentiation strategy. A differentiation strategy involves a firm seeking to be unique in its industry in a manner that attracts (Porter, 1985). Joining a voluntary program differentiates businesses in that it distinguishes them from their competitors who do not do so. It may also support efforts by businesses to identify customers who will pay more for environmentally friendly products (Eisner, 2007).

In the third category of environmental leadership, government establishes the voluntary program. US EPA's 33/50 Program, Green Lights and the Climate Challenge Program are all examples of government sponsored voluntary programs. The 33/50 program was started by the EPA in 1991. It encouraged voluntary steps by businesses to reduce their emissions of priority toxic chemicals by 33 percent in 1992 and 50 percent by 1995. The Green Lights program was launched in 1991 and was focused on increasing energy efficiency of lighting systems in an effort to reduce greenhouse gas emissions. The Climate Challenge program was started in 1994 by the Department of Energy in the US and also had the goal of increasing energy efficiency in order to reduce greenhouse gas emissions, but was focused on utility companies. In exchange for voluntary participation, the program offered public recognition, technical assistance, and subsidies to participants (Khanna, 2001; US Department of Energy, 2013). In addition, businesses had the potential to realize cost savings through reduced energy use. In some cases, governments have established their own program, but adopted standards that are virtually identical to existing programs outside of government, such as the Ontario`s Environmental Cooperative Agreements program that contains virtually all of the requirements found in ISO 14001 (Saxe, 2003). An example in BC is the *Organic Agricultural Products Certification Regulation* (1993), or the *Wines of Marked Quality Regulation* (2005), although the latter is not an environmental program. The Canada-wide Organic Production Systems General Principles and Management Standards under the federal *Organic Products Regulation* (2009) is another example.

The fourth category of beyond compliance behaviour is negotiated agreements between government and industry. This type of approach has been common in Europe for decades, and involves negotiations regarding how and when pollution abatement targets will be met, not the actual targets themselves (Khanna, 2001). The US EPA has also provided examples of this type

of program, launched in the 1990s. Project XL, for example, provides flexibility to individual businesses regarding their pollution control strategies by waiving "certain administrative and statutory requirements for facilities that demonstrate that they can improve their environmental performance beyond that possible with compliance with existing regulations, cost-effectively and with public support" (Khanna, 2001, p. 295).

The fifth form of beyond compliance behaviour involves a specific industry initiating a program that individual members of that industry can choose to join. An example of this is the Responsible Care Initiative started by the chemical industry in Canada in 1984, and which has since expanded to other countries (Chemical Industry Association, 2013; Khanna, 2001; Saxe, 2003). Programs such as these tend to include guiding principles and codes of conduct or industry standards (Khanna, 2001). Participants that meet the membership requirements may display the trademark of Responsible Care, in order to receive public recognition of their participation. The sixth category are unilateral decisions by businesses to join a broad program such as obtain ISO certification or programs such as Forest Stewardship Certification, which are focused on a specific industry, but not established by or associated with a particular trade or industry association. As with the industry-led voluntary programs, this type of voluntary membership also entails earning the right to display a logo or other proof of membership in the program. In some cases, rather than establishing their own program, governments have used existing programs and provided an incentive for businesses to join them, rather than establishing a government program. An example of this is the $1,000 tax credit Nova Scotia offered businesses that obtained ISO 14001 registration (*ISO 14001 Income Tax Credit Regulations*, 1997). Table 2 summarizes the types of environmental leadership discussed in the literature and how they relate to the case studies for this thesis.

Table 2: Types of environmental leadership

Action	Example	Sample for this thesis
1. Exceeding regulatory requirements	Purchase of technology for cleaner production, water conservation	
2. Meeting regulatory requirements and reporting out on additional steps	Meeting waste reduction requirements of extended producer responsibility legislation; but also redesigning products BC's voluntary groundwater standards	Membership in EPR agency; developed own voluntary program (marine and EPR); reporting that have exceeded minimum requirements of legislation
3. Member of voluntary environmental program (government-led)	US Environmental Protection Agency 33/50 Program, Green Lights, and the Climate Challenge Program	Organic certification
4. Negotiated agreement between government and a firm	US Common Sense Initiative and Project XL; industry-government covenants in the Netherlands	
5. Member of voluntary environmental program (industry-led)	Green Marine Responsible Care	Members of marine voluntary organizations
6. Member of voluntary environmental program (unilateral)	Developed own internal environmental management system; obtained certification from independent agency (eg: ISO14001 or Forest Stewardship Council)	

2.1.4 Regulatory instruments

Included in the discussion of social licence is the idea that government is best positioned to undertake certain actions to influence beyond compliance behaviour, and that there are things that citizens, businesses or community groups are better positioned to undertake. Nielsen and Parker (2008) identify four factors that will affect compliance with the law: the nature of relationship between three types of business stakeholders (economic, legal or regulatory, and social stakeholders); the tools of monitoring and enforcement available to each stakeholder; the different levels of influence the stakeholders have over regulated parties; and the logic of appropriateness (if enough social and economic stakeholders expect compliance, regulated

parties will come to see regulation as good for its own sake). Parker (2002) identifies the instruments that can be used by different stakeholders. Economic stakeholders (investors, banks, customers) will use interest rates, refusal to invest, share prices, and loans to further their expectations. Examples of this are the growth in ethical investment funds, sometimes owned by churches, unions, or environmental organizations who directly control financial decisions, businesses who establish policies regarding their practices where the social pressure is not direct but their "primary interest is ensuring that no scandals or breaches of legal obligations are about to be discovered and ruin their investment in the company" (Parker, 2002, p. 103). Legal stakeholders (regulators, legislators, and citizens) will use moral suasion and protest, inspections, and sanctions; and social stakeholders (neighbours, activist organizations and the general public) will use shame and publicity, including boycotts. The move away from almost exclusively command and control regulation has involved a shift from direct, coercive, state intervention to less visible, more indirect and incentive-based instruments that drew on the capacity of the different stakeholders. The evolution in actual regulatory approaches reflects the broader evolution in the literature regarding the instruments available to governments to achieve their objectives, because instruments are the link between policy and achieving the objectives of the policy (Eliadis et al., 2007; Roine, 2005).

The literature includes numerous attempts to organize and categorize the regulatory instruments available to government, with some being more explicit than others about the role of nongovernment actors. One of the earliest discussions of instruments was by Dahl and Lindblom (1953), who argued that the number of instruments available to government is virtually infinite, and proposed that instruments be organized along five continua: government – private ownership; compulsion – information; direct control – indirect control; voluntary – compulsory; and autonomy – prescription. Another relatively early consideration of instruments was developed by Lowi (1972), who focused on government's options regarding coercion. Coercion in this context is meant broadly. Lowi distinguishes between remote and immediate coercion, decentralized versus centralized coercion, a high or low likelihood of coercion, a focus on individual conduct or environment of conduct, and a focus on either party versus group interests. This resulted is a grid with four quadrants, each representing the available options to

governments in designing policy. The quadrants, with examples of each type of instrument, are contained in Table 3.

Table 3: Lowi's typology of coercion, policies and politics

	Applicability of coercion: INDIVIDUAL CONDUCT	Applicability of coercion: ENVIRONMENT OF CONDUCT	
REMOTE likelihood of coercion	**Distributive policy** (19^{th} c. land policies, tariffs, subsidies)	**Constituent policy** (setting up a new agency, propaganda)	PARTY (electoral organization), LOGROLLING
IMMEDIATE likelihood of coercion	**Regulative policy** (unfair competition, fraudulent advertising)	**Redistributive policy** (progressive income tax, social security)	GROUP (interest organization, bargaining)
	Decentralized, disaggregated, local interest, (person)	Centralized, "systems" level, cosmopolitan, ideology, status (type of person)	

(Summarized from Lowi, 1972, p. 300)

A number of taxonomies of instruments or instruments have since been developed (Linder & Peters, 1989; McDonnell & Elmore, 1987; Vedung, 1998). One of the most prevalent is the taxonomy developed by Hood (1986), who outlined four categories of instruments. The four categories are nodality, authority, treasure, and organization (NATO). Nodality refers to governments' ability to traffic information on the basis of location in a network and having the bigger picture. Authority refers to legal or official power. Treasure is funds or other resources that can be traded, and organization refers to people and equipment. Hood and Margetts (2007) further distinguish between governments' instruments for detection and instruments for effecting. Detectors are "the instruments government uses for taking in information" and effectors "are all the instruments government can use to try to make an impact on the world outside" (p. 3). Detectors and effectors are further divided into passive and active. This results in another grid with dozens of potential instruments at government's disposal. Hood and Margetts' taxonomy is summarized in Table 4.

Table 4: Basic characteristics of four types of government instruments

Types of resources (instruments)	Nodality	Authority	Treasure	Organization
Definition	Ability to traffic information on the basis of location in a network, having the bigger picture	Legal or official power	Funds or other resources that can be traded	People and equipment
Activity	Communicate	Determine	Exchange	Act directly
Limit	Credibility	Standing	Fungibility	Capacity
Coin (how government spends the resource)	Messages	Tokens of authority	Moneys	Treatments
Effectors at level of application: **Particular** **Group** **General**	 Bespoke messages (e.g.: letter reminding you that your driving licence is about to expire) Group targeted and conduited (e.g.: messages through a service delivery agency) Broadcast messages	 Directed tokens (e.g.: certificate of fitness or qualification of individual) Group targeted and conduited (e.g.: certificate to a group) Blanketed tokens (e.g.: daylight savings time)	 Customized payments to individual (e.g.: contracts) Group targeted and conduited applications (e.g.: provision of compensation to a group via a society) Open payments (e.g.: aid to a region, free bikes)	 Individual treatments (e.g.: markings of taxes paid on tobacco) Group targeted and conduited (e.g.: evacuations) At-large treatments (e.g.: fluoride in water)
Detectors on spectrum of passive to active: **Passive** **Active**	*Nodal receivers*: Unsolicited tenders (picking up information volunteered) Scrutiny of free media Direct inquiry	*Requisitions:* Obligations to display or notify Interrogations Inspections	*Rewards:* Advertised rewards Information exchange for mutual benefit Active proposition to prospective participant	*Ergonomic detectors:* Turnstiles Mobile scanners Hidden scanners

Source: Hood & Margetts, 2007, pp. 4-11.

Salamon (2002) discusses instruments based on their degree of coerciveness, directness, automaticity, and visibility. Highly coercive instruments include regulations. Moderately coercive ones include vouchers or subsidy programs, which encourage particular types of behaviour. Ones that involve low levels of coercion include public information campaigns, tort liability and other measures that rely on voluntary cooperation. Directness "measures the extent to which the entity authorizing, financing, or inaugurating a collective activity is involved in carrying it out" (p. 27). Automaticity "measures the extent to which an instrument utilizes an existing administrative structure for its operations rather than creating its own special administrative apparatus" (p. 32). Finally, visibility refers to the degree to which the policy is visible to the public and politically. These too fall on a spectrum. Highly visible instruments include fees and grants; less visible ones include regulation and taxation.

Salamon (2001) considered instruments of public action in the context of growing frustration with existing instruments, the search of government for new solutions, and a shift from "government" to "governance" in which government relies increasingly on the private sector or other parties in a broader government/nongovernment network to achieve ends. He wrote that every given instrument is a package of various elements including the type of good or activity (eg: cash, prohibition, restriction); a delivery vehicle (through a loan, grant, provision of services); a delivery system (delivery agency, local government); and a set of rules that define the relationships between the different parts of the delivery system. Some have argued that governments in Canada have not made full use of the policy options available to address environmental problems (Winfield, 2008; Wood et al., 2010).

2.1.5 New governance models

The literature on the evolution of regulatory models and the changing roles of government and nongovernment actors are linked together in concept of new governance. "Government" refers to "the formal institutions of the state and their monopoly of legitimate coercive power" (Stoker, 1998, p. 17) whereas "governance" involves "a new process of governing; or a changed condition of ordered rule; or the new method by which society is governed" (Rhodes, 1996, p. 652-653). Trubek and Trubek (2007) explain what while "regulatory goals have traditionally

been pursued exclusively through statutory enactments, administrative regulation, and judicial enforcement", new governance "may encourage experimentation; employ stakeholder participation to devise solutions; rely on broad framework agreements, flexible norms and revisable standards; and use benchmarks, indicators and peer review to ensure accountability" (Trubek & Trubek, 2007, p. 541).

Lobel (2004) compares new governance to the regulatory model that gained ascendance during the era of the New Deal in the U.S., terming new governance "the Renew Deal." The Renew Deal involves public participation; partnerships between government and nongovernment actors; collaboration and continuous interaction; diversity of standards and solutions; and decentralization of responsibility. At the level of specific laws, the new governance model involves a movement away from command and control to reflexive regulation, which will be discussed later in this thesis (Section 2.2.3). A key element of new governance is that it "promotes a movement downward and outward, transferring responsibilities to states, localities and the private sector – including private businesses and non-profit organizations" (Lobel, 2004, p.345). Treib, Bahr and Falkner (2007) identify a three-type typology of governance: political, focusing on the power relationships; institutional, concerned with the rules that govern actions of social actors; and policy, focusing on policy instruments. This thesis is concerned with the latter, policy governance, which according to Treib et al., includes a shift to soft law instead of reliance on binding laws; flexible instead of rigid implementation; enforcement options other than sanctions; procedural regulation; and context dependent, changeable norms rather than fixed ones. Howlett and Rayner (2007) address what the concept of new governance means for policy instruments. New Governance Arrangements (NGAs) are:

> intended to *combine* policy instruments and their settings in new ways, so that multiple instruments support, rather than undermine one another in the pursuit of policy goals. NGAs also attempt to *integrate* existing, and sometimes competing, policy initiatives into a cohesive strategy; to *coordinate* the activities of multiple agencies and actors; and, generally, to substitute a *holistic approach* to a problem for one that has decomposed policy into a set of multiple and apparently unrelated problems and solutions" (p. 7).

Karkkainen (2004) points out that regardless of the different terminology, reflexive approaches, new governance, or the "Renew Deal," all refer to innovative forms of public governance, based on a shift "away from the familiar model of command-style, fixed-rule regulation by administrative fiat, and toward a new model of collaborative, multi-party, multi-level, adaptive problem-solving New Governance" (p. 473). In practice, this involves context-specific approaches that are conducive to ongoing learning and adaptation (Lobel, 2005), and a shift from vertical and hierarchical instruments to network based regulation (Salamon, 2002).

2.2 Theoretical literature

This section of the literature review considers how three theoretical models help us answer the question of how provincial governments in Canada can support environmental leadership. The three theoretical models are: the rational actor model, institutional theory, and the theory of reflexive law. These three theories are relevant because when analyzing the literature on beyond compliance behaviour of businesses, a number of themes emerge. One theme is the analysis businesses engage in to determine costs and benefits of their behaviour. Behaviour that on the surface may appear altruistic (such as reducing noxious emissions that bother neighbours) may be motivated by a calculation that it is good for business to be a good corporate citizen (Winter & May, 2001). Also, the concept of social licence in the beyond compliance literature is related to the institutionalism concept of seeking legitimacy (Fiksel, 2009; Howard-Grenville, 2006). Organizational factors such as research and capacity and innovativeness are significant to whether firms take steps towards environmental sustainability, such as the adoption of environmental management systems (Florida et al., 2001). In addition, businesses may decide to take environmental leadership steps in order to because of organizational culture (Howard-Grenville, 2006). Further, the provision of incentives or a regulatory context in which parties regulate themselves because of information disclosure laws (such as the Toxic Release Inventory) is a reflexive law concept (Ambec, 2010; Hirsch & Howell, 2010; Stewart, 2001). Together, the rational actor model, institutionalism, and reflexive law therefore provide a theoretical basis for exploring what leads to businesses engaging in environmental leadership and

for explaining why some policy instruments used by governments to enforce laws may be more helpful in some contexts than others.

2.2.1 Rational actor

The rational actor model is one founded in economics, which assumes that the actor attempts to maximize his or her utility and is motivated by self-interest. There are four core concepts in this model (Allison & Zelikow, 1971). The first is that the interests and values of the decision maker are translated into a "payoff" or "utility" through the setting of goals and objectives (Allison & Zelikow, 1971, p.18). The second and third concepts are that there are alternatives from which the rational actor may choose, and that each alternative has consequences. Finally, the rational choice consists "simply of selecting that alternative whose consequences rank highest in the decision maker's payoff function" (p. 18). In the rational actor model, the decision making processes of organizations (including businesses) have four characteristics: (1) the organization has knowledge of alternatives for action that are "defined by the situation and known unambiguously", (2) organizations know the consequences of alternatives, (3) organizations have a consistent preference among alternatives, and (4) the organization has rules to guide selection of an alternative depending on its consequences and the organizational preferences (March, 1981, p. 210).

The rational actor model has been criticized on several grounds. Three main ones are that first, it assumes that the decision maker has perfect information (Lindblom, 1959). Second, it assumes that the decision maker has reviewed and analyzed all the options (Allison & Zelikow, 1971). Third, it assumes the decision maker is all powerful and can set goals and act upon them, unconstrained by structural factors (Etzioni, 1967; Etzioni, 1986). These critiques of the rational actor model are demonstrated in Simon's concept of bounded rationality. Simon (1957, 1997) argued that decisions are based on rules of thumb in order to process large volumes of information. His insight was that the "intuition that seemingly occurs spontaneously to highly skilled experts actually is recognition of similarities or analogies between the problem at hand and other information stored in memory" (Schneider & Ingram, 1988, p. 64). Rather than having complete information as assumed in the abstract, rational-actor model, decision makers face

ambiguous problems; incomplete information about the cause and alternatives to solve a problem; insufficient understanding of the relevant values, preferences, and interests; and have limited time, skills, and resources to address the problem (March, 1981; Simon, 1997). These are the bounded conditions, and under these conditions, decision makers do what they can, which Simon termed satisficing (Simon, 1957). Despite its shortcomings, the rational actor model has heavily influenced perceptions of how businesses are managed and how decisions are made within businesses. Morgan argues that the "whole thrust of classical management theory and its modern application is to suggest that organizations can or should be rational systems that operate in as efficient a manner as possible" (Morgan, 2006, p. 22). Leadership, human motivation, initiative, benevolence and equity were seen as technical problems and "the basic assumption is that if you get the engineering right the human factor will fall into place" (Morgan, 2006, p. 22).

Rational choice is a normative model; it tells people how to act, rather than describing how they do act (Elster, 1989; Tversky & Kahneman, 1986). The rational actor theory would approach decisions within a firm around whether or not to comply with regulations, or whether or not to exceed compliance, by predicting that leaders within businesses will collect the relevant information, determine the options, analyze the implications of each option, and then make a decision based on the resulting calculation. Decisions of businesses to comply or exceed compliance are made on the grounds that the costs of noncompliance would be higher than the benefits, or that the businesses' profits could be increased due to improved corporate reputation, are consistent with the rational actor model.

2.2.2 Institutional theory

Institutional theory is an alternative to the rational actor model in that it recognizes the influences that organizational hierarchy, norms and culture can have on the collection and interpretation of information, thereby affecting the decision making process. In some ways the organizational model could be interpreted as a submodel of the rational actor model because of the effective nature of organizations, as Weberian instruments of rational choice (Allison & Zelikow, 1971). Both theories are goal oriented, and they have purposes. The rational actor model begins with the proposition that organizations are solutions to problems of efficiency as actors pursue their

preferences, but organizational theorists start with the proposition that organizations have a purpose of their own. Selznick (1957) argued that the different forces in an organization have a unified effect, and "together they define the commitments of the organization and give it a distinctive identity" (p. 16). Institutionalism recognizes that responses to internal and external pressures will, over time, crystallize into definite patterns and a social structure emerges and then the organization "will become valued for itself, not as an instrument but an institutional fulfillment of group integrity and aspiration" (p. 16).

Selznick has been identified as one of the members of the school of "old" institutionalism (Selznick, 1996). Both "old" and "new" institutionalisms are sceptical of the rational actor model, and emphasize the importance of culture in shaping institutional reality and the importance of the relationship between organizations and their environments (Powell & DiMaggio, 1991). The essence of institutionalism lies in the normative frameworks and the cognitive elements, which include:

> widely held beliefs and taken-for-granted assumptions that provide a framework for everyday routines, as well as the more specialized and explicit and codified knowledge and belief systems promulgated by various professional and scientific bodies engaged in elaborating our cultural knowledge base (Scott & Meyer, 1994, p. 81).

The normative elements are traditional mores and informal social obligations as well as the more explicit rulings of legislatures and courts (Scott & Meyer, 1994). The "new" institutionalism emphasizes the role of cognitive factors as opposed to the normative elements that formed the focus of earlier institutionalism. The new institutionalism in organizational theory:

> comprises a rejection of rational-actor models, an interest in institutions as independent variables, a turn toward cognitive and cultural explanations, and an interest in properties of supraindividual units of analysis that cannot be reduced to aggregation of direct consequences of individual attributes or motives. (Powell & DiMaggio, 1991, p. 8).

An early consideration of organizational decision making was conducted by Cyert and March in *A Behavioral Theory of the Firm*, a study that was based largely in their dissatisfaction with the economic model of decision making in the firm, which implied that businesses and other organizations are omnisciently rational systems of decision making (Inbar, 1979). The received theory prior to Cyert and March's (1992) work was that the objective of the firm is to maximize net revenue. Further, the assumptions of rationality in this theory of the firm could be reduced to two propositions: that businesses seek to maximize profits, and that businesses operate with perfect knowledge. Cyert and March reached an alternative theory of the firm based on three related but independent ideas. The first is Simon's (1957, 1997) concept of bounded rationality, in which decision makers are significantly constrained by limited information and means of calculation available to them. The second is imperfect environmental matching, which is "the observation that the rules, forms and practices used by economic actors are not determined by the demands of the environmental setting in which they arise", but instead evolve in an inefficient manner in which rules lag behind changes in the environment (Cyert & March, 1992, p. 215). Their third idea is unresolved conflict, meaning that "economic organizations involve multiple actors with conflicting interests that are not entirely resolved by the employment contract"; rather, they must be constantly negotiated and consistency is difficult to obtain (p. 215).

Cyert and March observed that organizations use heuristics, as do individuals, and that there are four general types of decision making heuristics: quasi-resolution of conflict, uncertainty avoidance, problemistic search, and organizational learning. Quasi-resolution of conflict addresses how organizational goals are implemented. Rather than the normative approach of the rational actor model, which assumes that a single goal is maximized, Cyert and March found that multiple goals cannot receive attention at the same time, so that focus will shift from one goal to another. In setting goals, the action and reaction of the heads of the organization are important. Uncertainty avoidance involves replacing computations of probabilities with a constant feedback loop and adjustments. Problemistic search is where solutions are focused on feasibility rather than a rational calculation of alternatives and likely outcomes. Finally, Cyert and March found that organizational learning involves reliance on experience, which is relied on in the future through analogies or precedents to guide decision making. Again, this form of decision making

takes the place of the rational calculations and perfect information anticipated in the rational actor model.

Simon's theory of bounded rationality "leads us to understand organizations as kinds of institutionalized brains that fragment, routinize, and bound the decision making process to make it manageable" (Morgan, 2006, pp. 76-77). Viewed this way, Morgan explains that the internal structure of an organization not only organizes work, but creates "a structure of attention, information, interpretation, and decision making that exerts a crucial influence on an organization's daily operation" (p. 77). Although Simon set out to demonstrate the limits of the rational actor model, his theory has been used to reinforce the rational model in that it led to work to try to make institutional decisions more rational, and put an emphasis on information processing (Morgan, 2006). Other organizational theorists, such as Cohen, March and Olsen (1972), have developed a more intuitive, nonlogical approach to organizational decision making, by focusing on the fluid, informal, and unpredictable methods of decision making (Morgan, 2006).

DiMaggio and Powell (1983) observed that over time, organizations tend to become culturally and structurally similar to each other. Homogenization, which they term isomorphism, occurs through three mechanisms. The first is coercive, which results from external pressures to conform to the expectations of society. The coercion can be direct, such as the pressure to comply with environmental regulations, or can be indirect, or indirect through the existence of a common legal and technical environment placing expectations on the organization's behaviour and structure. The second mechanism is the reaction of organizations to deal with uncertainty, and occurs when an organization turns to other models as a source of inspiration when dealing with its own problems with unclear solutions. According to DiMaggio and Powell, even innovation can be accounted for this way, because innovation often involves unconscious imitation of others. The third mechanism is responding to normative pressures, and arises generally from the professionalization of a sector, which involves common training, education and inculcation of norms.

DiMaggio and Powell's concept of isomorphism is relevant to this thesis because it leads to several related hypotheses. One is that organizations will modify themselves to resemble other organizations on which they depend for resources, such as in supply chains. The second is that the more an organizational field depends on the same or similar sources of support, the higher the level of isomorphism will be between the organizations. This leads to a potential line of inquiry exploring whether the decision to take environmental leadership steps have to do with institutionalism in the firm's field. For example, do other organizations the firm deals with (supplier, customers, trainers of employees and leaders, competitors in the industry) do the same thing? Institutional theory more broadly is relevant to this thesis because the theory explains how external pressures lead to changes within organizations, and in particular, the changes to the firm's norms and rules in order to increase the firm's legitimacy in the eyes of society. Institutionalism would explain the decisions of businesses whether or not to comply with regulations, and whether or not to demonstrate environmental leadership, as products of the firm's internal rules and norms, but also due to pressures from outside the firm. These external pressures come from others in the industry (such as a pressure to conform to the industry standard) and from the public generally, by seeking legitimacy (social licence).

2.2.3 Reflexive law

One of the key observations in the past couple of decades is that governments simply do not have the capacity to continue regulating in the same manner they have been. This incapacity is more than limited staff resources. It goes to the complex and cross-jurisdictional nature of the problems that need to be addressed. As a result, some fields of thought have emerged that suggest government should not even try. Reflexive law is one of these schools of thought, and first emerged in the 1980s in Europe (Zumbansen, 2008), although reflexive law theorists also emerged in the U.S. One U.S. proponent argues that reflexive environmental law in particular "aims to establish environmental ethics in institutions, particularly businesses" (Orts, 1995, p. 787) rather than focusing solely on compliance with standards. Reflexive law derives its name from its effect of reflecting people's actions back to them by creating the climate where actors will regulate their own behaviour. Orts (1995) defines reflexive law as "a legal theory and a

practical approach to regulation that seeks to encourage self-reflective and self-critical processes within social institutions, concerning the effects they have on the environment" (p. 780). Reflexive law advocates note that in an increasingly complex and rapidly changing society, governments cannot possibly gather enough information, nor develop process capacity to interpret and use the information, to consider decisions, issue regulations, and follow through with monitoring quickly enough (Black, 2000; Hess, 1999; Hirsch, 2001).

A second issue with respect to traditional models of regulation is that they assume all regulated parties will interpret the regulations in a uniform way and that business motivations are static (Gilad, 2012). Instead, the interpretation of regulations varies locally and over time businesses will interpret regulatory requirements in relation to "frames" or cognitive schemas that reflect stored prior experience, and participants may try to reframe the meaning of regulation to meet their own goal by, for example, interpreting vague requirements to mean they are already in compliance (Gilad, 2012). The reflexive law approach recognizes that businesses will interpret regulations in different ways and that the different interpretations will affect whether or not a firm complies with the law.

The classic models of law and state were based on Weber's notion of formal rationality (Nonet & Selznick, 1978; Teubner, 1984; Weber, 1968). A formal rational legal system uses universal rules and relies on legal professionals and legal reasoning to resolve conflicts. The trend away from formal, rational law is "rematerialization" of the law and means the law is not neutral but has a purpose (Fiorino, 1999). This purposive nature can be seen in many of the post-WWII welfare state laws that focused not on prohibiting certain behaviour, but on promoting particular social and economic goals. Teubner (1984) characterized the shift to rematerialization of law as an evolution in law, which he called the reflexive law stage. He described reflexive law as self-reinforcing, or promoting autonomy of actors by creating the conditions or incentives for businesses, individuals, and others to comply with the regulatory goals. In the reflexive law stage, "law becomes a system for the coordination of action within and between semi-autonomous social subsystems" (Teubner, 1983, p. 242). Teubner borrowed the concept of an autopoietic system from biology to describe reflexive law. An autopoietic system is one that produces and reproduces its own elements, and evolution is the result of the interaction between

subsystems. A key characteristic in an autopoietic system is the relationship between its closure and openness. Teubner claims that the legal system is operationally (inwardly) closed but cognitively open to its environment. The consequence is that external changes are not directly reflected within the system according to a stimulus-response, and nor are they ignored. Instead, the external changes are selectively filtered into legal structures.

Government's role in reflexive regulation is to create a structure of rules and procedures in which incentives work so that parties are self-interested in compliance, and to set up a system in which government can be more arm's length in the sense of not needing to stay abreast of every new development in a field. This could include establishing requirements and mechanisms for information disclosure so that transparency enables citizens to make more informed choices, and for businesses to protect their self-interest by improving their processes, ingredients, and labour practices (Deakin, 2009; Parker, 2002; Winders, 2006). In the field of environmental and health law for example, reflexive law does not require the specific technologies, processes or outcomes of traditional regulation. Instead, it uses instruments such as public disclosure, stakeholder involvement, or planning requirements that encourage self-directed improvement efforts by firms while providing flexibility for the firms to decide how to achieve the outcomes desired (Hirsch & Howell, 2010). The pressure to comply comes not from the threat of state action so much as the disapproval (and consequently, loss of reputation and market share), when the public, media and other members of society, are aware of the company's practices, ingredients, or other components of their business activity (Bosso, 2010; Parker, 2002; Zumbansen, 2008). Environmental Management Systems and third-party certification systems are also a form of reflexive law (Coglianese & Nash, 2001; Orts, 1995; Stewart, 2001). In summary, reflexive law is a way of ensuring that rules can adapt effectively in times where both the rules and their underlying assumptions change, and is about "ensuring that processes take place which involve discourse amongst key parties and create learning as well as solutions" (Kenny, Vredenburg & Lucas, 2012, p. 18).

The relevance of reflexive law to this thesis is Teubner's concept of coordination within and between semi-autonomous systems. Because external factors, such as laws, are selectively filtered into legal structures (i.e. businesses), legislation does not transmit information to social

systems the subsystems selectively respond to regulations. Legislation is interpreted as noise and is filtered through the subsystem's norms. Therefore, neither command and control nor market based regulation will directly affect the behaviour of the intended targets because regulation is only one of a number of factors that will influence behaviour. Teubner concludes that only indirect intervention is possible, to influence the self-referential nature of systems, rather than to try to control it. Reflexive law means "giving up conceptions of direct regulatory action" and speaking instead of "an *external stimulation of internal self-regulatory process which, in principle, cannot be controlled from the outside"* (Teubner, 1984, p. 298, emphasis in original). Consequently, understanding what fosters environmental leadership would require a full understanding of the factors that influence a firm's behaviour, including how it perceives regulations. In this respect, reflexive law is consistent with institutionalism because both recognize how external factors influence the organization, and that how the organization interprets external pressures through the lens of its internal norms are also influential. Understanding environmental leadership from the reflexive law perspective would also require consideration of what reflection occurs within a firm about its activities. For example, did the public availability of information, such as reports, lead to reflection by the firm on what the information says about it, and what the firm can do about negative information? Or, did the requirement to report on whether or not targets for waste recovery are met lead the firm to consider redesign of products as a way to meet those targets?

2.2.4 Summary of the theoretical models

The three theories discussed above provide different, but not mutually exclusive, explanations for why businesses choose to demonstrate environmental leadership. These are:

1. ***Rational actor model***: The decision to pursue environmental leadership was based on the collection of relevant information, determination of the options, analysis of the implications of each option, and on the resulting calculation of the costs and benefits.
2. ***Institutional theory:*** The decision was based on what others in the firm's area of business do (suppliers, customers, trainers of employees and leaders, competitors in the industry) and/or, the decision was based on internal factors such as culture, elites, management style, resources, and capacity for change or innovation.

3. ***Reflexive law***: The decision was based on how a firm perceives and reacts to regulations (i.e., is the threat of enforcement effective, or the normative pressure of regulations, or do the regulations cause a negative reaction and/or unintended consequences?) and/or, the decision was based on the strength of the self-reflective behaviour in the firm encouraged by the law (such as planning requirements or the availability of information on the firm's actions to the public).

These three theoretical models provide a comprehensive summary of what firms might consider. The rational actor model assists in explaining the extent to which calculations of costs and benefits may influence firm behaviour. Environmental leadership may be motivated by cost-savings or the opportunity to sell more products due to a good corporate citizen reputation, for example (Winter & May, 2001). Alternatively, or in addition, firm behaviour may be motivated by firms seeking legitimacy within their sector (Fiksel, 2009; Howard-Grenville, 2006) or due to perceptions and interpretations of environmental context (Howard-Grenville, 2006). The reflexive law model may explain environmental leadership as being due to processes or requirements that encourage firms to examine their behaviour (Ambec, 2010; Hirsch & Howell, 2010; Stewart, 2001).

2.3 Summary of the literature

This chapter has provided an overview of the literature on types of regulation, of the evolution of regulatory approaches generally, motivations for compliance, corporate social responsibility, typologies environmental leadership and policy instruments, and new governance. This chapter also provided an introduction to three theoretical models that can be used to explain business behaviour: the rational actor model, institutionalism, and reflexive law.

A number of substantial shifts in environmental regulatory approaches have taken place over the last several decades. Traditionally, law was created by the state, and usually took the form of what is known as "command and control", in which the state outlined a prohibition or standard to be met, and regulated parties were punished if they did not comply (Esty, 2001; Gunningham, 2009; Stewart, 2001). Shortcomings of the command and control approach are the inability of

government to know what standard to set (particularly the case in the environmental sector), rigidity of laws in a social and economic context that changed more rapidly, lack of government resources for monitoring and enforcement, and perverse effects due to constraints on innovation and adaptation (Esty, 2001; Fiorino, 1999; Gunningham, 2009; Orts, 1995; Parker, 2002; Stewart, 2001). Alternative models of environmental regulation include economic instruments, voluntary initiatives, cooperative and performance based regulation, management or meta-regulation, and smart regulation (Gunningham, 2009; Gunningham et al., 1998; Stewart, 2001). Throughout this evolution, the role of civil society became increasingly important (Gunningham, 2009), and the evolution of instruments reflected broader changes in which a state-centric approach was replaced with a governance approach in which governments' role is more to ensure appropriate information exchange, and to focus on how to integrate society's goals as represented by decision makers (Salamon, 2002; Stewart, 2001).

The literature includes numerous attempts to organize and categorize the regulatory instruments available to government with some being more explicit than other taxonomies about the role of nongovernment actors. A shift in a government centred approach to regulation to a governance approach involved a shift from reliance on vertical and hierarchically based instruments to a reliance on indirect and network based regulation (Salamon, 2002). Despite the use of a greater variety of regulatory instruments, some observers have questioned whether governments in Canada are making appropriate use of the full range of options available (Winfield, 2008; Wood et al., 2010).

Environmental leadership is fundamentally about businesses doing more than they are required to do. A variety of taxonomies of environmental compliance are also outlined in the literature, generally showing environmental leadership as a continuum from noncompliance or laggard, to compliance, to beyond compliance behaviour, to higher aspirations involving leadership, passion and strategic vision (Berry & Rondinelli, 1998; Carroll, 1979; Gunningham et al., 2003; Hunt & Auster, 1990; Wartick & Cochran, 1985; Willard, 2005). The three theoretical models summarized in this chapter attempt to explain business behaviour of relevance to environmental leadership. A rational actor model is one founded in economics which assumes that the actor attempts to maximize his or her utility and is motivated by self-interest (Allison & Zelikow,

1971). Institutional theory is an alternative to the rational actor model in that it recognizes the influences that organizational hierarchy, norms and culture can have on the collection and interpretation of information, thereby affecting the decision making process. The rational actor model begins with the proposition that organizations are solutions to problems of efficiency as actors pursue their preferences, but organizational theorists start with the proposition that organizations have a purpose of their own. Institutionalism recognizes that responses to internal and external pressures will, over time, crystallize into definite patterns and a social structure emerges and then the organization "will become valued for itself, not as an instrument but an institutional fulfillment of group integrity and aspiration" (Allison & Zelikow, 1971).

The third relevant theory is reflexive law, which entails regulating in a manner that takes into account how organizations interpret and filter laws. Its name derives its effect of reflecting people's actions back to them by creating the climate where actors will regulate their own behaviour. Reflexive law advocates note that in an increasingly complex and rapidly changing society, governments cannot possibly gather enough information, capacity to interpret and use the information, to consider decisions, issue regulations, and follow through with monitoring quickly enough (Black, 2000; Hess, 1999; Hirsch, 2001). Examples of reflexive regulations are information disclosure requirements or certification requirements (Deakin, 2009; Orts, 1995; Parker, 2002; Winders, 2006).

In summary, the literature on environmental regulation is strong on the history and purpose of regulation, regulatory models, the factors that motivate firms to engage in environmental leadership, and the different forms of environmental leadership. There are however few studies in the literature that discuss the policy implications of environmental leadership to government, particularly governments in the Canadian context. While there are a few previous studies of compliance (such as Kagan et al., 2003) and corporate social responsibility (such as Muldoon & Nadarajah, 1999) in Canada, no previous research has been identified that conducts a comparative study of different environmental sectors and the policy implications for provincial governments. The purpose of this thesis is to add to the literature by answering the research question of how provincial governments in Canada can support environmental leadership. In doing so, it adds to the development of theory regarding environmental leadership by exploring

the motivations behind beyond compliance behaviour, and provides practical advice to governments by discussing the policy implications of the findings.

2.3.1 Propositions

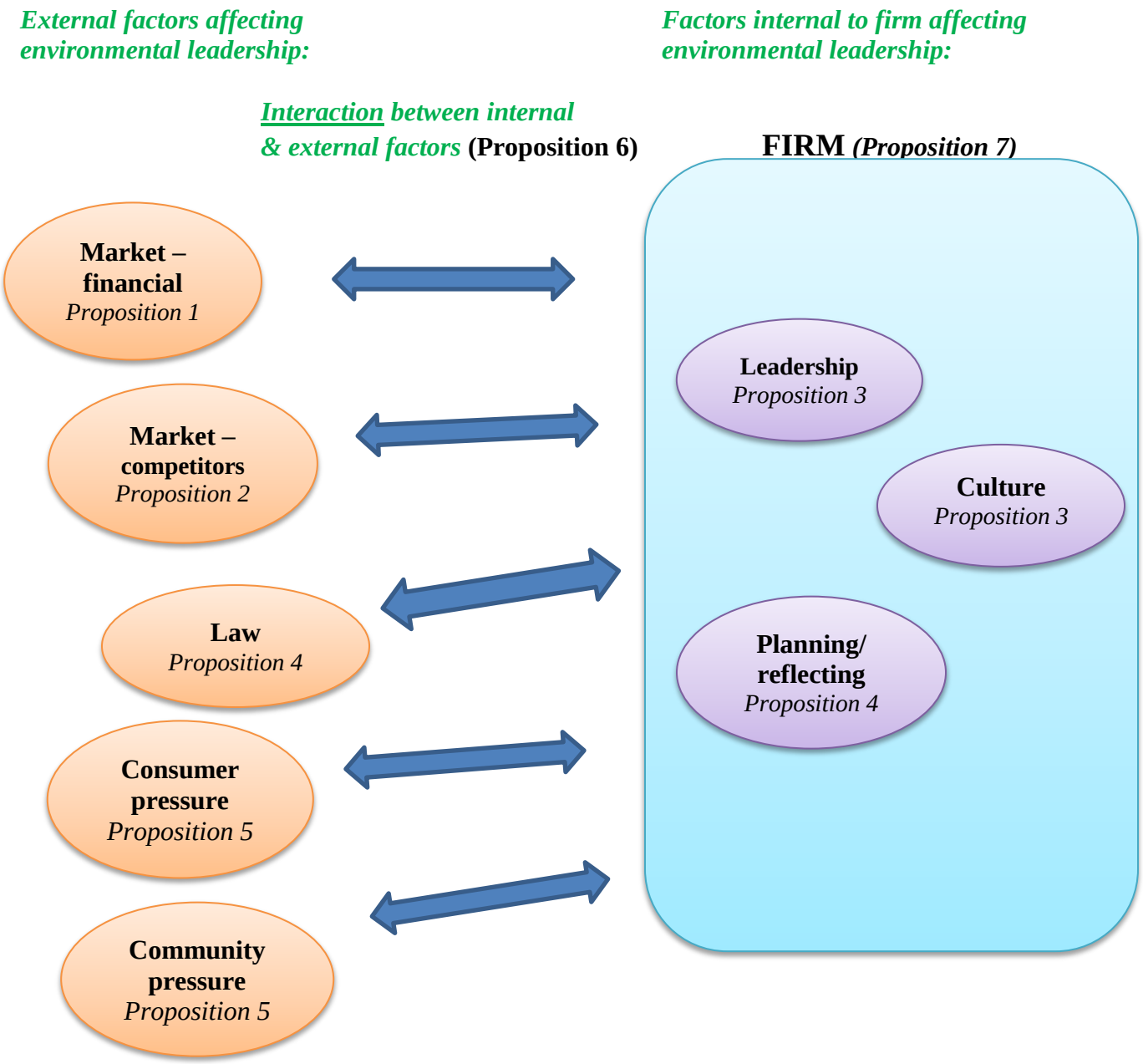
The previous studies regarding environmental leadership and the three theories discussed in this literature review form the basis for a number of propositions that can be explored during data collection, then refined to develop a framework of environmental leadership in Canada. The purpose is not to prove or disprove the propositions as if they were hypotheses, but to use the propositions as a blueprint for the data collection, refining the propositions as needed during data analysis, as recommended by Yin (2009), in order to develop a framework of what motivates businesses in these cases to demonstrate environmental leadership. Seven propositions can be derived from the literature:

Proposition 1: Businesses will decide whether or not to demonstrate environmental leadership based on the collection of relevant information, determination of the options, analysis of the implications of each option, and on the resulting calculation of the costs and benefits.
Proposition 2: Businesses that are influenced by others in their area of business (suppliers, customers, trainers of employees and leaders, competitors in the industry) will make their decision based on approval and/or conformity with others in their area of business.
Proposition 3: The decision of businesses regarding environmental leadership will be at least partly affected by internal factors such as culture, elites, management style, resources, and capacity for change or innovation.
Proposition 4: Process requirements that encourage reflective behaviour, such as planning requirements or information disclosure, will contribute to environmental leadership.
Proposition 5: Pressure from NGOs, community groups, bad publicity or other public attention to their activities will influence businesses to demonstrate environmental leadership.
Proposition 6: A firm's decision regarding environmental leadership will not be based solely on internal factors or external factors but by a combination of them. Which prevails may depend on (a) strength of leadership, (b) public attention on the firm's activities, or (c) strength of shareholder and investor concerns.

Proposition 7: Larger businesses will be more amenable to social pressure than SMEs.

These propositions are used to form the basis for questions posed in interviews and surveys used in this study. In the interviews and surveys, respondents are asked to focus on the time frame in which the decision was made relevant to environmental leadership. The responses to the questions are in turn anticipated to provide insight into why businesses are leaders, compliers or laggards, and then form a basis to suggest a policy approach for Canadian provinces, municipalities and the federal government that could further encourage environmental leadership. This approach is summarized in the following conceptual model represented in Figure 4.

Figure 4: Conceptual framework



CHAPTER 3: Background to the Case Studies

As noted in the literature review, there are few studies on environmental leadership in Canada, and none identified that address the policy implications for provincial governments in Canada. Case studies on three diverse sectors related to environmental regulation were selected to begin to address this gap: electronics EPR, the marine sector, and agriculture. In order to set the context for a more detailed analysis in Chapters 5 and 6, this chapter provides an overview of the regulatory context for each of the case studies sectors and includes a literature survey on extended producer responsibility, marine voluntary programs, and organic certification.

3.1 Regulatory context in Canada

In Canada, responsibility over environmental law is divided between different levels of government. Although the focus of this thesis is on provincial governments, the jurisdiction of other governments in Canada is also relevant context for the role of provinces. The *Constitution Act, 1867* outlines jurisdiction of the federal and provincial governments, but does not specifically refer to "the environment" as an area of jurisdiction. Certain provisions have obvious environmental aspects, such as the federal jurisdiction over "seacoast and inland fisheries", but others do not. Over time, certain provisions within section 91 and 92 of the *Constitution Act* have been interpreted in a way that outlines the jurisdiction of each level of government to regulate with respect to the environment.

Section 91 of the *Constitution Act, 1867* provides that the federal government has jurisdiction over trade and commerce (s. 91(2)), taxation (s. 91(3)), navigation (s. 91(10)), seacoast and inland fisheries (s. 91(12)), and criminal law (s. 91(27)). The preamble to section 91 also authorizes the federal government to make laws for the "Peace, Order and good Government of Canada". The Supreme Court of Canada has confirmed that the criminal law power is a valid basis for federal environmental regulations (*Canada (A.G.)* v. *Hydro-Quebec, 1997)* and that the federal government may also enact environmental laws in the national interest under the Peace Order and good Government provisions in the preamble to section 91 (*R.* v. *Crown Zellerbach,*

1988). Other related provisions are the federal jurisdiction over "Indians and lands reserved for the Indians" (s. 91(24)) and authority to enter into international treaties.

Section 92 of *the Constitution Act, 1867* provides that the provincial governments have jurisdiction over the management and sale of public lands (s. 92(5)), municipal institutions (s. 92(8)), property and civil rights (s. 92(13)), matters of a local or private nature (s.92(16)). In 1982, provisions were added to specify that the provinces have jurisdiction over natural resources, enabling the provinces to manage and capture revenues from non-renewable and forestry resources, and the generation of electricity (s. 92A). Further, section 109 of the *Constitution Act, 1867* vests public lands, mines, minerals and royalties in the provincial government, unless they are specifically on federal land, such as federal parks. These areas of jurisdiction have been used by provinces to enact laws in numerous environmental areas including land use, water, forestry, air quality, agriculture, environmental assessment, wildlife, and greenhouse gases.

Municipalities are created by, and receive their jurisdiction from, the provincial governments. Consequently, provinces may delegate environmental and other regulatory authority to the municipalities by enabling municipalities to enact bylaws. The role of municipalities has become increasingly important over the past few decades with the Supreme Court of Canada using a purposive approach to interpreting municipal jurisdiction, so that municipalities may deal effectively with environmental problems such as pesticide use within their jurisdiction (*114957 Canada Ltée (Spraytech, Société d'arrosage)* v. *Hudson (Town)*, 2001).

3.2 Government environmental leadership programs in Canada

The federal government has initiated a number of programs concerning environmental leadership in the past two decades, many of which no longer exist. These include the Accelerated Reduction/Elimination of Toxics (ARET) program, the Voluntary Challenge Registry (VCR), and the Corporate Environmental Innovation (CEI). The CEI was the one discontinued most recently, and was designed to accelerate innovation and environmental performance in firms. CEI was a partnership between government, industry, the financial sector, NGOs, and academics

that focused on knowledge and information and focused on three areas of cooperation: making sustainability information available and relevant; identifying, developing and supporting the link between sustainability and business performance; and supporting Canadian businesses' awareness of and access to tools they needed to maximize both competitiveness and innovation (Moffat & Auer, 2006). Although it is no longer in existence, the CEI produced a number of resources for Canadian businesses that are archived on the Industry Canada website. These include *Corporate Social Responsibility: An Implementation Guide for Canadian Businesses* (Industry Canada, 2006) and *Canadian Corporate Sustainability Reporting: Best Practice Study* (Stratos, 2008).

The federal government has an organic food and farming certification program, which several provinces, such as Ontario, adopt for provincial standards. British Columbia has enacted its own organic certification program that adopts the national standards (*Organic Agricultural Products Certification Regulation*, 1993). Manitoba has done the same (*Organic Agricultural Products Regulation*, 2013). The majority of voluntary programs in Canada have been established by organizations outside of government however, such as the Forest Stewardship Council, ISO certifications, Green Marine, and the Sustainable Shipping Initiative.

3.3 Case studies

Any research and recommendations regarding regulations that a province may put in place must consider the division of powers between the federal and provincial governments, and recognize the constitutional limits on provincial jurisdiction. It must also consider the possibilities within municipal jurisdiction, because although municipalities' bylaws are not provincial regulation directly, the provinces have the ability to influence municipal authority. The three case studies are selected because they: provide examples of different types of leadership; represent jurisdiction of different levels of government; provide a sample of a variety of regulatory contexts (eg: land, water, point source, life cycle); and data is available on who the leaders, compliers and laggards are within each case. Table 5 summarizes the different regulatory contexts represented by the case studies.

Table 5: Summary of the three case studies contexts

Case	Regulated matter	Context	Primary jurisdiction
Electronics extended producer responsibility	Waste & packaging	Land & life cycle	Provincial
Marine sector	Water pollution, invasive species, GHGs, noise	Marine & point source pollution	Federal
Agriculture	Pesticides and pollution	Land & point source pollution	Provincial/federal

3.4 Extended Producer Responsibility

The first case study is the electronics sector regulated by extended producer responsibility (EPR) legislation. EPR has been defined as "an environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's life cycle" (OECD, 2001; OECD, 2006). EPR is defined in British Columbia as "a management system based on industry and consumers taking life-cycle responsibility for the products they produce and use" (British Columbia Ministry of Environment, 2012). The Canadian Council of Ministers of the Environment (CCME) defines EPR as "an environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of its life cycle" (CCME, 2009, p. ii). The objectives of the CCME policy are the adoption by producers of full life cycle cost accounting for their products, shifting the expenses for end-of-life management from consumers to producers; reduction in the amount of waste; and reduction in toxicity and environmental risk (including climate change) from products and product waste (CCME, 2009). The common elements of these definitions are that producers are responsible for the full life cycle of a product. Implicit in the definition and expanded on in explanations of EPR is the concept of spurring innovation to reduce pollution and avoid waste generation in the first place. EPR is a useful case study for this thesis because it provides insight into the supply chain

influences on businesses and whether the supply chain drivers increase the motivations of businesses to engage in responsible corporate behaviour (Baden, Harwood & Woodward, 2009).

The first EPR product take back program was the Ordinance on Avoidance of Packaging in Waste, in Germany in 1991 (Doppelt & Nelson, 2001). Since then, similar programs have been adopted in other European countries, Japan, South Africa, and North America. Instruments used have included advance recycling fees or output tax (ARF), either by dollar per unit or dollar per kilogram; recycling subsidies, either by dollar per unit or dollar per kilogram; lump sum recycling grants (usually provided for establishing recycling centres); recycled content standard; virgin material tax; combined output tax (ARF) and a recycling subsidy ($/weight); pay as you throw fees; landfill bans; product labelling; take-back mandate and recycling rate target with credits assigned to producers; take back mandate and recycling rate target with credits assigned to recyclers (Doppelt & Nelson, 2001; Walls, 2004; Walls, 2006).

3.4.1 EPR in Canada

The CCME 2009 Canada-Wide Action Plan (CAP) for Extended Producer Responsibility seeks "the adoption by producers of full life-cycle cost accounting for their products" (CCME 2009, p. ii). In this approach, the goal is for businesses to consider the end-of-life management of a product from the beginning, in the production and pricing of products, in an effort to make producers financially responsible for waste, thereby providing an incentive to reduce waste. A further goal of the action plan is to reduce the toxicity and environmental risks of product waste, and to improve the life cycle performance of products, including reduction of greenhouse gas emissions.

The CCME action plan notes Canada's small market may not be able to influence environmental improvements in product design and supply chain management:

> This may be because the pricing associated with conforming to an EPR program may be negligible when compared to the market price of the product or a regional market may be too small compared to a national or global one to warrant product redesign

> for one particular jurisdiction. It could also be that the product may have a long life and the payback from any investment in environmental redesign is too distant to warrant action. (CCME, 2009, p. 18).

The environmental objectives of EPR may therefore need to be supported and reinforced by other measures such as green procurement policies, environmental performance or voluntary agreements, and other potential "standards, bans, guidelines and educational tools" (CCME, 2009, p. 18).

All provinces have put in place some form of EPR legislation. Extended Producer Responsibility Canada puts together report cards regarding provinces' legislation. The 2012 Extended Producer Responsibility Report Card issued in September 2013, rates provinces based on three criteria: (1) commitment to CCME's Phase 1 and Phase 2 list of materials to include within the scope of the EPR legislation; (2) focus on performance measurement; and (3) accountability (EPR Canada, 2013). The report card gives British Columbia a grade of B+, the only province other than Quebec to receive a grade equally as high, retaining the reputation BC has built as an EPR leader in Canada. BC's relatively high performance is based on its clear accountability mechanisms, an approach that allows producers flexibility to determine how they will comply, and numerical targets. Concerns were expressed regarding BC's limited resources for monitoring and compliance. Most other provinces received between D and C+ and the federal government received an F due to the lack of a national approach to EPR (EPR Canada, 2013).

3.4.2 EPR in British Columbia

British Columbia has had a phased approach for EPR. It started in 1992 with requirements for recovery of lubricating oil then extended to postconsumer paints in 1994. Packaging and paper products for example, were added in 2011 and that sector has until May 2014 to implement a stewardship program. The program was significantly expanded in 1997 with the addition of requirements to recover solvents and flammable liquids, domestic pesticides, gasoline, and pharmaceuticals.

Under BC's *Recycling Regulation* (2004), producers are held responsible for the life cycle of products they produce and use. A "producer" is a product manufacturer, distributor, brand-owner, or someone who imports a product and uses it or sells it directly to a consumer (such as in internet sales). The regulation applies to specified product categories, which are added to as new products are required to meet the stewardship requirements. The specified product categories are numerous and include antifreeze, beverage containers, solvents and flammable liquids, pesticides, gasoline, lead-acid batteries, pharmaceuticals, lubricating oil, empty oil containers, oil filters, paint, electronics, tires, and packaging and printed paper. The recycling programs are funded by fees charged to consumers when they purchase the products. Within the electronics sector, fees vary based on the type of item (*Recycling Regulation*, 2004).

Producers are required under Part 2 of the regulation to submit a Product Stewardship Plan to the government director responsible for the program, or to comply with the default Stewardship Plan requirements contained within Part 3 of the Regulation. This approach leaves it to the producers to determine the approach most suitable to them, with the exception of the beverage container and packaging and printed paper product categories, which are required to develop their own Stewardship Plans under Part 2. Stewardship Plans submitted to the ministry under Part 2 must be capable of achieving a 75% recovery rate for the products (unless the director specifies another target). The plan must address a number of elements, including an adequate outline of how the costs for collecting and managing the products will be covered, and how reasonable and free consumer access to collection facilities will be provided. Finally, the producer must also have undertaken satisfactory consultation with stakeholders. The default requirements under Part 3 of the regulation apply if a producer does not choose to submit a Stewardship Plan for approval. The requirements under Part 3 are similar to those in Part 2, and include information on how consumers are informed, how products will be collected, location of collection facilities, management of collected products, and the provision of audited financial statements. Compliance with this Part does not require a minimum of 75% recovery, but also does not include the flexibility around requirements that submission of a plan under Part 2 provides. For example, Part 3 is very specific about the size and nature of consumer advertising.

An important component of what the ministry looks for in an appropriate plan is the concept of the pollution prevention hierarchy. The regulation defines the pollution prevention hierarchy as an approach in which higher level steps must be taken before relying on lower level actions (*Recycling Regulation*, 2004). The levels, in decreasing order of preference are (1) reducing the toxic components, (2) redesign of the product to improve reusability and recyclability, (3) eliminating or reducing unused components of the product, (4) reuse of the product, (5) recycling, (6) recovery of materials, and (7) otherwise disposing of the waste from the product (Government of British Columbia Ministry of Environment, 2012). In other words, a business would be expected to redesign a product to encourage reusability, rather than to rely on the product being recycled. In practice however, the pollution prevention hierarchy is more of an aspiration than an achievement, with few regulated parties redesigning their products (OECD, 2006).

In British Columbia, the EPR system is industry-led, involves a long list of defined products from electronics to paint to paper waste. Under the law, producers are responsible for the life-cycle of the products they produce and use, rather than the provincial taxpayer. Producers are required to submit Product Stewardship Plans to the ministry for approval and are the legally responsible parties, although they may use an agency (Product Responsibility Organization – PRO) to undertake their responsibilities under the legislation, including development and submission of Product Stewardship Plans. Either through an agency or individually, producers must submit annual reports to the director outlining their educational materials and strategies; the locations and changes to collection facilities; efforts taken to increase reusability or recyclability of a product; how the recovered product was managed in accordance with the pollution prevention hierarchy; the total amount of the products sold, collected and recovered; and independently audited financial statements regarding deposits, refunds, revenues and expenditures; performance in relation to targets; and any other information specified by the director. The Stewardship Plans must be reviewed and submitted for approval every five years, and the director may at any time rescind the approval of the plan. Penalties for not complying with the regulation are being charged with an offence and being liable for a penalty of up to $200,000, or being subject to a violation ticket and fine ranging from $115 - $575. Despite the inclusion of the pollution prevention hierarchy concept within the regulation, there are no

specific targets for redesign of products. The *Recycling Regulation* (2004) is primarily a procedural instrument, requiring producers to review and consider their production processes. Compliance and enforcement mechanisms are targeted at ensuring that all producers submit Product Stewardship Plans and comply with them, or comply with Part 3, and meet reporting requirements such as annual reports.

In BC's system, the provincial government's role is to ensure that environment outcomes and regulatory requirements are met, to review and approve stewardship plans and annual reports, and to assist producers in understanding the legislative requirements (British Columbia Ministry of Environment, 2012). The role of local governments is to provide input into consultation processes around the legislation and product stewardship plans, to provide facilities such as landfills, assisting with business licences, imposing appropriate prohibitions against deposit of certain materials in landfills (i.e., the products that must be recycled and returned), and to provide public information (British Columbia Ministry of Environment, 2012). The final group are retailers, which may be "producers" under the regulation and therefore required to comply as a producer. If not a producer, a retailer's role is to inform consumers of the program, of the locations for recycling, and of the deposits and fees collected. A specifically identified role of the retailer is to inform consumers that the fees of the program (such as bottle deposits or recycling fees) are not government taxes but fees used specifically to fund the EPR program.

3.4.3 EPR in Ontario

Ontario's legislation for EPR is the *Waste Diversion Act* (2002), under which the Minister of Environment designate waste materials for which diversion programs may be required. These include Blue Box waste (newspaper, cardboard, glass, metal and plastic), used tires, waste electrical and electronic equipment, and municipal hazardous and special waste. The program is administered by a nongovernment organization, Waste Diversion Ontario, comprised of representatives of industry and municipal representatives. The current Act also establishes Industry Funding Organizations (IFOs) to administer industry funds to pay for developing, implementing and operating the waste diversion program and to partially fund Waste Diversion Ontario and the Ministry's costs for administering the Act.

Ontario conducted public consultation on proposed changes to its EPR legislation in summer 2013. Although the proposed legislation died on the order paper in 2014 when an election was called, under the proposed *Waste Reduction Act* and Draft Waste Reduction Strategy, a number of changes to the waste management regulations would have been made. Key changes included shifting responsibility for the costs of recycling from municipalities to producers; establishing the ability of producers to voluntarily establish intermediary organizations to facilitate waste reduction services, phasing out of the statutorily-established IFOs; and making individual producers (and intermediaries also, if established) accountable for meeting standards under the Act. The costs would have been shifted from municipalities to producers through the statutory liability, operationalized through agreements between producers and municipalities setting the specific amount of funding owed to municipalities. The new Act was anticipated to increase recycling, stimulate reduction of waste, provide greater incentives for producers to reduce waste and design products with end-of-life and recycling in mind, and to provide consumers with convenient and accessible waste diversion services. This legislation was not passed and its future is uncertain. The process of reviewing the current legislation did however stimulate discussion about waste management, particularly shifting more towards an extended producer responsibility program in which the producers take on costs currently borne by the municipalities.

3.4.4 Successful EPR

In a study of seven businesses[3] that operate in the Pacific Northwest, Doppelt and Nelson (2001) identified a number of factors that encourage voluntary adoption of product take back (EPR) programs, and factors that act as barriers to success. The encouraging factors were environmental stewardship programs of the companies, potential cost savings, use of take back as a marketing instrument, customer satisfaction, and business development. Barriers included technical barriers (such as the presence of contaminants in products that were returned), third parties who would take over the product that was supposed to be returned (such as refilling recyclable cameras), costs, customer perceptions, competition with new products, and ill-defined burden sharing among participants.

[3] Saturn Automotive, FujiFilm, Kodak, Dell, Hewlett-Packard, Pitney-Bowes, and Xerox.

A number of themes and findings noted repeatedly in the literature support several overall conclusions regarding incentives in EPR programs. These include, first, there should be a close link between the program and the individual business. For example, the German packaging take back program has fees based on weight, which provides individual businesses with an incentive to reduce the weight of their products. Second, government regulation is important because it provides a 'level playing field' by reducing free riding and supporting enforcement (Driedger, 2002; Five Winds, 2009; McKerlie, Knight & Thorpe, 2006; OECD, 2001; Rennings & Rammer, 2011; Roine, 2005; Tomchyshyn, 2003). Third, it is important to clarify the objective of the program so that the focus can be appropriately placed on waste reduction or waste management (McKerlie et al., 2006; Walls, 2004; Walls, 2006). Fourth, the program must set up responsibility through the life cycle of a product (Calcott & Walls, 2005; McKerlie et al., 2006). Fifth, flexibility in the program is important to encourage innovation (Driedger, 2002). Finally, consumer awareness is important to successful EPR programs because consumer preferences affect the market and innovation (Rennings & Rammer, 2011; Tomchyshyn, 2003).

British Columbia's legislation addresses the recommended framework for successful EPR in that it is clear that the redesign of products is the ultimate objective, not just waste management (although it stops short of actual requirements); it is flexible in that producers decide how to comply; and producers may use an IPO or meet their obligations on their own, but in either case, the producers are accountable. The legislation proposed by Ontario in 2013/14 appeared to try to move in the same direction by making a shift to individual producer accountability; producers bearing the costs to encourage consideration of end-of-life; and by providing producers with flexibility in determining how they will comply.

In summary, extended producer responsibility (EPR) is a regulatory approach in which the producers of the products, be they electronics, paint, paper, packaging, or bottles, bear the responsibility and cost of recovering the products for recycling, reuse, or dismantling to primary components. All provinces in Canada have some approach to recovery and recycling of electronic products, but the shift to an EPR system in which the producers pay for the waste is still an ongoing process and relatively new. British Columbia is considered a leader in

electronics EPR because its regulations have clear accountability mechanisms, allows producers to determine how they will apply, and set numerical targets (EPR Canada, 2013).

3.5 Marine Sector

The second case study examined for this thesis is the marine sector. Shipping, ports and marinas are an area of federal regulation, due to the federal jurisdiction over navigable waters and fisheries in section 92(10) of the *Constitution Act, 1867*. Accordingly, the federal government has a number of statutes that regulate marine traffic, as well as a few environmental statutes that contain provisions protecting waters and fisheries. The *Canada Marine Act* (1998) provides for the establishment, authority and administration of port authorities and harbour commissions. The stated purpose of the Act is to support Canada's competitiveness and economic objectives by providing for the infrastructure and regional autonomy of ports, for coordination between ports and other transportation modes, to meet international standards, and to provide a high level of safety and environmental protection (*Canada Marine Act*, 1998, s.4). Six British Columbia port authorities are established under the Act: Fraser River Port Authority, the Nanaimo Port Authority, the North Fraser Port Authority, the Port Alberni Port Authority, the Prince Rupert Port Authority and the Vancouver Port Authority. There are five Port Authorities in Quebec (Trois-Rivières, Montréal, Quebec, Saguenay and Sept-Îles), five in Ontario (Hamilton, Thunder Bay, Oshawa, Toronto, and Windsor) and one in Nova Scotia (Halifax).

The *Navigable Waters Protection Act* (1985) requires authorizations for works in navigable waters prior to them being undertaken. The Minister of Transportation is authorized to decide whether or not to provide authorization for the construction, installation or maintenance of work undertaken across, over, in or under any navigable water. All navigable waters were previously subject to the federal Minister of Transport's authority to approve or not approve works on a body of water considered to be navigable and floatable, whether pertaining to a simple stream or an ocean. However, the *Navigable Waters Protection Act* was amended twice in 2012. First, to exempt particular works, including pipelines and power lines, from authorizations required under the Act (Bill C-38, 2012) and second, to rename the Act the *Navigation Protection Act* and to limit its scope to apply only to the building of works on bodies of water listed in Schedule 2 to

the Act. Schedule 2 includes the three oceans flanking the Canadian borders and 97 lakes and 62 rivers that have been determined to have important commercial and recreational water courses Bill C-45, 2012).

The *Canadian Environmental Protection Act* (1999) contains provisions regarding the protection of the marine environment from land-based sources, and regarding disposal at sea. With respect to the former, the Act enables the Minister to, after consultation with any other affected minister, issue environmental objectives, release guidelines and codes of practice to prevent and reduce marine pollution from land-based sources (s.121). It does not appear that any objectives, guidelines or codes of practice have been developed under these provisions of the Act. The stated purpose of the disposal at sea provisions is to protect the marine environment and implement Canada's obligations under the UN Convention on the Law of the Sea (s.122.1). In this regard, the Act prohibits deposit of harmful substances in the territorial sea of Canada; the internal waters of Canada; any exclusive economic zone that may be created by Canada; and other specified waters (s.128).

The federal *Fisheries Act* (1985) is the final major piece of legislation that relates to the marine case study. The *Fisheries Act* requires federal authorizations for works that may affect fisheries, and prohibits destruction of fish habitat and the deposit of deleterious substances in waters where fishing takes place. The main sections of this statute used to protect fisheries are sections 35 (prohibition harmful alteration or disruption, or the destruction, of fish habitat) and section 36 (prohibition against the deposit of deleterious substances in waters frequented by fish). In 2012, the *Fisheries Act* was amended to replace the protection of fish habitat with a prohibition against works, undertakings or activities that result "in serious harm to fish that are part of a commercial, recreational, or Aboriginal fishery, or to fish that support such a fishery." The prohibition against depositing a deleterious substance was also amended and now prohibits throwing of overboard ballast, coal ashes, stones or other prejudicial or deleterious substances in any river, harbour or roadstead, or in any water where fishing is carried on. Consequently, as with the amendments to the *Navigable Waters Protection Act,* the *Fisheries Act* is now focused on protection of fisheries rather than on fish.

Although these are federal laws, there is some scope for provincial involvement in marine issues. The provinces own the foreshore (the area between the low and high tide marks). The provinces also own the inland waters, which are harbours, bays, estuaries, and other waters lying "between the jaws of the land," and British Columbia in particular owns the waters and submerged lands of the Strait of Georgia, the Strait of Juan de Fuca, Johnstone Strait, Queen Charlotte Strait, and between major headlands (*Ref Re: Ownership of the Bed of the Strait of Georgia and Related Areas*, 1984). As a result, the provinces' laws apply to the use of beaches, sailing in a passage, or construction of docks.

Due to concurrent jurisdiction under the Canadian constitution, overlap in federal and provincial jurisdiction is not unusual. Provinces may regulate in areas that fall within their jurisdiction (such as natural resources and matters of a local or private nature), alongside federal regulations. In the case of a conflict, the federal law will prevail to the extent of the conflict. Federally regulated industries enjoy no immunity from having to comply with provincial laws, even though they have argued that compliance with laws enacted by both levels of government entails "inconvenience, uncertainty, additional expense, or still more serious consequences, including prosecution" (Benidickson, 2013, p. 39). Federally regulated undertakings must comply with provincial laws of general application (*R. v. Canadian Pacific Ltd.,* 1995). Consequently, some provincial laws such as air quality and greenhouse gas emissions from ports and harbours can be regulated by the province.

In addition, municipal laws may apply, if they have enacted applicable bylaws. For example, the *Community Charter* enables municipalities to enact bylaws regarding protection of the natural environment (*Community Charter,* 2013*)*. However, one significant constraint on municipal and provincial authority is that they may not regulate in relation to federal lands, and ports and harbours are often federal lands. Further, the area of marine (rather than land) pollution is recognized as a federal matter (*R. v. Crown Zellerbach Canada Ltd,* 1988).

3.5.1 Marine voluntary programs

There are a number of voluntary programs for the marine sector, including shipping companies, ports, marinas, wharves, and academic institutes. The multitude of programs is the result of the perceived need for a more proactive approach to increased pressures on the marine sector for greater transparency and accountability on a variety of issues including climate change, energy efficiency, waste management, worker safety, security, marine health, and community impacts and benefits (Coady, 2013). Corporate social responsibility initiatives for the international shipping sector include the Sustainable Shipping Initiative, the Clean Cargo Working Group of the Business of Better World organization, the World Port Climate Initiative, the World Ocean Council, and Green Marine. Some overlap exists in the membership of these organizations within Canada. Green Marine is the voluntary program most commonly joined by ports and companies in Canada. It is north American focused, includes members that are ports as well as shipping companies, addresses a number of environmental concerns rather than one issue such as climate change, and focuses on setting certification standards for its members rather than being primarily an awareness-raising and research organization. A number of ports and marine companies that operate in Canada have developed their own programs for environmental leadership in addition to or instead of membership in an external voluntary organization. For example, in addition to Green Marine membership and ISO14001 certification, Seaspan has developed a Best Management Practices and Core Values approach that it communicates as part of its Corporate and Community policies (Seaspan, 2014). Another example is Port Metro Vancouver, which has developed its own Air Action Program and Non-Road Diesel Emissions Initiative (Port Metro Vancouver, 2014).

Green Marine is a voluntary environmental program for the North American marine industry that was initiated in 2007. The program "aims to improve the industry's environmental performance beyond regulatory compliance by encouraging participants to apply best practices, set reduction targets and/or introduce new technologies to improve their record and reduce their environmental footprint" (Green Marine, 2013). Members of Green Marine in British Columbia are Fraser Surrey Docks, Port Metro Vancouver, Prince Rupert Port Authority, Seaspan Marine Corporation, Island Tug & Barge, and SMIT International, a towage and salvage company.

Green Marine also has members in Ontario, Quebec, Nova Scotia and Newfoundland, and its head office is located in Quebec City. In addition, some of the shipping companies that do business in British Columbia ports also do so in the ports of other provinces. Although the number of members is growing, a number of ports, harbours and shipping companies have not joined the program. Green Marine members evaluate their performance with respect to seven priority environmental issues on a five level scale that ranges from regulatory compliance to excellence. The seven priority environmental issues identified by the Green Marine program are:

1. Reduce aquatic invasive species
2. Reduce emissions of sulphur oxide and nitrogen oxide
3. Reduce greenhouse gas emissions
4. Reduce discharges of cargo residues
5. Reduce the risk of discharging in oily waters
6. Reduce the level of noise, dust, odours and light from ports and terminals (thereby reducing conflicts with neighbours) and
7. Encourage environmental leadership by others by playing a leadership role in the adoption of environmental best practices (Green Marine, 2013).

In summary, the marine sector in Canada is primarily under federal jurisdiction, but provinces have some influence because provinces own the foreshore (the area between the low and high tide marks) and inland waters, and because laws of general application apply to federally-regulated industries. Corporate social responsibility initiatives for the international shipping sector include the Sustainable Shipping Initiative (2014), the Clean Cargo Initiative (2014), the World Port Climate Initiative (2014), the World Ocean Council (2015), and Green Marine. Green Marine is the voluntary program most commonly joined by ports and companies in Canada. Further, a number of ports and marine companies that operate in Canada have developed their own programs for environmental leadership in addition to or instead of membership in an external voluntary organization.

3.6 Agriculture

3.6.1 Introduction

The third case study examined in this thesis is the agricultural sector. Agriculture is one of the world's oldest and most essential industries, yet also one of the greatest contributors to environmental degradation (Gunningham et al., 1998). Agriculture contributes to loss of biodiversity, soil erosion, pollution and risks to human health due to the use of pesticides, a situation that has increased with the intensification of agricultural production since World War II (Gunningham et al., 1998). Organic farming methods are put forward as an alternative to the high levels of environmental degradation caused by conventional agricultural methods. Organic farming has been found to have a number of benefits, including improved soil nutrients and erosion control, higher water quality, reduced use of nonrenewable energy, and protection of biodiversity (Food and Agricultural Organization 2013); reduced use of chemicals (Blackman & Naranjo, 2012), fewer greenhouse gas emissions (MacRae, Lynch & Martin, 2010), reduced water use (Pimentel, Hepperly, Hanson, Douds, & Seidel, 2005), higher nutritional value in organic food products (Crinnion, 2010), and promoting environmental awareness and responsibility among consumers (Allen & Kovach, 2000).

There is however debate on whether organic practices are environmentally preferable to conventional agriculture (Sutherland, 2011; Tuomisto, Hodge, Riordan & Macdonald, 2012). Sutherland (2011) argues that the value of organic agriculture has been in encouraging reflexive practices among all farmers:

> Farmers seek ideals to aspire to and symbols to demonstrate which go beyond financial viability of their farms. What organic farming has done for conventional farmers is a) present a set of alternative or re-weighted symbols and b) act as a crucible for individual consideration of standards of good farming. (Sutherland, 2013, p. 438)

Agriculture falls within provincial jurisdiction, due to a combination of provincial authorities over land use, water, health and pollution, and also within federal jurisdiction regarding trade of agricultural products across provincial borders. From the perspective of environmental regulation, the primary provincial requirements in British Columbia reside within the *Environmental Management Act* (2003), which prohibits the introduction of waste into the environment in the course of conducting a prescribed industry, trade or business unless a permit is obtained. The prescribed industries, trades and businesses include agricultural operations (Schedule 2, *Waste Discharge Regulation*, 2004). In addition, the *Agricultural Waste Control Regulation* (1992) outlines a code of practice for agricultural operations, including how agricultural waste should be stored and used, composting of agricultural waste, what types of fuels may be used, emissions standards from boilers and heaters, disposal of mortalities, and access of livestock to water provided it does not cause pollution.

Aside from regulatory requirements, British Columbia also has a few programs that relate to agriculture. One is the Living Water Smart initiative to encourage more efficient irrigation systems and to allocate future water licences on climate, crop and soil water needs based on efficient systems (Government of British Columbia, 2014a). A second is the Environmental Farm Planning program, which is intended to complement and enhance the environmental stewardship practices of farm producers (Government of British Columbia, 2014b). This program does so through offering financial incentives, namely free environmental planning assessments and cost sharing for projects that meet the environmental stewardship objectives and criteria of the program.

In addition, British Columbia has the voluntary organic certification program under the *Organic Agricultural Products Certification Regulation* (1993). Farms that adopt and comply with the standards under this regulation may use the phrase "British Columbia Certified Organic" and display the program symbol. Although the regulation prohibits the use of the symbol and phrase if the standards are not met, no provincial prohibition currently exists against the use of similar language or alternative organic symbols. The standards for the regulation are established by the Certified Organic Association of British Columbia (COABC), which is designated to administer the program for the province. The COABC has in turn adopted the Canada Organic Standard as

the standard for the BC organic program (COABC, 2014). The Canada Organic Standard has been adopted by organizations in other provinces, and even where a province has not set out its own standards or regulations, the Canada Organic Standards apply to interprovincial trade in organic products. In addition, organic producers in any province may voluntarily meet the standards in order to display the Canada Organic Standards logo.

3.6.2 Effectiveness of organic certification

The Organic Agriculture Centre of Canada conducted a survey of organic producers across Canada in 2008, questioning them on their research needs. The results of the survey indicated a need for further research and knowledge in technical areas such as pests and soil quality, but the results also indicated possible gaps in government responses (Organic Agriculture Centre of Canada, 2008). The gaps include the high need for consumer education about organic benefits, rising land prices, lack of processing and transportation infrastructure, production costs, the cost and burden of the certification process, too many regulatory bodies, and changing regulations.

With funding from the federal and provincial governments, COABC conducted a research study to look into the challenges and opportunities affecting whether small scale agricultural producers seek and obtain organic certification. The study was conducted because although there were over 600 organic farmers and processors in BC in 2006 over 600, there were also 2,767 uncertified organic producers in the province and to COABC, this high number implied that the current certification model may not be meeting the needs of all organic producers, particularly small-scale operators. The study identified several barriers to certification under the current process: the burden of paperwork associated with certification; costs of certification; lack of cohesive branding, particularly since it is not required that producers be certified to sell their products as organic in BC; a lack of education and support for producers; and a lack of consumer understanding and demand for organic products.

As of 2011, there were 4,120 organic farms or primary producers in Canada (Statistics Canada, 2011). The majority (1,064) were in Saskatchewan, followed by 1,037 in Quebec. British Columbia was home to 569 organic producers, and Manitoba home to 180. Between 2006 and

2012, sales of organic products in Canada grew from 1% of the market share, to 1.6%, with British Columbia leading the trend (Canadian Organic Trade Association, 2013). A study conducted of vegetable and dairy producers in Canada who either have organic status or are transitioning to it, found that motives to switch to organic farming have remained constant (Cranfield, Henson & Holliday, 2010). The authors found that health, safety and environmental concerns have not been overshadowed by economic or profit concerns. They also noted that there is no lack of demand for organic products and that, in fact, production growth is not keeping up with growth in demand. However, actually transitioning to organic farming is negatively affected by pressure from other farmers and farm groups, lack of physical and financial capital, and lack of governmental and institutional support. In particular, pressure from markets, other farmers, and lack of government support constituted important external factors affecting the ability of farms to switch to organic production. Cranfield et al. suggest that government and marketing agencies establish environments and institutions to facilitate the development of markets for organic products. They noted the establishment of the Canada Organic national standard in December 2008 as an important indicator of the need for "a more orderly and transparent marking of organic food products in Canada" (p. 304).

In summary, provincial governments have jurisdiction over agriculture, though the federal government has jurisdiction over interprovincial and international trade in agricultural products. There are several organic programs within Canada, their standards vary, and there is currently no requirement that farmers who claim to be "organic" become certified or that only one program be used. Although there is disagreement in the agriculture sector about whether organic practices are environmentally preferable to conventional agriculture, the growing popularity of organic agriculture has stirred debate among the agricultural community about whether organic practices are necessary or beneficial to the environment (Sutherland, 2011; Tuomisto et al., 2012).

3.7 Summary of the case study literature

This thesis addresses how provincial governments in Canada can encourage environmental leadership, using the experience of three diverse case studies: electronics EPR, marine, and agriculture. The electronics EPR sector involves waste and packaging, in a land and life cycle

regulatory context, and is an area of provincial jurisdiction. The marine sector involves marine and point-source pollution such as water pollution, invasive species, greenhouse gases, and noise regulations. It is an area of primarily federal jurisdiction. The agriculture sector involves land, pesticide use, and other pollution (such as water pollution) and is primarily under provincial jurisdiction except where products cross provincial boundaries. Together, these three case studies provide examples of different types of environmental leadership; represent jurisdiction of different levels of government; provide a sample of a variety of regulatory contexts (e.g.: land, water, point source, life cycle); and provide available data on different types of compliance and beyond compliance behaviour.

Referring back to the available instruments, it is apparent that the governments reviewed primarily rely on the traditional authority instruments in the three case studies, using the NATO framework developed by Hood (1986). This observation is illustrated in Table 6, which summarizes the types of instruments used in each of the three case studies. This summary is consistent with the observation of Winfield (2009) that Canada, particularly the provinces, rely heavily on command and control regulations. The current focus on certain policy instruments, particularly ones based on government authority, suggests that there may be room for Canadian provinces to explore other approaches to encouraging environmental leadership. This study addresses whether other instruments have potential to encourage leadership in the province by identifying what has influenced businesses' decisions to date, including challenges to environmental leadership that government may be able to reduce.

Table 6: Policy instruments currently used in the case studies

	Nodality	Authority	Treasure	Organization
Electronics extended producer responsibility		✓ Obligation to comply with the regulations (submit Stewardship Plans, annual reports, meet minimum requirements and targets) ✓ Placing obligation for funding and costs onto producers		
Marine sector	✓ Public information provided by proof of certification	✓ Requirements to comply with regulations applicable to ports, wharves and shipping (eg: water quality, waste discharge, fisheries). These requirements do not extend to compliance with the voluntary program standards		
Agriculture	✓ Public information provided by proof of certification	✓ Requirements to meet certification standards in the regulation; prohibition against claiming displaying the logo or if standards not met	✓ BC Environmental Farm Planning Program provides project funding to farmers for environmental stewardship (not specific to organic) ✓ Manitoba transition support to farmers seeking organic certification	

CHAPTER 4: Methodology

This chapter outlines the research methodology for this thesis. First, the overall research method is discussed, including how data was gathered for each of the case studies. The epistemological and theoretical perspectives are addressed, followed by a discussion of the strengths and limitations of the research methodology.

4.1 Research method

The form of the research question provides a clue as to the appropriate method (Yin 2009). The research question for this thesis is: *How can provincial governments in Canada support environmental leadership in businesses?* A subquestion necessary to answer the primary research question is what motivates and poses challenges to environmental leadership? These are how and why questions. The purpose of this study is to develop a conceptual framework of factors that lead to environmental leadership in businesses in Canada, then to outline the policy implications and potential regulatory response of provinces in relation to the findings.

How and why questions are explanatory and deal with "operational links needing to be traced over time, rather than mere frequencies or incidence" (Yin, 2009, p. 9). Appropriate methodologies for explanatory questions are case studies, histories and experiments. A case study is preferred in examining contemporary events and when the relevant behaviours cannot be manipulated (Yin, 2009, p. 11). Gerring (2004) outlines when case studies are useful:

> (1) when inferences are descriptive rather than causal, (2) when propositional depth is prized over breadth and boundedness, (3) when (internal) case comparability is given precedence over (external) case representativeness, (4) when insight into causal mechanisms is more important than insight into causal effects, (5) when the causal proposition at issue is invariant rather than probabilistic, (6) when the strategy of research is exploratory, rather than confirmatory, and (7) when useful variance is available for only a single unit or a small number of units (p. 352).

The goal with case studies is to expand and generalize (analytical generalization) not to enumerate frequencies (statistical generalization). A case study is used "because you wanted to understand a real-life phenomenon in depth, but such understanding encompassed important contextual conditions" (Yin, 2009, p. 18). This study is exploratory, and its purpose is to develop a framework of general variables that influence decisions within businesses and the relationship between those variables (Ostrom, 2005). The purpose of this research is not to determine frequencies of behaviour, therefore a quantitative approach attempting to obtain a representative sample of businesses is not used. Additionally, this thesis does not attempt to determine causation between particular regulations and environmental leadership, therefore experimental approaches or attempts to identify dependent and independent variables are not used.
Case studies will be used for this thesis because this study explores behaviour over time rather than frequencies, because the behaviour studied cannot be manipulated, and because it involves an in depth look at what influences businesses in a few provinces, focusing on British Columbia, rather than breadth across a variety of industries and jurisdictions.

The case studies for this thesis were selected purposively. Yin (2009) recommends choosing a case based on whether it will provide sufficient access to the potential data and will help answer the research questions. Similarly, Patton (2002) and Eisenhardt (1989) recommend purposive sampling, in which information rich cases are selected. The three cases (the electronics sector regulated by EPR legislation, the marine sector, and the agriculture sector) were chosen because they were anticipated to provide insight to the questions of why some businesses demonstrate environmental leadership and others do not. They represent different sectors regulated by government (life cycle/waste management, point source pollution/marine, and point source pollution/land use). Together, the case studies provide a level of generalization that would not be possible with only one case study, and better inform the conceptual framework of environmental leadership.

Each case also relates to more than one type of environmental leadership. The literature review in Chapter 2 identified six types of environmental leadership: exceeding regulatory requirements without drawing attention to it; meeting regulatory requirements and reporting it without being

part of a voluntary program; being a member of a government-led voluntary program; reaching a negotiated agreement with government; being a member of an industry-led voluntary program; and unilaterally developing one's own voluntary program. Three of the six types of environmental leadership are selected for this research: meeting regulatory requirements and reporting it but not as part of a voluntary program; being a member of an industry-led voluntary program; and being a member of an industry-led program. The second, third and fifth types of environmental leadership have been selected for this study because they are anticipated to provide useful information on why businesses demonstrate environmental leadership through a variety of steps. The first type of environmental leadership, simply exceeding regulatory requirements, is not selected because it is done without businesses drawing attention to it in a systematic manner, making identification of businesses within that category difficult. The fourth type, negotiated agreements, is not used because although the federal government has outlined policy objectives for Environmental Performance Agreements, there are few programs for environmental negotiation in Canada and none were identified in British Columbia. To the extent they exist in the province, negotiation initiatives appear to be usually related to environmental assessments and part of the approval process for a project or development, such as British Columbia's Environmental Mitigation Policy. As such, negotiating the agreement required a part of the firm obtaining overall regulatory approval, rather than being purely voluntary. Further, they often include additional elements beyond environmental requirements, such as meeting aesthetic and cultural requests (British Columbia Environmental Assessment Office, 2015). Consequently, identifying the voluntary elements of the firm's actions in demonstrating environmental leadership would be complex and better suited to research focusing on negotiated agreements alone.

Voluntary programs are a good indicator of environmental leadership because they seek to spur direct improvements in environmental quality, but also advance social goals that may indirectly lead to environmental improvements such as improved business-government relationships, and changing business culture (Borck, Coglianese & Nash, 2008). Including voluntary agreements in the study is important, but because what may lead a firm to choose one particular type of voluntary program over another is not the research question, only one form of voluntary program has been selected for this thesis. The fifth approach to environmental leadership (joining an

industry program) was selected because of its potential in identifying environmental leaders, due to the membership lists on the program websites. However, a number of businesses in the sixth category (unilateral rather than industry led) were ultimately included because, although it was not initially apparent that they had joined a program or initiated their own approach, it became apparent during data collection that they had done so. The three case studies were selected because they each involve a variety of practices that range in conventional to demonstrating environmental leadership: in the agriculture sector, conventional farming as opposed to organic farming; in the electronics sector, recycling as required by law, or redesigning products to reduce waste; and in the marine sector, complying with Canadian laws when in Canadian waters, or proactively undertaking to meet the standards of a voluntary certification program. Each of these cases includes dozens, if not thousands, of members (i.e., farms, marine companies, electronics companies, as well as regulators and associations), which provide a large number of units within each case from which to gather data. Further, each of the cases are to some extent involved in current controversies or debates around environmental protection or regulatory requirements, and therefore are likely to include members that are attuned to the issue of environmental leadership, although the issue may be expressed in different terms such as social licence or corporate social responsibility. Finally, each case offers a way of identifying the unit of analysis, which will be the firm, but also the subjects that will be used to collect the data (surveys, interview). Although this thesis considers what government can do, the research addresses this question by looking at what influences the behaviour at the firm level. Consequently, the unit of analysis is the firm.

The following summarizes the rationale for selecting these three cases and their associated types of environmental leadership:

1. They represent different regulatory situations: marine, land; point source pollution and product life cycle; area of broad provincial jurisdiction and area of limited provincial jurisdiction;
2. They include both businesses that have and have not demonstrated initiatives for environmental leadership, such as joining a voluntary program or initiating a Corporate Social Responsibility program; and

3. Data is available in each case because operationally, they each provide a way of identifying leadership (membership in a voluntary organization, reporting on how they go beyond compliance) and have clear standards to be met.

The methodology for this thesis is an emergent research approach, which requires the researcher to remain flexible and open to modifications (Hesse-Biber & Leavy, 2013) and does so in two key ways. First, propositions are developed from the literature to develop a conceptual framework and guide interview questions, but the propositions and conceptual framework are open to revisions. Second, the interview results were used to refine the surveys before the survey stage of the research was conducted.

This thesis also uses a multimethod and triangulation approach. Triangulation is "the designed use of multiple methods, with offsetting counteracting biases, in investigations of the same phenomenon in order to strength the validity of inquiry results" (Greene et al., 1989, p. 256). This research uses triangulation by selecting three diverse yet comparable cases, and by triangulating data obtained by using different methods within each case study: a document review, interviews and surveys. The use of more than one method compensates for the shortcomings of individual methods by through the methods providing different perspectives, complementing each other, and allowing for triangulation of results (Cresswell & Plano Clark, 2007; Denzin, 2012; Greene et al, 1989; Hammond, 2007; Wolf, 2010). A document review provides context and key background information (Frechtling & Sharp Westat, 1997). Interviews provide rich, detailed material and allow the interviewer to explain questions and probe for further details (Frechtling & Sharp Westat, 1997; Rubin & Rubin, 2012). Surveys provide the ability to obtain information from a larger sample of participants (de Vaus, 1990; Dillman, 2007).

This thesis is qualitative research based on the epistemology of objectivism and the theoretical framework of post-positivism. In research that includes interviews, the post-positivist approach assumes that the interview subject has an inner self that can be revealed through careful questioning and that the interviewer can minimize bias by being neutral, and therefore the data and findings of the research will be valid (Roulston, 2010). The interview participants in this

thesis spoke not only as respondents, but as informants. Respondents have personal knowledge, but informants can provide insight to the broader sample (Babbie, 2010). Specifically, the informants in this research spoke regarding the broader business perspective, not only their own personal role or the specific firm in which they work. This these considers the broader business perspective to be constituted of a variety of factors that can be subject to a degree of objective measure, such as market price, consumer demand, existence of legislation, and direction from parent companies. Based on the post-positivist assumption that the interviewers can effectively answer questions, the interviews are not only used as a separate source of information, but as a basis to refine the surveys to make the survey questions more easily answerable and applicable to the sector.

4.2 Data collection

Data was collected regarding each of these case studies through document review, interviews and internet based surveys. The document review involves a review of regulatory requirements, identification of the limits of provincial jurisdiction (for example, over marine areas as opposed to land), stewardship plans, annual reports, guidelines, voluntary program requirements, compliance reports, and other documents relevant to each case. A purposive sampling approach was used for the interviews and surveys in which a variety of sources were sought (type of product, type of business size of business, location of business), as well as, for the interviews, sources other than businesses (officials and associations). In this research, there is no defined population of potential informants: there is no list of environmental leaders or environmental noncompliers in Canada. A variety of sources can be drawn from identifying potential informants in the different case study sectors (membership lists of associations, telephone or business directories, or internet searches by key term) but no source is complete, and few organizations are willing to provide membership lists. Further, a purposive sampling approach is appropriate where the samples are chosen to provide in depth information on the characteristics of particular groups, and to facilitate comparisons between groups (Patton, 2002).

Subsequent to approval from the University of Victoria Human Research Ethics Board on February 26, 2014, interviews and surveys were conducted. The purpose of the interviews was to gain a more in depth knowledge of why and how decisions are made to take steps beyond regulatory compliance; to test the lines of inquiry and general questions before they were distributed to a larger sample as part of the survey (i.e., to determine whether the survey has missed any important lines of inquiry); and to gain the perspective of the regulator by interviewing government officials. Interviewees were asked to explain what they consider environmental leadership to be in order to clarify their assumptions, to determine whether their answers are based on a different perception of environmental leadership than the definition used in this study, and to assist in identifying whether a business could be considered an environmental leader. Interview questions were developed to explore the propositions derived from the literature review. For example, informants were asked who within the business made the decision to join a voluntary program or put in place a corporate social responsibility program, in order to explore the internal institutional factors leading to the decision. The interview guides are attached as Appendix 1. The invitations used for interviews and surveys are included in Appendix 2.

Interviews with 36 key personnel in businesses, government officials, and industry or voluntary program associations from each of the case studies were conducted. Efforts were made to interview and survey key informants from companies that had joined a voluntary program that have a corporate social responsibility policy, or otherwise appeared to demonstrate environmental leadership, as well as a number of companies that did not, at least as far as could be determined from public materials. Ontario and British Columbia publish compliance and enforcement reports that were reviewed to determine if there was a noncompliant member of each case within the last three years that could be included in the data collection to explore factors leading to noncompliance and challenges to demonstrating leadership. However, very few businesses within the sample with a record of noncompliance that were still in business and available to interview. In addition, as the document review and interviews proceeded, it became apparent that categorization of a business as a "laggard" based on an incidence of noncompliance does not capture the ongoing, learning nature of environmental leadership. This concept will be explored further in the Analysis chapter.

Third, an internet based survey was provided to different businesses within each case than those who participated in interviews. The purpose of the surveys was to provide broader data to supplement the more in depth data derived from interviews at fewer businesses. The surveys sought background information on the size, location, and line of business of the firm. Respondents were asked the size of their firm in order to determine whether or not the firm is a small-medium sized enterprise (SME). Industry Canada defines SMEs as businesses with less than 500 paid employees (Industry Canada, 2012). This information is useful because the literature indicates that different responses can be expected from businesses of different sizes, which could influence conclusions about whether or not particular regulatory instruments are suitable for all businesses. For example, previous studies have shown that SMEs are less likely to respond to public pressure because they have a lower public profile (Kagan et al., 2003; Lynch-Wood & Williamson, 2007). Further, the industry in which a firm operates may also affect its response to regulation (Gunningham et al., 2005; Lefebvre et al.; OECD, 2002). Respondents were asked a few questions relating to why they have or have not joined a voluntary program, or taken other additional steps beyond compliance (exceeding minimal standards for recovery and/or redesigning products).

British Columbia businesses were the source of most of the interview and survey data for this study because British Columbia provides a diversity of voluntary environmental initiatives to study (land, marine, and the existence of both government sponsored programs as well as voluntary ones). Ontario was used as a second province regarding the EPR case because it is a large, populous province with significant waste management issues, is the location of many head offices of corporations and associations, and was at the time of the research for this thesis undergoing a controversial review of its legislation that had stimulated discussion and consideration of different waste management models. Manitoba was the second source of data for the agriculture case and was selected because it is a highly agricultural province. Nova Scotia was selected as the second province for the marine case because it is an East Coast maritime province with numerous ports of various sizes and a place of business for several shipping companies and stevedoring companies, although Quebec and Ontario companies were added during data collection in order to expand the number of informants. In practice however, the provincial distinctions broke down wherever large companies were contacted because they tend

to operate in multiple provinces, or where the legislative regime (such as BC's EPR legislation) required all vendors of products in British Columbia to register, not just the importers or manufacturers. For example, a few companies that operate in British Columbia identified the correct person to respond to a survey or participate in an interview as an employee located in Alberta or Ontario.

4.3 Sources of interview informants

A contact list of potential interview informants was developed using online sources as a starting point, followed by the snowball method of asking informants who else they recommended be interviewed. The electronics EPR case contact list was developed primarily using a list on the Extended Producer Responsibility BC website, as it contains a list of all producers registered under BC's EPR legislation, which includes companies that conduct business and/or have head offices in other provinces. The British Columbia Ministry of Environment website contains a list of stewardship agencies to which most electronics companies in the province belong, as well as the Stewardship Plans for three companies that have chosen to develop their own Stewardship Plans rather than using a stewardship agency: Telus, Shaw, and Bell. For the marine sector, the federal government online list of ports in Canada was used as well as an internet search for shipping companies and stevedoring companies in British Columbia, Ontario, Quebec, and Nova Scotia. The websites of the companies, port authorities, and voluntary organizations were reviewed to determine which, if any, voluntary programs or other environmental leadership steps the companies and ports had taken. For the agriculture case, organic association membership lists, lists of farmers markets, and Yellowpages.ca was used to identify a number of organic and conventional farmers who produce a variety of products in British Columbia and Manitoba.

Identifying potential interview informants for the electronics EPR sector posed a challenge, as many of them rely on the stewardship agencies for their reporting and communications on recycling, and because the medium to large electronic companies tend to have 1-800 customer service numbers staffed by people who are trained to handle customer inquiries only, or online web forms that require an order number or otherwise are structured only to address customer support or service complaints. Inquiries through websites resulted in identification of only one

individual who could be interviewed. In order to obtain additional interviews, attempts were made to contact the CEOs or board members of Canadian companies or Canadian arms of international electronics companies through the electronic stewardship organizations they are involved in. Seven individuals were contacted this way, resulting in two responses from staff of those corporations who had received the request forwarded down to them. In addition, one CEO contacted through a business networking website agreed to an interview.

Industry associations for each case were also approached and asked to participate in an interview. The associations selected act as advocacy, educational, or policy organizations for their members. Due to the nature of the electronics EPR case with stewardship agencies coordinating plans for the numerous electronics businesses, there were a number of organizations and individuals who were available and agreed to an interview. As a result, five interviews with associations for that case were conducted. Two were specific to BC, one specific to Ontario, and two national in scope. No voluntary organization related to the marine sector was interviewed, because the research was limited to organizations with representatives in Canada and the one organization located in Canada, Green Marine, did not respond to multiple requests for an interview. Four associations were interviewed for the agriculture sector: two in Manitoba, one in BC and one national in scope. All were organic farming associations. Three conventional or general farming associations were approached for an interview, but none responded to the invitations.

The government directories of British Columbia, Manitoba, Ontario, and Nova Scotia were consulted to identify the most appropriate offices and officials to interview. The Manitoba Ministry of Agriculture was contacted to determine whether there was an appropriate official for the agriculture case study. The position responsible for agriculture policy, including organic, had been eliminated from the Manitoba provincial government, but the researcher was advised that efforts would be made to identify an appropriate alternate contact, though no person was ultimately identified. Similar inquiries at the Ontario Ministry of Environment regarding the EPR case also did not result in an interview with a representative from that government. In addition, requests for an official in the Nova Scotia government to interview regarding marine issues failed to result in an interview. Inquiries at Environment Canada resulted in one official in the

Pacific Region agreeing to an interview. When difficulties arose in obtaining interviews with officials in other provinces, additional requests were made with officials in the British Columbia government, resulting in interviews with one British Columbia official from the EPR case, three for the marine case, and two for the agriculture case. It is not clear why some provinces failed to follow through on identifying an interview informant, but it could be related to the smaller pool of people to draw from, or that it was unclear who would be the appropriate person to participate in the interview. The experience with contacting the Manitoba government suggests that some governments simply may no longer have a person with the relevant expertise. The list of primary web sites used in the web search for interview and survey informants is included in Appendix 3.

Current employees of businesses and government were usually interviewed, but in two cases, former government officials (recently retired or moved to the private sector) were interviewed. Several of the interviewees have multiple responsibilities, such as being both a farmer and sitting or having sat on an association board, or working in the public or private sector while also having relatively recent experience in the other sector. As a result, while interviewees were primarily asked to speak to their current employers actions, they often provided perspectives based on their wider experience.

For the electronics EPR case, 23 invitations were made, with 13 agreeing to be interviewed. In the marine sector, 21 invitations were extended, resulting in nine interviews. In the agriculture sector, a total of 27 invitations for an interview were provided, with fourteen people agreeing to be interviewed. Due to the methodology of purposive sampling combined with snowball sampling, there is no underlying population from which to identify a response rate. However, in each of the case studies, approximately half the persons invited agreed to participate, and the number of interview invitations were augmented where possible to increase the number of interviews. This was done, for example, by adding additional British Columbia officials when repeated contacts to other provinces did not result in any officials agreeing to participate.

In most cases where the invitation to participate was not accepted, either no response was received to the invitation, or the person invited simply declined to participate. Only one invitee provided a reason for not participating: as an organic farmer in Manitoba who expressed

nervousness about expressing her views to anyone due to tension between the organic and conventional farmers in her local community. In person interviews included three site visits to farms, two organic and one conventional. Twenty-eight interviews were conducted by phone, and eight in person. Twenty-nine interviews were recorded then transcribed. Seven were not recorded, either because the informant did not want it to be, because background noise made a recording impractical, or because the informant said he or she was willing to do the interview but was pressed for time so the issue of consent to a recording and transcript was not raised. Where an interview was not recorded, the researcher took extensive notes and typed them shortly afterwards when the memory of the interview was fresh. Table 7 summarizes the number of interviews conducted in each case, and within each case the number of officials, associations and businesses.

Table 7: Number and type of interviews per case

	Electronics EPR	**Marine**	**Agriculture**	
Total interviews per sector	**13**	**9**	**14**	**36**
Business	7	5	8	**20**
Officials	1	4	2	**7**
Agencies	5	0[4]	4	**9**

Three of the interviews with electronics businesses were conducted after the survey responses from that sector were received. Based on interview data, it was anticipated that the firms would rely on stewardship agencies and not pay much attention themselves to recycling. However, the initial survey results from that sector were unanticipated, i.e., all small businesses said they disagreed or strongly disagreed with the question that they relied on stewardship agencies. Therefore, an additional three interviews were conducted of small electronics businesses to explore that result. The number of interviews and types of informants for the electronics sector

[4] Representatives of the Green Marine organization did not agree to be interviewed and other voluntary organizations of the shipping industry (e.g.: Sustainable Shipping Initiative) do not have representatives in Canada.

are summarized in Table 8, the marine case is summarized in Table 9, and the agriculture case in Table 10.

Table 8: Electronics and EPR interview distribution

	BC	Ontario	Totals
Business	**4**	**3**	**7**
Large multinational		*1*	*1*
National/regional	*3*		*3*
Small/local	*1*	*2*	*3*
Officials	**1**	**0**	**1**
Associations	**3**	**2**	**5**
	8	**5**	**13**

Table 9: Marine interview distribution

	BC	Ontario	Quebec	Nova Scotia	Totals
Business	**2**	**1**		**2**	**5**
Ports	*1*			*1*	*2*
Shipping/stevedoring	*1*	*1*		*1*	*3*
Officials	**4** (3 provincial, 1 federal)			0	**4**
Totals	**6**	**1**		**2**	**9**

Table 10: Agriculture interview distribution

	BC	Manitoba	National	Totals
Farms	**5**	**3**		**8**
Organic	*2 (vegetables, fruit)*	*1 (strawberries)*		*3*
Conventional	*3 (tree fruit, blueberries, chickens, vegetables)*	*2 (grain; one was previously organic)*		*5*
Officials	**2**	**0**		**2**
Associations*	**1** (chicken, eggs)	**2** (meat, berries)	**1**	**4**
Totals	**8**	**5**	**1**	**14**

* The association members were also farmers. The products in brackets represent their personal farm products, not the association product focus. All associations interviewed were organic as no conventional farming associations responded to invitations for an interview.

4.4 Survey distribution

The starting point for the survey distribution lists were the contacts identified but not used for the interviews, unless they had declined to be involved in the research at all. The lists were expanded by a further review of relevant websites. The electronics EPR survey is included in Appendix 4, the Marine survey in Appendix 5, and the Agriculture survey in Appendix 6. Respondents were asked to respond within ten days, and sent a reminder after one week.

The electronics EPR contact list was developed using the list of producers registered in BC under EPR regulations, along with a YellowPages search to identify smaller companies in Ontario. Websites of each company were reviewed to identify an appropriate contact email and where possible, contact name. Web sources were continually reviewed until a list of 120 electronic companies were identified. The companies are primarily in BC and Ontario, although some do business in those provinces and are consequently regulated by their electronics waste legislation, but the main office and contact information for the company is in Alberta, Manitoba or Quebec. In addition, many of the companies conduct business internationally or nationally and are therefore not restricted to either BC or Ontario. A minimum number of twenty companies in four categories was sought. The first category was Canadian offices of large, multinational companies such as Sony or Hewlett Packard. The second category included Canadian national or regional companies that operated in more than one province, for example, Canadian Tire. The third included small, local companies in British Columbia, and the fourth was small, local companies in Ontario. Because person who answers the survey would not necessarily be the one who answered the phone, email invitations were sent to the individuals on the contact list rather than to phone the businesses. Consequently, each potential respondent received an email invitation to complete the survey as well as the automated invitation with the weblink to the survey using FluidSurveys.

People who piloted the survey recommended a short survey that asked questions about specific emerging issues, therefore survey questions for this case did not ask how informants defined environmental leadership, but asked about challenges, the extent to which informants rely on stewardship agencies, and whether they offer leasing as an alternative to purchase. A total of 120

surveys were distributed to businesses in the electronics sector. Table 11 summarizes the total number of surveys distributed in the electronics sector by location and size of firm. Further information on the electronics EPR survey respondents is included in Appendix 8.

Table 11: Electronics EPR interview sample

	BC	Ontario
Large multinational	22	
Canada national/regional (more than one province)	27	
Small, local	45	26
Total:	**120**	

For the marine case, the survey was not changed other than shortening a few questions to make the survey less lengthy to complete. A list of 56 stevedoring companies, shipping companies and ports was identified using web directories and Google searches for companies that operate in Canada. All were phoned to identify someone to complete the survey and to verify contact information. As a result, the list was reduced to 30 organizations. Businesses were removed for three reasons: a request not to receive the survey, they had gone out of business, or they were merged or affiliated with another company and should jointly only receive the survey once. Because respondents are rarely the person who answers the phone for the businesses in this sector and because some companies were reluctant to give out phone contact information, email invitations were sent to the individuals on the contact list, rather than to phone the potential respondents. Consequently, each potential respondent received an email invitation to complete the survey from the researcher as well as the automated invitation with the weblink to the survey via FluidSurveys. This duplication appears to have helped the response rate at least a small amount, as two people who received the researcher invitation asked to receive the FluidSurveys link again because they had deleted it before reading the researcher invitation. Table 12 summarizes the number and type of businesses that received the marine survey. Further information on the nature of respondents to the marine case survey is included in Appendix 9.

Table 12: Marine interview sample

	Ports	Shipping/towing companies	Stevedoring companies	Terminals/ Operators
British Columbia	2	2	3	4
Ontario			5	2
Quebec	2		6	
Nova Scotia	2	2	1	1
TOTAL= 32*	**6**	**4**	**15**	**7**

*total exceeds number of surveys distributed because some companies have more than one line of business

For the agriculture case, a list of 198 farms was developed, 115 in BC and 78 in Manitoba. The farms were identified based on available contact information (telephone and email) and in order to have a variety of organic, conventional, and types of crops and regions. Because directories available on the internet tend to focus on a particular type of farm (organic, local produce for a region, type of crop), gaps in types of farm were filled in wherever possible using Yellowpages.ca. Each farm on the list was phoned, asking them to consider completing the survey, and where the phone was answered, confirming the contact information. In total 198 farms were telephoned. As a result, 23 were removed from the list, either because the farmer requested not to receive the survey, or because the number was not in service. A total of 175 surveys were distributed in the agriculture sector. Table 13 summarizes the number and types of farms that were sent the agriculture survey. Further information on the survey respondents is included in Appendix 10.

Table 13: Agriculture interview distribution

Not all websites are clear about all products, so the amounts listed below are minimums.

	Vegetables	**Fruit (tree fruit and melons)**	**Berries**	**Wine grapes**	**Grain[5]**	**Poultry/eggs**	**Meat and dairy**	**Misc (eg: herbs, honey, seeds, garlic, beer, alfalfa)**
BC certified Organic Total: 60	OK[6]: 12 LM: 1 FV: K: C: P: GI/VI: 8	OK: 13 LM: FV: K: 1 C: P: GI/VI: 5	OK: 3 LM: 5 FV: 3 K: 2 C: 1 P: GI/VI : 7	OK: 2 LM: FV: K: C: P: GI/VI:	OK: 1 LM: 1 FV: K: C: P: 1 GI/VI: 2	OK: 5 LM: FV: K: C: P: GI/VI: 4	OK: 3 LM: 1 FV: 2 K: 1 C: P: GI/VI: 3	OK: 4 LM: FV: K: C: P: 1 GI /VI: 4
BC conventional Total: 48	OK: 4 LM: 4 FV: 2 K: C: P: GI/VI: 3	OK: 7 LM: FV: K: C: P: GI/VI: 2	OK: 4 LM: 8 FV: 4 K: 2 C: P: GI/VI: 1	OK: LM: 1 FV: 1 K: C: P: GI/VI: 1	P: 6	OK: LM: 1 FV: 1 K: C: P: GI/VI: 2	OK: LM: 1 FV: 2 K: C: 2 P: GI/VI: 4	OK: 2 LM: FV: K: C: P: GI/VI: 1
TOTAL BC: 108								

[5] 90 percent of the grain grown in BC is in the Peace Region. www.britishcolumbia/com/information/details.asp?id=31.

[6] OK: Thompson Okanagan; LM: Lower Mainland; FV: Fraser Valley; K: Kootenays; C: Cariboo; P: Peace River; GI: Gulf Islands, VI: Vancouver Island

Manitoba certified organic[7]	10	2	5[8]		6	5	4	4
Total: 28								
Manitoba conventional	13	4	37[10]	1	3	4	4	2
Total: 42								

TOTAL MANITOBA: 70

Total surveys based on type of crop and organic or inorganic: 178

TOTAL SURVEYS DISTRIBUTED: 175[9]

[7] Regional breakdown not included for Manitoba because there is less geographic difference across the province and less variety in the types of products grown in different areas.

[8] This number may be higher, with the conventional number including some organic berry farmers, because not all berry farm listings are clear on whether or not the farm is organic, and the Manitoba Organic Alliance membership appears to be mainly organic meat and grain producers.

[9] Total number of surveys distributed does not match the total number based on type of farm (178) due to farms producing more than one type of crop.

[10] Saskatoon berries, strawberries, blueberries and raspberries are one of the few crops that grow well in Manitoba. Many farmers grow them in addition to other crops.

Several changes were made to the agriculture survey as a result of the interviews. Challenges farmers identified during the interviews regarding their business included transportation and labour, which were added to the survey. A question on corporate social responsibility was removed because most farms were too small to have a formal policy and the question caused confusion. Instead, questions were framed more in regards to how they consider their farm practices sustainable. The agriculture survey was then piloted to three people who had participated in an interview to ask for their feedback on the technical smoothness and clarity of the survey. One person, a conventional farmer, stated that "perception is everything" and that conventional farmers should be provided with an opportunity to say whether they believe they farm sustainably based on their conventional methods. Without the ability to indicate environmental leadership in the absence of having joined a particular program, the interest in completing the survey would likely be substantially reduced. In addition, the question would provide data on the extent to which the respondents believe compliance and conventional methods do constitute environmental leadership. Consequently, a question to that effect was added to the survey.

4.5 Survey sample

Surveys for the electronics EPR case were distributed to 120 businesses, and 17 people responded. Of the 17 respondents, 15 proceeded beyond the consent form and the first question of the survey. Fifteen responded to six of the eight questions. By the last set of questions on the type of business, 13 respondents provided information. Based on 15 responses, the response rate was 12.5% for the electronics survey. Surveys in the marine sector were distributed to 30 businesses and 14 responded. Of the 14 respondents, 13 proceeded beyond the consent form and the first question of the survey. Ten completed the survey. Based on ten responses, the response rate to the survey was 33%. The agriculture survey was distributed to 175 farm businesses. Fifty-one accessed the survey, and 49 accepted the consent form and proceeded into the survey. Only 46 continued past the first question, 45 past the second question, and 42 followed the survey all the way through. Based on 42 responses, the response rate is 24%. These results are outlined in Table 14.

Table 14: Survey response rate

Case	Number of invitations	Number of responses	Response rate
Electronics EPR	120	15	12.5%
Marine	30	10	33%
Agriculture	175	42	24%

Baruch and Holtom (2008) conducted a meta-analysis of 463 studies conducted in 2000 and 2005 that included surveys of organizations. They found that a statistically significant lower response rate was obtained for surveys of organizations rather than individuals, and suggested a response rate of 35-40% for organizational surveys. However, Baruch and Holtom were concerned with nonrandom samples of definable populations where a random sample is sought, whereas in purposive sampling, the adequacy of the response rate to a survey is assessed differently. A qualitative inquiry sample may seem small compared to a sample required for representativeness, but the purpose is not to generalize to a broader population but to have a large enough sample to help answer the research question (Patton, 2002). In this thesis, the ability of the surveys to help answer the research question is supported by the variety of informants who responded to the survey (size or location of business for example) and the attempts to ensure the survey was completed by the person in the business identified as the most knowledgeable in answering the survey questions. However, the limited number of responses may affect the external validity of the survey response, as will be discussed further in section 4.6 (Strengths and Weaknesses).

4.6 Data analysis

Data analysis followed the iterative spiral process outlined by Miles and Huberman (Cresswell & Plano Clark, 2007; Miles & Huberman, 1984). First, the information was generally reviewed. Second, the interviews were analyzed using initial coding categories identified by the literature and questions, but the codes were added to and adjusted as necessary to reflect the data as it is collected, going back and forth between the data and coding to ensure that all subjects were covered and there is no duplication. In total, the interviews were reviewed three times for coding:

initial application of codes, again to refine the codes, and third, to check that the refined codes were appropriate. HyperResearch software was used for the coding: for the initial application of codes identified 51 codes for the electronics sector interviews, 28 for the marine sector interviews, and 53 for the agriculture sector interviews. A second review of the data reduced the electronics sector codes to 50, the marine case codes to 26 and the agriculture case codes to 47, as well as refining the name of some codes and recategorizing some of the interview content. The codes were then grouped around four subject areas: (1) definition of environmental leadership, (2) motivations for environmental leadership, (3) challenges to environmental leadership, and (4) implications for the role of government and, more specifically, the policy instruments provincial governments could employ. The grouping of codes facilitated analysis across the three case studies. Frequency of each code appearing in interviews was calculated using HyperResearch, then verified by cross-referencing the totals against each interview so that a code mentioned multiple times in one interview was only counted once. Appendix 7 includes the codes used for the interview analysis and the frequency with which each was mentioned. The surveys were analyzed by first identifying the number and percentage of informants who provided particular responses to each of the questions. Second, the responses to the survey questions were cross tabulated against information provided on the size of the firm, in order to assess Proposition 7.

4.7 Strengths and limitations

Four issues must be addressed in designing research: construct validity, internal validity, reliability and external validity (Yin, 2009). Yin explains that construct validity involves identifying correct operational measures for what is being studied and can be addressed by using multiple sources of evidence (e.g.: multiple cases, documents) and by having key informants review the draft report. In this thesis, construct validity is addressed by the development of a framework based on propositions from the literature, but refining the framework to take into account the findings from the data. Construct validity is also addressed by triangulation of data from different sources: documents, interviews and surveys; three case studies; and different provinces. Internal validity relates to causal explanations and is not relevant to exploratory or

descriptive studies though can be addressed through the use of logic models (Yin, 2009). In this study, internal validity is addressed through development of the logical link between the literature, the propositions developed, the questions asked in data collection, and the conclusions drawn from the analysis of the data. Reliability involves demonstrating that the study can be replicated with similar results and can be addressed by the use of a case study protocol, which contains the instruments (survey, interview questionnaire), and the procedures and general rules, names of sites to be visited, contact persons, types of evidence expected, roles of people interviewed, events observed, documents reviewed when on site, preparation before site visit, guide for case study report (outline, format), letter of introduction and credentials to present at interviews (Yin, 2009). This study includes a case study protocol, including a data management plan, telephone/email script, transcription guide, interview guides, surveys, and lists of organizations interviewed or surveyed.

External validity refers to how generalizable the research findings are, and is always limited with case studies because case studies involve an in depth look at particular circumstances (Yin, 2009). In this study, external validity is strengthened by the use of three cases, but the results are nevertheless limited by the research methodology of selecting a deeper look at three cases and three types of environmental leadership rather than a broader look across sectors. External validity is increased by surveying samples of businesses within each case study from other provinces, but is limited by the primary focus on British Columbia. The number of responses to the interviews and surveys also affect external validity. Roughly half of the invitations in each case resulted in an interview. The response rate for the surveys was lower. While "[t]here are no rules for sample size in qualitative inquiry" (Patton, 2002, p. 244), there is the risk of a nonresponse error in which the people included in the sample are different than those who did not provide a response (Babbie, 2010). Those who participated in the interviews or surveys may have been the informants most interested in the question of environmental leadership, or those comfortable with their record of compliance. For example, the majority of the agriculture survey informants were organic farmers (26 of the 41 who answered the question on type of farming), and only organic associations agreed to participate in an interview. The higher number of organic informants may have increased the emphasis in the results on organic farming practices being necessary for environmental leadership, compared to the potential responses from conventional

farmers who would be more likely to consider compliance with conventional regulations sufficient. Further, in the EPR sector, 77% of responses were small businesses. With a larger sample, more responses from medium or large companies might have been received, possibly resulting in different perspectives. Larger companies are more likely than small ones to have designated environmental management staff, therefore with a larger sample size, more responses might have been received from firms that actively consider environmental issues and try to go beyond compliance, rather than focusing on compliance with recycling targets and the complexities of product categories.

Roulston (2010) conducted a review of the literature regarding interviews and summarized a number of the key critiques of interviewing as a methodology. These include the data being biased by the subjectivity of interview participants; the participant may deliberately mislead the interviewer by, for example, not mentioning unflattering information; and bias of the researcher in transcribing and analyzing the data. In this thesis, interview informants may have enhanced the positive elements of their environmental track record while downplaying negative aspects. They may also have deliberately omitted to mention any record of noncompliance. In addition, although most interviews were recorded and transcribed word for word, this process inevitably introduces an element of interpretation on the part of the researcher.

Roulston identifies a number of approaches to ensuring the quality of interviews. These include: (1) the use of multiple methods; (2) conducting interviews with a variety of people to obtain different perspectives; (3) conducting multiple interviews with one participant; (4) avoiding leading questions; (5) documenting the process so that interviews may be replicated; (6) allowing people to check the transcription of their interview; and (7) interviewers attempting to be sensitive to their own views. In this thesis, multiple methods were used, interviews were conducted with a variety of people, interview questions were open ended in order to avoid leading questions and to enable informants to identify and articulate their views themselves, and documentation of the interview process including the interview guide. In addition to using open ended questions, the emergent research approach enabled the interviewer to reconsider and adjust the propositions of the research based on the interview and survey results. The interview informants were not provided with the opportunity to review their transcripts because the results

are not solely based on the interviews, the potential bias that may arise from not all participants following through on reviewing their transcript, because not all interviews were recorded and transcribed, and because informants may have taken the opportunity to edit the transcript in a way that reinforced any tendency to downplay negative elements rather than reduced it. In a study of interviews of health professionals in Canada, Hagens, Dobrow and Chase (2009) found that interviewee reviews of transcripts did little to improve their accuracy.

Fowler (1993) identifies four threats to validity in the use of surveys: the respondents do not understand the question, do not know the answer, cannot remember the answer, and do not want to report the answer. The first is addressed in this study by using the recommendations from Dillman's Tailored Design Survey Method (2007) and by pretesting the survey on a small group prior to distribution to all respondents. To address the second and third issues, respondents were be given an option in the question to indicate that they do not know or no longer know the answer, so that they were less likely to select one of the other options or leave it blank, rendering the response unusable. In addition, attempts were made to identify the person the most knowledgeable about the appropriate time frame prior to both distribution of the survey and conducting the interviews. The fourth issue, of respondents not wanting to report the answer may arise due to concerns about identifying noncompliance or reluctance to reveal internal business discussions. This threat to validity was addressed by providing the respondents with full confidentiality of their responses.

Within the electronics EPR case, the validity of the results is also affected by the international nature of many electronics companies that do business within Canada, with head offices being located outside the country yet this thesis being limited to representatives within Canada. In addition, the ability to identify the most knowledgeable person to participate was limited by the difficulties navigating past the customer focused online portals of most companies to receive a response and identify someone for the interview or survey, compared to the marine and agriculture cases, where it was more likely the phone would be answered by the business owner him or herself. The challenge of obtaining participants in the EPR case was addressed by attempting multiple modes of contacting companies and their representatives, and by gathering data from a variety of electronics companies in Canada, representing international, national and

local enterprises. Reflecting the emergent research approach of this thesis, the insufficient data received (particularly in the electronics EPR sector) was taken into account in revising the conceptual framework to reflect the results.

A limitation of the interviews in the marine sector is that although several invitations to participate were extended, no representatives of marine associations (such as Green Marine) participated, and nor did officials in any province other than British Columbia. However, the results of the research indicate that the Green Marine program is less important to companies in Canada than originally anticipated. Larger businesses such as ports noted that the Green Marine program is not robust enough to meet their needs, but may be useful to smaller businesses like tenants. Some of the smaller businesses had not heard of the program however. In order to expand the number of responses in the marine case, the sample was expanded beyond British Columbia and one other province (Nova Scotia) originally selected. The survey was sent to all the marine companies identified in four provinces that agreed to complete the survey and that were not corporately linked. As a result, the sample includes a cross section of the types of companies in this sector (three ports, five shipping companies, two stevedoring companies, and two terminals), as well as representatives from the four major maritime provinces on the east coast, west coast, and central Canada.

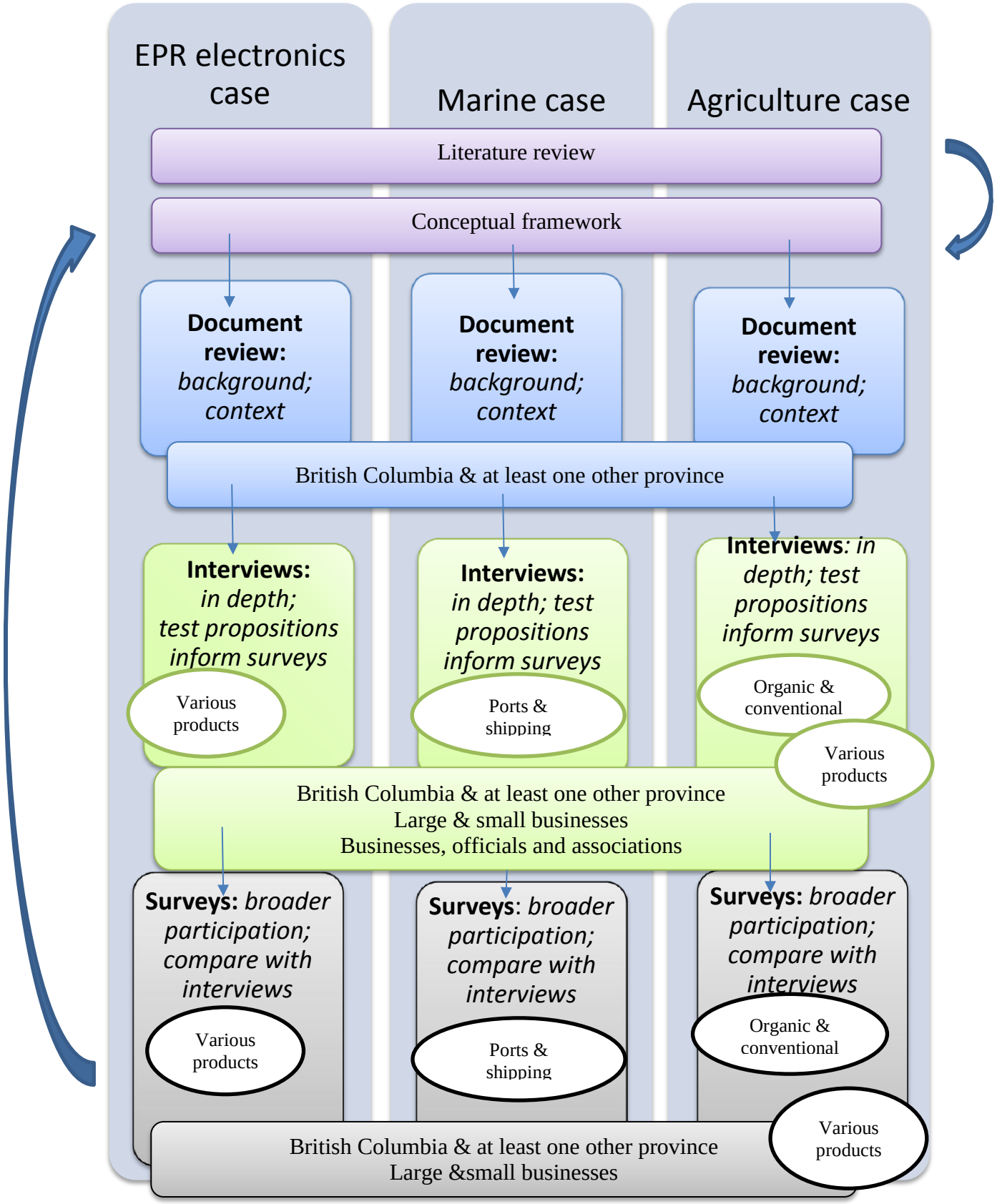
Limitations specific to the agriculture sector relate to the sheer diversity of the sector in the size of the farms, types of produce, organic, conventional, following a certification program, not following any type of program, location, and local or wider geographic distribution. Limitations of focusing on one particular sector were addressed by attempting to interview or survey across the sector, but the trade-off with this approach is that the number of informants from any one agricultural context is small. The strengths in this sector are that data from two very different provinces was gathered. Farming in British Columbia includes a wide variety of crops, but comparatively few grain farmers, whereas Manitoba's farm industry is less diverse but includes a high number of grain farmers. In addition, almost all responses were from the owner –farmer, i.e., someone who is clearly in a position to know the business and make the decisions. A further limitation is the high representation of organic farmers in both the surveys and interviews, which

may indicate a bias in the results towards informants interested in environmental leadership or at least not concerned about their environmental track record.

4.8 Summary

The methodology used for this thesis is a multimethod, emergent approach, with triangulation of sources of data. Three case studies were used, and within each a document review, interviews and surveys were conducted. The informants from the interviews and surveys include a variety of different businesses based on size, location, product, and membership in a voluntary program or other demonstration of environmental leadership. The methodology is emergent in that the literature review informed the development of propositions that guided the research, but remained open to revision based on the results of the research, including whether sufficient data was received. The interview results were used to modify the surveys, and together the results from the interview and surveys were used to modify the conceptual framework developed from the literature. This research design is summarized in the following diagram, Figure 5.

Figure 5: Summary of the multimethod and emergent approach



CHAPTER 5: Results

5.1 Introduction

This chapter outlines the results received in the data collection for this thesis. The responses are organized by case, starting with the electronics EPR case, followed by the marine case, then the agriculture case. The overall results of the data collection are summarized at the end of this chapter and organized around four themes that emerge from the data: (1) environmental leadership; (2) social licence; (3) corporate culture and leadership; and (4) learning within a firm. The interpretation of the results will be discussed in Chapter 6: Analysis.

Within each case, the interview results are discussed first because they were conducted first, followed by the survey results. Quotes from interview informants are utilized where the direct words of the response are effective in illustrating the nature and tone of the responses. Survey responses are conveyed primarily through identification of key points or themes. Charts summarizing the responses indicate the number and percentage of respondents who provided a particular response, but the results are not primarily identified through the use of percentages or numbers of responses due to the small number of responses to many questions, as well as the qualitative nature of the research and combination of surveys with interview results in the analysis.

5.2 Electronics Extended Producer Responsibility: A case of compliance and coordination

5.2.1 Interviews

Environmental leadership

In defining environmental leadership in the electronics sector, interview informants used a variety of terms and identified a number of potential actions that would, in their opinion, qualify as environmental leadership. Informants identified corporate social responsibility, reducing business footprint, taking voluntary steps, managing the life cycle of products, and demonstrating thrift as general steps for environmental leadership. A more specific action

mentioned by one informant was taking steps to reduce toxins in products a company manufactures or distributes.

"Corporate social responsibility" was referred to by two informants as defining environmental leadership, and includes employee and community engagement. Employee engagement was defined as how to talk to customers, and educating employees to avoid greenwashing. For example, training employees not to mislead customers by claiming their product has an environmental benefit, but to more specifically describe the impacts of a product. One respondent stated: "There's no product having an environmental benefit. Every product has some sort of impact, so an alternative to saying your product is environmentally friendly is to say there's less impact on the environment." Community engagement could include participation in shoreline cleanups, or education initiatives, and the establishment of advisory groups to discuss address community concerns about a port's impact on a community.

Some companies have developed their own internal programs to reduce their environmental footprint by reducing energy and paper consumption, and others have entered into partnership with nongovernment organizations such as the World Wildlife Fund (WWF) in order to leverage the environmental knowledge of the NGO in helping to reduce corporate impact. A few of the marine companies have partnered with WWF too, as discussed in the marine case study results section of this report. Examples of environmental leadership to reduce the business footprint involve reduction of internal waste, using recycled paper in house, composting in lunchrooms, scheduling deliveries to reduce unnecessary trips, and putting in place a Vice President responsible for continual evaluation and improvement of the company's environmental initiatives.

While the CSR steps of corporations are voluntary, four respondents focused on the voluntary nature of the steps taken, rather than describing them as "corporate social responsibility." To one respondent, environmental leadership means writing high standards for electronic recycling, and voluntarily doing so. While this respondent did not mention redesign of products as part of environmental leadership, he emphasized the voluntary nature, and rigorous standards for recycling, that should be taken seriously by companies and subject to audit across the country.

Another respondent described an environmental leader as “somebody who is taking a position on environmental issues or taking concrete actions or steps that go above and beyond their regulatory duty.” The voluntary steps could take the form of involvement in an industry working group formed to develop voluntary national standards for energy efficiency of their equipment. Although not using the phase “corporate social responsibility”, one informant described environmental leadership in a manner consistent with how CSR is often described in the literature: triple bottom line, and involving various aspects: (1) the upstream side in which environmental responsibility is considered in what the firm buys, (2) recycling, and (3) internal energy use of the firm, including environmental education on issues such as how to reduce corporate energy use (Malloch, 2013; Sratos, 2007). One informant focused on the reductions of toxins in describing environmental leadership. Environmental leadership in his mind specifically means not manufacturing or distributing equipment that contains hazardous substances like lead, cadmium, bromide flame retardants, or mercury.

Managing the life cycle of products was identified by three respondents as integral to environmental leadership. Life cycle management was defined as closed-loop supply chain management, or “take back of those products in a proper, environmentally sound management which would include recycling and recovery.” Supply chain management was illustrated by one informant as “the photocopier model” in which the equipment is not actually bought but is leased. The advantage of this model from a life cycle perspective is that if the companies know they are going to own it they will put more effort into maintaining it and designing the products with the full life cycle in mind. This can be encouraged by procurement policies of governments and large corporations that involve entering a service contract for electronic equipment rather than to purchase it outright. Large volumes of leases and take-back of products also assists in the refurbishment and resale of those items.

Supply chain management requires specific internal steps for a company to implement, such as a system to track their equipment. One respondent explained that there are two streams in which consumers receive electronic equipment in their homes. One is the lease or lend model in which the consumer receives the equipment on loan as long as the services (i.e., cable or wireless communications services) are received, then returns the equipment to the company for a credit

once the consumer does not want the equipment any more. The second model is for consumers to buy the equipment outright, which has become more popular as electronic equipment becomes less expensive and as the appetite for the latest innovation grows. Under the lease/lend model, the company has more control over the equipment and can track it on the consumer's account. However, where the equipment is purchased, it is a regular retail transaction and vendors usually do not track what happens to the equipment once the product is paid for, and the equipment becomes part of the recycling stream at end-of-life (if disposed of properly) rather than an ongoing responsibility of the company that manufactured or sold it. As a result, companies interested in life cycle management have to develop new ways to track equipment. In addition, whether or not the supply chain management model works will depend on the particular product. One respondent noted that with packaging, the current model involves buy, consume, recycle and putting the product back on the commodity market. But for products that have a lot of added value (through the manufacturing process), companies can recover the value invested in the product by taking it back and reusing the materials.

One of the informants described environmental leadership as something that is not new at all, but is simply a new term for what people used to do before an era in which everything was considered plentiful and replaceable: "thrifty living". In some places in the world, resources are still approached this way – considered high value and too precious to waste or throw away. It is for this reason, the informant surmised, that recycling rates are not high in communities used to shortages (such as new immigrants to Canada). Rather than throwing items in the blue bin, those communities use less to start with, and when they do purchase something, they use it over and over again. From that perspective, a high recycling rate is not a demonstration of leadership. With higher demand on commodities, their value will rise, and reuse will drive the thrifty living again. For some commodities, this is already occurring, leading to the term urban mining or above ground mining. As the natural resources for electronic become more scarce and the prices go up, the alternate sources, from recycling and reuse, becomes more attractive.

The conclusions of one informant regarding what is "environmental leadership" in the electronics EPR case study summarizes the responses of informants in this case study:

> So to the extent the industry fulfills [life cycle management] objectives, to the extent they design their equipment to reduce the use of toxic substances of concern and design their equipment for enhanced recyclability and enhanced disassembly….that they in fact embrace and take on responsibility for the end-of-life management, that's what leadership would look like to me in the electronics field.

In summary, to the interview informants, environmental leadership is a sense of social and environmental responsibility within the company, combined with concrete actions to do more than legally required.

Motivations for environmental leadership

A number of motivations for environmental leadership were identified by informants: consumer influence, public education, employee concern, business case, scarcity of resources, regulatory requirements, corporate culture, and employee and investor interest, and pressure arising from industry working together. Consumer influence and the business case for demonstrating environmental leadership were the most prevalent. To some extent, these two factors are related because influence of consumers impacts the business case for a company to take certain actions. The distinction is in the degree: informant responses that addressed the financial bottom line of the company, or the business case generally (such as cost-savings), were coded as business case. Responses that focused on the influence of consumers in impacting company reputation or sales generally, aside from financial impact, were coded as consumer influence.

The theme of consumer influence involves a couple of different aspects. One is innovation, in that if a company innovates for environmental reasons, it has to result in a product that consumers will buy, or the "global market will run you out of the park." US, Canadian and European consumers are becoming more concerned about the environment, and if companies can make their product both environmentally friendly and something consumers still want to buy, it will drive design changes. It is often difficult to determine what is more "environmentally friendly" however. Informants noted that the issue of what is a "sustainable" source of components is the subject of debate in the electronic and environmental fields.

Innovation in the electronics sector has also been credited for inadvertently addressing environmental issues. The miniaturization of devices is one example – by making cell phones, televisions and computers much smaller and lighter, and therefore more appealing to consumers, the amount of materials that goes in to each device (and energy required to transport) has gone down, taking "huge volumes out of the recycling market" and resulting in a shift in some sectors, such as music, to downloading, where for each additional song downloaded, there is virtually "no footprint" and "you've actually taken it to the ultimate level where there's absolutely no residue left over from the sale of a song now that comes down your computer via iTunes."

A second aspect of consumer influence is the debate around how much influence consumers actually have. With the exception of the one respondent who believed otherwise, the view that consumers have little influence was shared by all informants, be they businesses, from government regulators, or EPR associations. One respondent said that although some labelling programs such as EnergyStar exist, consumers "don't really have the ability to make any educated decisions" on what electronic products are more environmentally friendly than others. When a consumer buys a product, salespersons will focus on "the number of copies that are spat through the machine" and other features, but not focus on environmental issues. The fees set to support recycling programs are also of little assistance because the fees are the same for each type of product, for example, laptops, regardless of whether they are easily disassembled or whether the mercury plate can be removed. Therefore no information and no direct financial incentives exist from the consumer up the product line.

The third aspect is the issue of how much consumers actually care about the environmental sustainability of the products they buy. One informant stated that customers do not care about what happens to their computer at the end-of-life, they only care about what happens to their data. Most consumers are unaware of electronics recycling facilities and where to take their old equipment. Most "just want to get rid of their equipment without throwing it in the landfill and are happy for us to take it." Related to consumer influence, one respondent referred to increased government efforts to educate the public on how and where products can be recycled, the importance of recycling, and purpose of fees as having a general influence on companies because as a result, there is a public recognition of the importance of "making sure that stuff doesn't just

get tossed in the garbage." Consequently, fees and recycling have become a standard part of the electronics business, at least in British Columbia.

The concept of business case as a motivator for environmental leadership is linked to the competitive edge a company can give itself if it is able to combine environmental improvements with something that's more marketable: "To me that's always one of the best motivators, is that if you can mix green with profit, that's true sustainability because it doesn't rely on anything else." One of the motivators for large companies is the business case for deploying products multiple times to avoid the need to seek new materials. One informant stated that a reason his company got into recycling and redesigning products early on (in the 1980s when commodities were relatively inexpensive) is because looking to the future, they could see that the cost of commodities would likely go up. Consequently, they decided to develop the technology early on to dismantle and reuse products, finding ways to design the products so that it could be manually dismantled and fed through a shredder, developing snap together components rather than ones that are glued together. Another motivator is cost reduction. The example given for this was with respect to packaging, not redesigning electronic products: major retailers such as Walmart and Costco have moved to stocking smaller, lighter containers of condensed liquids such as detergent, rather than larger, heavier plastics with less condensed contents. This approach saves on transportation costs and shelf space, but also has environmental benefits of reducing packaging and greenhouse gas byproducts of transporting heavier goods.

The business case for redesigning products relates to another motivator: the desire to stay ahead of government regulations. Looking ahead, some corporations could "read the tea leaves that government was getting interested in this space," that new requirements regarding recycling or EPR were pending, and preferred to be proactive and take a role in shaping those regulations or reducing their necessity. Some informants mentioned that regulations were required to force a reluctant electronics sector to be more environmentally conscious. Other informants were more proactive. One informant said:

> You get the legislation you deserve. So if we don't provide leadership as a business, and help provide solutions, then the government absolutely has to, it needs to step in and provide law and regulation to deal with that.

The existence of regulations were identified as a key motivator in Ontario, where "environment minister after environment minister…tout out [sic] a few examples of companies that are doing great things around waste diversion" but the actual amount of waste is going up and the percentage of waste diverted has "pretty much remained stagnant for the last twenty years." This informant argued that when it comes to waste, at least in Ontario, "you need other drivers...than simple good will." The European Union Reduction of Hazardous Substance restrictions on the use of particular metals have also been "a major driver."

The anticipation of regulation, particularly where other jurisdictions are more stringent, drives businesses to try to stay ahead: "If at the end of the day the regulation says we want Energy Star 2.5 and everyone's already producing 3.0 we probably don't need the regulation." The proactive approach is not something the electronics sector has historically embraced and one informant stated that "without those regulations, I don't know how far along [our company] would be in terms of recycling non-valuable products." Another stated: "All of these EPR regulations are in place because there was a complete failure on the part of the industry to take any responsibility for the end-of-life management and a complete failure in the market place to drive enhanced recycling and...you know, through prices or recovery or precious metals and so forth." Some informants argued that the absence of a "level playing field" inhibited voluntary action.

Corporate culture was also identified as a significant motivator for businesses to exercise environmental leadership. One informant, a government official, noted that some stores such as London Drugs are known for taking back anything the customer returns, because of a corporate culture infused with social responsibility. Companies that have a strong sense of connection with, and responsibility towards, the communities in which they operate will be motivated to demonstrate loyalty to the community through philanthropy and environmental leadership. The interview informants from larger, national or transnational companies identified a sense of global citizenship and corporate values as motivators in environmental leadership. So although Canada's place in the international market is too small on its own to motivate changes at companies, Canada benefits from the efforts of international companies to improve or maintain their reputation for environmental and social leadership.

A further motivator identified by informants was the influence of employees and investors. One respondent stated that the fact his company is a privately owned one made it easier to make decisions based on a corporate culture of social responsibility. However, others that are publicly traded identified the stock markets and investors as strong motivators. The influence of investors is perhaps more conventionally understood, through their interest in ensuring the company in which they have invested reaps the benefits from a good reputation and solid social licence. It is not only direct investors in companies, but mutual funds and other investment firms that require increased disclosure from corporations on their environmental performance, "and that's not just the 'ethical' funds" that require disclosure. Employees concern relates to individual employees' environmental conscience, which they take to the office with them and drives decisions on how they recycle or use energy at work. Investors, consumers, and employees are not entirely separate categories of citizens, therefore what is concern to a corporation is "what is of concern to [our employees] and the broader public, who also happen to make up our customer base."

Finally, two informants identified the efforts of industry to work together as a motivator for environmental leadership. Cooperation has had some successes, such as retailers getting together and purchasing more recyclable packaging, which encouraged an overall change in packaging. The cooperation helps share knowledge and informing the marketing and sales departments of environmental issues "so they can have a more informed conversation with their customers."

Challenges to environmental leadership

Despite the multiple motivations for firms to demonstrate environmental leadership, there are a number of significant challenges to doing so. By far the most common challenge identified by informants in this case study was the limited influence they or their company have in the international market and the remoteness of their business with their foreign corporate owner.[11]

[11] Statistics Canada reports on foreign ownership of businesses in Canada (Statistics Canada, 2011) but does not break down the information to specify the electronics sector. However, of the electronics EPR case participants in the interviews, the only large, multinational company is Asian-owned, and 22 of the survey participants were international companies with head offices outside of Canada.

Two other significant challenges were lack of harmonization between governments in Canada and the competitive pressures of operating in a free market system. Other challenges included uneven enforcement by government, lack of education or understanding, and the institutionalization of recycling that has occurred over the past few decades.

Canada's relatively small place in the international electronics market was identified as a major factor in limiting the influence regulators have over the design of products. The way provinces design their individual regulations can increase their leverage over importers. For example, British Columbia's legislation is worded broadly so that anyone who sells in the province is subject to the stewardship laws (*Environmental Management Act*, 2002), compared to Ontario, which has a more bricks and mortar approach in which sellers do not fall under the legislation unless they have a physical site in the province. Seven of the interview informants noted that BC and Canada are just too small to make a difference in the international market. Instead, it is the larger European market, and the stringent EU regulations, that are driving a lot of the redesign of products to reduce toxic components, promote energy efficiency, and to reduce packaging. Some informants stated that with their company, the design decisions are made outside of Canada, usually in Asia, and when the products arrive in Canada, they "just slap [the company name] on whatever comes across in the shipping container." Further, the jurisdictional remoteness of the main office of the companies makes them "totally blind to local issues unless they've got a really good feedback system coming up from their field."

Another aspect of Canada's place in the international market is that Canadians engage in internet shopping and cross border shopping, which governments have not been able to address. One informant stated that government "may not fully understand the economic impact of trying to go it alone has that that puts us at an economic disadvantage." To illustrate this point, the interview informant described how goods are ordered on line and are shipped into Canada to the purchaser, or brought across the border to by the purchaser, in which case the federal government would be responsible for collecting any fees associated with the entry of the goods into the country. However, the provincial governments have not put in place the legislation or agreement with the federal government to collect the provincial stewardship fees. As a result, the effectiveness of the provincial stewardship laws is reduced. The root of the problem, in the informant's view, is that

governments have not kept up with the changes in the marketplace and still view issues from a primarily jurisdictional perspective:

> So, what you're creating through governments – feds and provinces – not working together, and not understanding the modern marketplace isn't British Columbia, it is the world, that at one point you know in electronics, there's going to be a tremendous amount of unfunded…products that no fee has been collected against, and which we're still expected to process. And who's expected to cough up that fee? The local retailers that sold the product but the local retailers didn't get the benefit of that sale. So we're really rewarding customers through the government's not understanding how global the economy is today.

Lack of harmonization of regulations across Canada was a further major challenge, because it creates an administrative burden on businesses and is confusing. Filling in the forms and remitting the fees is a regulatory burden particularly resented by many businesses not because it has to be done, but because of the unnecessarily complicated nature of the forms given jurisdictional differences across Canada. This challenge is compounded by the fact that businesses are not operating in a national or provincial market, but an international one. A fair amount of frustration was expressed with the lack of progress in harmonizing product categories and fees across Canada. As one informant stated:

> What I think is happening is that … waste and recycling is a provincial jurisdiction, but most of the companies that are putting out major amounts of electronics have a national or international scope. And so for the majority of companies that are selling … large quantities of electronics, they're dealing with all these different provincial regulations and they really need to be coordinated and synced up.

Another challenge identified is the fundamental nature of the free enterprise economic system in which companies operate. At a simple level, it means that companies must always keep their eyes on "the bottom line", which requires legislation to force environmental decisions that would

not voluntarily be taken by businesses. In this respect, Canada, and British Columbia in particular, were identified by informants as more understanding of the need for regulations than other jurisdictions. One informant recounted going to business meetings or conferences in the US, where the stewardship laws in Canada were considered the product of "communist redhorns." Another noted that in Alberta, the idea of any type of tax, including a stewardship fee, would be unpopular, whereas in British Columbia it has been relatively uncontroversial. In that informant's opinion, acceptance of the fee has a lot to do with confidence the public has that the fee is going to the stewardship programs it is supposed to fund. More generally, the challenge of free enterprise is that a lot of public companies are "so driven by market forces that anything that looks like it could immediately take profit away from that quarter, that they're under such pressure to eliminate those types of costs," that those companies do not have the opportunity to consider the long view in the way a privately owned company could. The "market doesn't reward…publicly traded companies for being good stewards at this point unless it adds immediate…economic value."

The lack of education, combined with the complicated regulatory framework across Canada, has reduced the credibility of EPR programs and created challenges for environmental managers within companies in explaining and motivating the rest of the company to take additional environmental measures:

> I have a Master's degree in environmental education, and I've run environmental education programs for 15 years, but I can't start to educate anyone in my company about environmental regulations on the e-waste side, it's a full time job. It took me three months to learn all these different regs and all the different product categories and all the different EHF fees, and then to try to educate someone how to apply those different regs to 40,000 products that we sell, it's almost impossible you know. So I wouldn't try to run an education program on this, it's a mess. Right now we're just trying to get by and make sure we're in compliance enough so that we don't get charged with anything.

Informants noted enforcement as an issue. One aspect of this issue is inadequate enforcement of the regulations against exporting full units. Some businesses have the programs and equipment in place to collect and dismantle electronics, and are paying for those, while other companies continue selling the full units without penalty. As one informant stated, a regulation would "only work if the materials didn't simply leak out of the province." A high disposal levy may contribute to leakage because companies seek out ways of avoiding it. The regulation Ontario put in place in 1994 was provided as an example of this (*Waste Audits and Waste Reduction Work Plans,* 1994). Under this system, businesses were required to conduct waste audits, to prepare waste reduction plans, and to separate certain materials. According to the interview informant, the system did not work, partially because there was no way to enforce the regulations without government having to "send staff to thousands of points of contact" and government could not do that. The regulation did not focus on outcomes and as a result, the regulation was not "actually forcing companies to recycle or divert materials, you were just making them do plans." Another example provided of government establishing regulations which it has difficulty enforcing are the packaging regulations that have been put in place in Ontario, Manitoba, and most recently British Columbia, in which industry pays the full costs of packaging instead of municipalities. One informant stated that with these programs, government could do a better job of "going after the companies that are producing materials [that go] into the Blue Box program." Internet based companies that do not have a physical presence in Canada do not pay the packaging fees, yet their packaging ends up in Blue Boxes. As a result, government is "just downloading these costs onto the stewards that are being responsible."

A challenge identified that is specific to encouraging redesign of products and reduction of waste is the recycling infrastructure that has grown over the past few decades. Governments initially focused on recycling, established regulations, fees, education programs and organizations to support recycling, and now those structures themselves pose a challenge to moving to EPR. The recycling system "does create this dynamic where for some, you've set up an alternative sort of waste disposal system…rather than truly internalizing the costs of end-of-life management and then letting it drive their behaviour." A further aspect is that once the stewardship agencies are established, they "take on a life of their own" and have a vested interest in the status quo. Both business informants and government officials who participated in interviews noted that the

stewardship agencies are not particularly interested in EPR because they have no incentives to be interested. Their "finances and their jobs are tied" to recycling. Aside from redesign of products, another informant noted that the emphasis on recycling takes away from reusing products and stated that the promotion of reuse is an overlooked component of the effort to reduce waste.

Although informants were only asked about the electronics sector, responses of a few informants included discussion of paper and packaging EPR. This occurred partly because electronics are usually sold in packaging, so from the producer's point of view, the two are connected. It was also because at the time, there was controversy in British Columbia regarding the province's move towards a producer-pays model for packaging, shifting away from municipally-funded recycling programs. The primary concerns with this new program were that there had been a lack of consultation with industry by the government.

In summary, within the electronics sector, the main challenges identified were lack of influence in the market place to drive change, and overly complicated, unharmonized regulations across Canada. The lack of harmonization and complexity of the regulations was repeatedly mentioned as a source of frustration, and as a reason why businesses focus on compliance rather than on trying to go beyond compliance.

Policy implications

The policy suggestions raised by informants were numerous. The most frequently mentioned were to the need to clarify and harmonize regulations and to establish "a level playing field." Collaboration with industry was identified as important in advancing these two goals. Informants also suggested that government could encourage EPR through procurement policies or mandatory warranties, rewarding early leaders and publication of program performance. Other suggestions included not discouraging reuse of products; to establish systems for supporting the life cycle approach to products; to do a better job of exploiting the current opportunities and markets for materials; to obtain better data; to educate the public, and to consider the fee structure carefully.

The need for governments to harmonize their regulations was emphasized by several informants. This includes harmonization of product categories, but also consistent reporting requirements. Whether or not harmonization is the sole responsibility of government or something industry can address is a point of disagreement. Through EPR Canada, industry has initiated work to harmonize product categories, "so a printer is a printer in all provinces, and it has the same environmental handling fee." Measuring and reporting on program performance was identified as an area where government has particular responsibility to set targets, enforce them, and to report out on the results. One informant discussed the concept of a modulated fee, in which the fee is based on the recycled content of the product, the life span, and other environmental impacts. Quebec's regulations were provided as an example of this (*Recovery and Reclamation of Products by Enterprise Regulation*, 2011).

The role of government in "levelling the playing field" was also identified:

> Government has a critical role in levelling the playing field. I mean one of the reasons why the industry … was initially arguing why they couldn't do this… without a regulation is that they couldn't guarantee that all their competitors would meet the same requirements. So that's a critical job of government. I mean they, they have the capacity to regulate these kind of programs to ensure that anybody who manufactures, brands, sells into the jurisdiction, imports … or whatever is covered under the regulations so in fact everybody is playing by the same rules.

While one informant, a government official, stated that there had been little success with voluntary initiatives, one business informant stated that one advantage of a voluntary approach is that they allow smaller businesses to catch up over time rather than being put out of business by the expense of having to update all of their technology.

Clarity of regulations relates to how to operationalize the product categories under which fees must be collected and remitted. This is related to the need for flexibility because product categories can become quickly obsolete. Businesses are responsible for setting fees based on

product categories, under which it is difficult to classify items and maintain updated classifications. Businesses have to hire staff to determine whether their products fall within the regulations and if so, under which product category. For example, businesses have had to determine whether a GPS watch is a watch for the purposes of the regulation, or a GPS. They also have to determine whether the fact that a ball lights up makes it an "electronic" item. The process of categorizing items eats up an "enormous" and "inordinate" amount of time for businesses. The problem is confounded by the different categories in different provinces, which do not match and which establish multiple systems for businesses to learn and work within. Collaboration with industry is important. The role of government is "to state objectives and [set] very strong, clear, very clear guidelines of what they want to accomplish…with forms of measurement that private and government enterprises have to report in the future to make sure that they're achieving certain diversion rates." Informants stated that there should also be clear motivations and clear penalties for meeting the targets set by government. How should government do this? Steps identified by informants include clear targets, banning hazardous materials, allowing businesses to be creative in how they achieve the targets, and strong enforcement. Again, government should avoid enshrining particular product categories in legislation and include a degree of flexibility in regulations so that businesses can adapt over time. One questioned whether targets are ambitious enough and suggested that perhaps government have a closer look at them.

Collaboration with industry extends to working with industry to promote an understanding of change to regulations. Two informants commented that government needs to do more work to explain the regulations and identify those in the sector affected, particularly where the regulatory model does not require a permit that would bring the business to government. Expecting businesses to know the law and self-identify demonstrates a lack of understanding of the challenges businesses face day to day. As one interview informant stated: "what the government needs to realize is that for small companies that are just trying to get through the day you know, Bob's Cable, he's not reading the website for Phase 5 materials, to check for key milestone dates." Government should also find out who the key players are, and do a better job of reaching out to the industry affected by a proposal.

Informants also noted that companies may be reluctant to engage in beyond compliance activities if it incurs costs that others are not incurring. One way to address this is for government to provide rewards or incentives for companies to take additional steps:

> The scheme government sets up needs to reward the leaders and penalize the laggards and the more you're leading the more reward you'll get. It's not simply a line in the sand where you're either um, you know, doing just more than compliance or just less than compliance.

Examples of how this could be achieved were government procurement policies, in which government will only purchase products from "the highest and best performers," and better collection of performance data, accompanied by publication of the names of leaders. In order to implement procurement policies however, data needs to be improved: procurement is "dependent upon…there being good information on what substances exist within products, how they're designed…that kind of database information is not available in Canada." Other jurisdictions, such as Scandinavia and Europe, were provided as examples of superior data collection systems, in which detailed product registries are in place.

One informant stated that there is a robust reuse market (including resale, or charities that recover computers for use in schools) that should not be disturbed by the focus on recovery of products. The reuse needs to be encouraged at the consumer level. If consumers give their old computers to a recycling firm, which does not have the capacity to "do triage on 23,000 metric tonnes of material", the computer will be recycled whether or not it is truly at end-of-life. If however consumers are aware of programs that will take the electronics they no longer need, then a longer life for the goods will be encouraged. Another approach that encourages reuse is the leasing, rather than purchasing, of products. Governments can encourage leasing through its own procurement policies. In summary, some informants identified reuse rather than recycling as an important part of the waste management system that is often overlooked and suggested that governments find ways to promote it. Instead, the focus has been on recycling and meeting recycling targets. Another suggestion was to ensure the life of a product is extended, though mandatory warranties for example.

Two informants stated that government is not doing enough to exploit the markets and opportunities that the current waste management challenges provide. Rather than enacting (and inadequately enforcing) prohibitions against export of electronics, smelters and processors could be built in Canada to recover the raw materials. Instead, resources that could be recovered and reused are shipped overseas, while Canada either imports the raw materials back, or mines new resources within Canada. A life cycle approach to raw resources and recovery of products could also assist in addressing the cost of transportation of raw products.

One informant questioned the argument that visible fees make consumers more aware of the cost of recycling. In the context of EPR, this informant argued that the producer should fund the recovery of materials they sell, but that the cost should be another cost of doing business for the producer, along with shipping, distributing, and marketing. Further, the potential confusion of the fee with a tax poses a problem, and therefore impediment, to some governments putting fees in place. In Europe for example, there are no explicit fees consumers can identify – the producer is simply responsible for the product and that is built into the overall price. The level of fees was also identified as an issue. Where the level of fee is directly tied to the cost of recycling the material, there may be a greater incentive to reduce material or use more recyclable material. Finally, education of the public was identified as important. An example of this is contamination of the recycling stream by consumers attempting to recycle unrecyclable or dirty products.

In summary, to the interview informants, environmental leadership is a sense of social and environmental responsibility within the company, combined with concrete actions to do more than legally required. A number of motivations for environmental leadership were identified by informants, including consumer influence, public education, employee concern, business case, scarcity of resource, regulatory requirements, corporate culture, and employee and investor interest as well as pressure arising from other members of the industry.

One of the main challenges identified by interview informants were Canada's relatively small market size globally, and the resulting lack of influence of businesses in Canada on the international market. Within Canada, the single most important challenge mentioned was the administrative burden and confusion caused by inconsistent regulations across the country. As a

result, the main policy implication for government identified by informants was, not surprisingly, the need for governments to coordinate and harmonize regulations, particularly product categories. In addition, informants identified the importance of flexibility and working with industry, to avoid fossilized regulations based on outdated products.

As will be seen in the next section, the interview results regarding environmental leadership are largely consistent with the results of the surveys, with the exception that the survey results did not emphasize the need for harmonization as much as was articulated in the interviews. The survey did not directly ask about harmonization, but respondents were provided with the opportunity to specify "other" challenges and none identified harmonization.

5.2.2 Surveys

Direct comparisons between the interview results and survey results for each case are difficult. This is because the types of informants in each were different, with there being only business respondents approached for the surveys; the interview and survey questions were not identical, with the surveys being designed for larger number of response rather than in-depth discussions; and because the surveys were revised to reflect the interview experiences instead of attempting to repeat the interview questions.

However, the survey results supplement the interview results by reflecting many of the same themes. These include environmental leadership being defined as exceeding regulations and the existence of a CSR policy. Several of the survey respondents identified leasing rather than selling products as a mode of environmental leadership, possibly due to survey respondents being specifically asked if that was a factor, whereas the interview questions were more open ended. As with the interview response, motivations for environmental leadership include consumer demand and the vision of leadership within the company. Both the interviews and surveys identified the main challenges to environmental leadership as limited influence over the supply chain, and main motivations being consumer or customer demand and harmonization. Another difference between the surveys and interviews was that survey respondents placed

greater emphasis on competition from other businesses as their largest challenge. Suggested policy implications from the interviews were increased harmonization of regulations and cooperation with industry, increased provision of information to the public on recycling, and support for training and education within firms.

Of the 16 responses to the first question, "What do you see as the biggest challenge facing your business?" nine (56.2%) identified competition from other in Canada, three respondents (18.8%) selected competition from others internationally, and one identified keeping costs down. No respondents identified regulatory requirements as the biggest challenge facing the business. Three respondents identified other challenges as being the leading ones. These were shipping (price of gas, gas tax increase, tolls on bridges), finding new customers and the cost of marketing, and two respondents identified labour skills and shortages as their biggest challenges. Table 15 outlines the responses to this question.

Table 15: Challenges facing electronics businesses

What do you see as the biggest challenge facing your business? (Select one)

Response	Chart	Percentage	Count
Competition from others in Canada		56.2%	9
Competition from others internationally		18.8%	3
Keeping costs down (specify what type of cost)		6.2%	1
Regulatory requirements (specify)			0
Other (specify)		18.8%	3
	Total Responses		16

Keeping costs down (specify what type of cost)

#	Response
1.	Shipping, as the price of gas, gas taxes increase, tolls on bridges etc.

Regulatory requirements (specify)

#	Response
1.	Finding new customers; marketing and its cost.
2.	Lack of affordable skilled labour.
3.	Finding qualified, stable employees.

With respect to the second question informants were asked, all 15 respondents to this question said they strive for environmental sustainability through compliance with regulations regarding recycling. Five selected "exceeding regulations regarding recycling" and "offering the lease of equipment as an alternative to sale." Three selected "having a formal Corporate Social Responsibility policy", and three identified "redesigning products with end-of-life in mind." No respondent identified "other" steps they take for environmental sustainability. These responses are outlined in Table 16.

Table 16: How electronics businesses strive for environmental leadership

My business strives for environmental sustainability by doing the following:
(Check all that apply)

Response	Chart	Percentage	Count
Compliance with regulations regarding recycling		100.0%	15
Exceeding regulations regarding recycling		33.3%	5
Having a formal Corporate Social Responsibility policy		20.0%	3
Redesigning products with end-of-life in mind		20.0%	3
Offering the lease of equipment as an alternative to sale		33.3%	5
Other (specify)			0
	Total Responses		15

When asked to identify the extent to which they agree with the statement "my business doesn't pay a lot of attention to legal requirements for recycling and recovery of products because that's what stewardship agencies are for." nine disagreed and three strongly disagreed (Table 17). Two strongly agreed, and one neither agreed nor disagreed. This question was asked in order to probe how directly responsible for meeting requirements the businesses considered themselves to be.

Table 17: Role of stewardship agencies

Indicate the extent to which you agree with the following statement:	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know/not applicable	Total Responses
My business doesn't pay a lot of attention to legal requirements for recycling and recovery of products because that's what stewardship agencies are for	3 (20.0%)	9 (60.0%)	1 (6.7%)	0	2 (13.3%)	0	15

When asked to state how much they agreed with the statement "the following are a motivation for my business to meet or exceed regulatory requirements", seven (50%) agreed that addressing consumer or customer demand and concerns are a motivation. Four (28.6%) strongly agreed, two neither agreed nor disagreed, and one disagreed. Seven agreed that the motivation came from the goal or vision of firm leaders. Four agreed, two neither agreed nor disagreed, and one disagreed. Six disagreed that the motivation was due to reducing costs. Five neither agreed nor disagreed. Three agreed, and one strongly agreed (Table 18).

Table 18: Motivation for meeting or exceeding requirements

The following are a motivation for my business to meet or exceed regulatory requirements:	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know/ not applicable	Total Responses
To address consumer/ customer demands and concerns	0	1 (7.1%)	2 (14.3%)	7 (50.0%)	4 (28.6%)		14
It is the goal or vision of firm leaders	0	1 (7.1%)	2 (14.3%)	4 (28.6%)	7 (50.0%)	0	14
To reduce costs	0	6 (40.0%)	5 (33.3%)	3 (20.0%)	1 (6.7%)	0	15

Cross referencing the size of business with the reasons for exceeding regulatory requirements, it can be concluded that customer concerns are important to firms of different sizes who responded to the survey. Given the small number of responses, it is not possible to conclude from these results support for the proposition for a relationship between the size of the company and the responsiveness to consumer demands.

The next question asked the extent to which respondents agreed with the applicability of particular challenges to any attempt of their business to redesign products. Six (42.9%) agreed that the challenge would relate to not having any control over the decisions (supply chain). Five (35.7%) strongly agreed. One disagreed, one neither agreed nor disagreed, and one selected don't know/not applicable. Five (35.7%) disagreed that with there being no business case to redesign products. Four neither agreed nor disagreed, four agreed, and two did not know or found it not applicable. Lack of consumer demand was identified by six as a challenge, but four disagreed that lack of consumer demand is a challenge. Three neither agreed nor disagreed and two did not know or found it not applicable. With respect to whether a challenge to redesign is that it is already challenging enough to meet requirements, seven neither agreed nor disagreed, three disagreed, two agreed, and one strongly agreed. Two identified don't know/not applicable. These responses are outlined in Table 19.

Table 19: Challenges to redesigning products
The following challenges would apply to any attempt of my business to redesign products:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know/not applicable	Total Responses
We do not have control over decisions (supply chain)	0	1 (7.1%)	1 (7.1%)	6 (42.9%)	5 (35.7%)	1 (7.1%)	14
No business case to do so	0	5 (33.3%)	4 (26.7%)	4 (26.7%)	0	2 (13.3%)	15
Lack of consumer demand	0	4 (26.7%)	3 (20.0%)	6 (40.0%)	0	2 (13.3%)	15
It is already challenging enough to meet the requirements	0	3 (20.0%)	7 (46.7%)	2 (13.3%)	1 (6.7%)	2 (13.3%)	15

Respondents were asked to identify the top three things government could do to support environmental stewardship in their business sector. Nine of the 14 responses identified "provide more public information about sustainable products and recycling" as number one. Two identified "provide more education and training resources" and one each identified increase the strictness of current regulations, more consistently enforce current regulations, or produce more funding for research and development. Taken together, this ranking indicates that education, both within firms and to the public, is an important policy implication. The most popular second thing government could do was to provide more education and training (five responses) followed by both providing more public information about sustainable products and recycling, and more consistently enforce regulations.

Respondents were asked about consistently enforcing regulations because during the interviews it became apparent that some informants were not concerned that regulations are insufficiently stringent, but that enforcement is lacking or erratic. No respondents selected "increase the strictness of current regulations" as their third choice. Taking these responses together, the top three things government could do to support environmental stewardship in the electronics sector are: (1) provide more public information about sustainable products and recycling, (2) provide more education and training resources, and (3) provide more funding support for research and innovation.

The last question asked respondents to share any other thoughts they have on what government could do to make environmental sustainability easier for their business. Of the ten responses, four included the call for some form of standardization or harmonization across Canada. Three suggested public education, two suggested greater reliance on market mechanisms rather than government intervention, and two simply suggested less government intervention.

In summary, the biggest challenges identified by survey respondents are competition, internationally and nationally. No respondents to the survey indicated that regulatory requirements are the largest challenge, and compliance with regulatory requirements was identified as the primary means of achieving environmental leadership. Exceeding requirements regarding recycling, and leasing equipment were identified as the primary means of demonstrating environmental leadership. Only 20 percent (three informants) identified redesign

of products or corporate social responsibility programs as demonstration of environmental leadership. The main challenges regarding the redesign of products were that companies have little or no control over the design decisions, and lack of consumer demand. Motivations were mainly customer demand or leadership within the company. The goal of reducing costs was not identified by any respondents as a motivation. When indicating what "other" challenges respondents face, four of the ten responses given identified the lack of harmonized regulations across provinces as a major challenge. The need for education both within firms and to the public was identified as a key policy implication.

The survey results reflect a number of the same themes as the interview results. Exceeding regulations and the existence of a CSR policy were identified in both the interviews and surveys as a form of environmental leadership. Both the interviews and surveys identified the main challenges to environmental leadership being limited influence over the supply chain. Both identified the main motivations as consumer demand, although unlike the interviews, the survey results did not delve in depth into the issue discussed in the interviews, of the particular extent to which consumers can exert pressure in a marketplace where the design and manufacture of a product is far geographically removed from the point of purchase. Both identified the importance of education of the public (regarding recycling for example) and within firms on regulatory compliance. Although the survey results identified harmonization as a policy suggestion, as did the interview responses, the survey responses did not provide as much information on the extent to which the complexity of the regulations cause frustration and consumer firm resources that might otherwise be directed towards steps beyond compliance. The main policy implication from the interviews is the need for increased harmonization of regulations and cooperation with industry. The main policy implication from the surveys is the need to enhance education.

5.2.3 Summary of electronics EPR results

The results of the interviews and surveys for this case study both discuss the importance of harmonization by governments of the product categories and fees, the importance of education (both public education and within a company) and government`s role in assuring a level playing

field. The complexity and lack of harmonization of product categories and fees across provinces was identified as a leading challenge. Further, informants identified failure of regulations to reflect or to keep pace with changes in the electronics industry as a major shortcoming and challenge to compliance, education, and environmental leadership. The concept of a level playing field refers to all parties starting with the same initial circumstances, and everyone playing by the same rules. In the context of EPR, a level playing field referred to having clear and consistent rules, and not creating a disincentive for firms to be early leaders. Differences between the surveys and interviews were partly due to the interviews being open ended, therefore providing more scope for an informant to emphasize a factor, whereas with the surveys, unless the question specifically asked, a factor would only be mentioned if the informant chose to add it to the space provided for additional comments. More than one interviewee in the electronics sector stated that if there was no regulation, the sector would be much further behind than where it is now. No respondents in the agriculture or marine sector made this observation. The concept of connection between the business and the consumers, community or citizens will be explored further in Chapter 6 (Analysis).

In the electronics EPR case, the most important factors that were identified for government to encourage environmental leadership are to focus on harmonization, and training, education and research. BC is a small market internationally, therefore its ability to affect the electronics industry, including design decisions, is very small. This observation by informants was shared in the literature (CCME, 2009). BC's approach to defining "producer" in a way that captures anyone who does business in the province (even if not physically located here) was considered an effective component of the regulation. However, it appears that most jurisdictions in Canada are primarily focused on stage 4 (reuse of the product) or stage 5 (recycling) (OECD, 2006) of the pollution prevention hierarchy. Germany's approach outlined in the literature review, in which product fees are based on weight rather than product category (Walls, 2004; Walls, 2006) would not only create the recommended tighter link between producers and waste, but could also address the observation of many informants in this research that the product category approach is unworkable.

Overall, we can conclude from the interviews and surveys in the electronics EPR case that informants in the electronics EPR case are environmentally sustainable primarily through compliance with regulations. It appears that only a few take steps to exceed regulations, unless they are a large company with a CSR policy. Both medium and smaller businesses, in their view, demonstrate leadership primarily through meeting recycling requirements, though some make an effort to support community groups by recycling products, and small companies tend to see regulatory compliance as their responsibility and not something to hand off to an agency. Consumer demand and the vision of a firm's leaders are influential if there is a goal to exceed regulatory requirements. The key points in the interviews and surveys for the EPR electronics case are summarized in Table 20.

Table 20: Interview and survey results – EPR electronics case study

<table>
<tr><th>Interviews</th><th>Surveys</th><th>Summary</th></tr>
<tr><td colspan="2">Environmental leadership</td><td rowspan="20">Social licence influences environmental performance

Need for knowledge and training

Culture, values and ethics are important in business decisions

Leadership of the business is important in environmental performance

Standards set by government are necessary

Harmonization of regulations is essential</td></tr>
<tr><td colspan="2">Exceeding regulations</td></tr>
<tr><td colspan="2">CSR policy</td></tr>
<tr><td>Addressing life cycle of product</td><td>Leasing rather than selling</td></tr>
<tr><td colspan="2">Main challenges</td></tr>
<tr><td>Lack of harmonization of regulations</td><td>Competition, especially from other Canadian businesses</td></tr>
<tr><td colspan="2">Lack of control over design or international market</td></tr>
<tr><td colspan="2">Main motivations</td></tr>
<tr><td colspan="2">Consumer influence or demand</td></tr>
<tr><td>Business case</td><td>Vision of leaders</td></tr>
<tr><td colspan="2">Policy implications</td></tr>
<tr><td colspan="2">Education and training are required</td></tr>
<tr><td colspan="2">Harmonization of regulations</td></tr>
<tr><td colspan="2">Public information (i.e., on recycling)</td></tr>
<tr><td>Collaboration with industry</td><td rowspan="2"></td></tr>
<tr><td>Rewarding early leaders: mandatory warranties; procurement policies; publication of leaders</td></tr>
<tr><td colspan="2">Regulations are important (clear, consistent, "level playing field", raising standards within the sector</td></tr>
</table>

5.3 Marine: A case of taking regulation matters into their own hands

5.3.1 Interviews

The overall picture from the interview results is that the sector considers compliance with regulations to be inadequate to demonstrate environmental leadership. Voluntary programs such as Green Marine, ISO or other voluntary programs assist in compliance, but are not sufficient to constitute leadership. Businesses that go beyond compliance are primarily motivated by a business case for it and the need for social licence. The relationship with the neighbouring community is a critical component of social licence, and obtaining and retaining social licence requires ongoing work with the community to understand the community's specific concerns. Several informants have developed their own CSR or community engagement policies because existing programs are insufficient to address local needs. When asked about government's role, informants demonstrated the general sense that regulations currently in place are highly inadequate to meet environmental standards of the community or the business itself, nor in meeting the requirements for social licence. While regulatory standards could be strengthened, the primary suggestion of informants is that government focus on providing education and incentives for businesses to achieve environmental goals themselves. Specifically, these could include green procurement policies, training, and support for independent science. The interview responses are not inconsistent with the survey results, but the interviews provided more context and in-depth discussion of the community issues and the reasons why voluntary programs are compliance based and considered insufficient to constitute environmental leadership.

Environmental leadership

In defining environmental leadership in the marine sector, interview informants used a variety of terms and identified a number of potential actions that would, in their opinion, qualify as environmental leadership. Most informants identified taking actions beyond compliance as the central element of environmental leadership. Also identified were the integration of environmental concerns with the business plan, working with stakeholders, and transparency and accountability. One respondent said that because shipping is "so regulated," compliance with

laws is something all companies just must do, therefore leadership has to entail going beyond compliance. One respondent expressed the view that certification programs are not sufficient to demonstrate environmental leadership:

> I'd say [ISO] 14001 really is compliance. A requirement of [ISO] 14001 is that you demonstrate that you are committed to compliance and to continually improve. So theoretically a company could get certified and just hang their certificate on the wall, get through the audits, and there you go.

Another expressed environmental leadership as a process of continual improvement: "…we're always looking to change…we find something that's not working, we…try to find a way to make it work a little better." Some respondents, representing larger ports or companies, described continual improvement as involving a formal process: "identifying your material sustainability issues….[the] material, critical, sustainability issues or opportunities, whatever…which is…typically a process that involves...stakeholder engagement…and working with them to understand their material interest and being responsive to them." Issues that stakeholders have raised are not always issues addressed by certification or other voluntary programs, and can include concerns about the use of agricultural lands for industrial purposes and growth strategies. Two respondents specifically noted that it is important to ask the stakeholders what their issues and concerns are and to shape the discussion from there. The stakeholders are not going to simply respond to a company's plans or proposals, "they're going to help you choose" what the topics are.

Community engagement was also an element of environmental leadership that informants mentioned as demonstrating environmental leadership. One informant who works for a port stated that they must, as a minimum, engage with the local community and First Nations. Engagement does not only include identification of concerns and attempts to address them, but joint participation in community events such as shoreline clean ups and habitat restoration. Stakeholder engagement was another reason why some informants saw shortcomings in voluntary certification programs: "you can't just use an off the shelf template about what your environmental issues are. You need to go and engage with your stakeholders and ask them what

their concerns are." The need to tailor engagement strategies to fit specific community needs will be discussed further in Chapter 5 (Analysis).

Green Marine in particular was not seen as offering much in the way of environmental leadership. There were two reasons why Green Marine appeared to be considered a weak form of environmental leadership, if considered leadership at all. The first reason was the one identified above, that certification programs tend to put emphasis on general compliance, rather than on community-specific concerns. The second is that the program (as well as ISO 14001) really offers more of a template or guidance for smaller organizations, or ones struggling to comply, rather than an aspirational target for solid compliers who want to do more. One respondent stated that the context of British Columbia puts a lot of pressure on marine businesses that might not exist elsewhere, and as such, they need to find their own tailor-made solutions. The "lower mainland is one of the most savvy and sophisticated kind of environmental stakeholder groups in the world, so you know you have to really be…careful and strategic to operate successfully here." Where an organization deals with stakeholders who think "globally in terms of their expectations" and have a strong ability to mobilize, it is "a really, really important factor that shapes organizations."

Although some respondents stated that the value of programs like Green Marine may be minimal in helping their own leadership, the programs are helpful in providing a framework for smaller companies to meet or exceed compliance standards. This in turn helps the larger operators because the port's control through lease agreements is often limited and they are not the regulator. One informant from a port stated that because ports house a number of smaller operators, the public often thinks that a problem from one of those operators is the port's direct fault and responsibility:

> …it's tough because the community, they look at us and they think, well the port runs everything, everything's the port you know and if I'm pissed off at a tenant or a terminal, it's actually the port that I'm pissed off with. But we don't operate that and at the end of the day it doesn't matter.

The port still has to deal with the issue, so joining a voluntary program themselves, and encouraging the smaller operators to join helps bring the tenants along. The Green Marine requirements are considered relatively modest by the larger operators, but work for the smaller ones who "aren't going to want to jump to some sort of really sophisticated…sustainability reporting program that's a lot of work, investment" and beyond their capacity. One small operator on the East Coast of Canada stated that he had never heard of Green Marine or similar organizations. But when the program was described to him, the respondent thought that it would be of benefit to his organization in helping them improve practices and making them more aware, because "the government doesn't always really explain things…they give you the regulations and they say 'you follow it'."

Transparency and accountability was also identified as an element of environmental leadership. This includes identifying publicly what the concerns are with your business, what you are doing to address them, and being accountable to achieve a goal or objective perhaps with third party verification. One respondent, a fresh water shipping company, described environmental leadership as getting involved in the development of policies and regulations that make sense to the sector. As such, leadership is difficult to define when the baseline (regulatory compliance) does not make sense in a particular sector.

In summary, environmental leadership was consistently discussed as a process, rather than a constant status or event. As one informant stated, "at the end of the day…environmental leadership is about showing progress on those areas that are important…you can engage who you want and identify all the greatest issues and have transparency and accountability but if you don't show progress then it's hard to show leadership."

Motivations for environmental leadership

A number of motivations for environmental leadership were identified by informants in the marine sector: social licence; a business case, including cost savings; it is the vision of the company leaders or reflects company values; it accompanies the government enforcement process. Two informants specifically mentioned that the motivation for environmental leadership

does not come from customers in their sector. However, overall, as with the electronics EPR case, social licence and the business case for demonstrating environmental leadership were the most prevalent motive for pursuing environmental leadership, with company values and corporate culture also being influential.

Three informants stated that it was corporate leadership that has driven environmental changes in their organization. One stated that there were certain people in the corporation that advanced attention to environmental issues. Sometimes they were the corporate leaders, other times the environmental managers put in place by the corporation. One informant mentioned that it was the "right thing to do" otherwise you have "public relations issues and … just…continually put out fires." Company values is related to the vision of leaders in that the leaders set the tone for company values, but informants who discussed company values talked about it as an attitude permeating the company, rather than a top down approach. One informant referred to the struggle to retain social licence that the timber companies experienced in the 1990s, which led to the realization that they could not just focus on "fighting the regulations." The informant stated that marine companies are starting to go through the same thing of "buying into the social construct" in which they have to work with regulators and society, not against it: "there are very few companies that have done it, but it's…the precursor to some sort of realization that somehow they can be economically disadvantaged unless they do change." This process involves more than going through an accreditation process, but thinking a lot more broadly, "in terms of not just economics of the company and their legitimacy in terms of how it [is] applying…environmental legislation and standards but also going beyond that into basically placing that business within social and environmental context." In this respect, there is a "social contract" but it is infused with a sense of personal responsibility and a company philosophy, rather than a business analysis based on potential costs of not complying with regulations. Another informant related the change in values to a realization over time: "we've been beating up the world for a long time and…most of the decisions made by corporations around the world were financially driven and not environmentally driven…your generation is seeing the effects of that…my generation's trying to change that."

Five informants explicitly mentioned social licence. One discussed the location of their business, in the lower mainland, where the population holds the marine environment and ecosystem "in the highest regard" and which is "part of our amazing quality of life," so the company has to put the issue of environment and regulations in perspective of, "this is our back yard," not of regulation. Companies must therefore consider what that means for their survival in the long term, and maintaining their "social license to operate and grow, now and into the future." Simply trying to comply "isn't necessarily going to position you for success in the future" and opens the company to risk. In other words, if the company likes "to think we're here for the marathon and not for the sprint" then it has to think about maintaining its long term social licence.

A informant from the East Coast stated: "the only way I can put it, we're trying to...keep everybody happy and…we don't want…[negative] feedback" from the community. An informant from the West Coast, stated simply, they "want to continue to have public support." Another stated that it is really market access that drives environmental leadership. Public pressure was identified as being a motivator for improvement, even when frustrating for the company:

> Sometimes the opposition or the issue that we hear that are raised we feel are out of context or are not well informed but at the end of the day that … kind of pressure helps to make us stronger and better and helps to drive us to be to improve our performance environmentally socially and economically.

Informants from ports and stevedoring companies tended to discuss motivations in relation to social licence from the local community, but informants from shipping companies discussed more global issues. One clarified that the decision to develop a corporate sustainability program was not made in Canada, but in Japan, and with a global reach. The decision was "driven by a very high level management objective…to be good corporate citizens and to as little damage to the world as possible while we carry on our business." The same informant stated that the decision had little to do with there being a business case: "I really don't believe there's money saved by doing it. In most cases…these initiatives cost money, they don't save money….it's more driven from a corporate citizen's point of view and doing what's right for the world."

Other informants did however believe that demonstrating environmental leadership provides a business advantage. Leadership was described as "a good investment because all companies are expected to be green," and because the worldwide shipping business does not have a lot of players, they all know each other, and "when one company steps out and shows initiative in this regard, it does put pressure on others to do the same. There's no question about it." Some informants also believed that environmental leadership can reduce costs, by for example, reducing fuel consumption and ensuring closer monitoring of spills. Two informants stated that they thought customer pressure had very little to do with motivating environmental leadership, because the customers are always the same, it is a stable business, and "if anything, it is us trying to make them greener." Geography and availability of options is also influential. Because shipping companies must operate within ports, if there is only one port in the region they can go to, then there's no shopping around for a greener one.

Learning and environmental leadership involves putting controls in place to ensure that whatever the company is producing or doing as part of its business does not run ahead of environmental obligations. Specifically, environmental leadership was described as entailing investments in upgrades and infrastructure, having very strong leadership that paid attention to environmental issues, and doing it "every single day, all the time" knowing the "environment can't be second thought to production."

Finally, one informant articulated that the authority of government enforcement can be a motivator. When an operator would not follow the standards set by the port, which are more stringent than government regulations, the port called in Environment Canada. The enforcement officials talked to the operator, "shook him up well", and now the operator complies not only with the government regulations, but with the port's standards.

Challenges to environmental leadership

Only two general types of challenges to environmental leadership were identified by informants in the marine industry: lack of education and the regulations do not fit the context. Lack of

education involved internal education, and explaining to employees when they needed to reduce their footprint through steps such as reducing paper consumption. It also involved general public education, because "government can do all they want…they can put out the guides… advertisements…whatever" but if people do not accept them, they will not comply. The challenge around regulations identified was from the one informant who expressed frustration that the federal regulations are based on open sea shipping and did not separately address fresh water shipping. When pressed to explain the challenge – for example, if the open sea regulations were irrelevant, or too stringent – the informant was unable to explain further.

Policy implications

When asked to identify steps government could take to encourage environmental leadership in their sector, or to remove barriers, informants identified several issues: demonstrating strong leadership (including through programs, incentives, and support for science), the importance of dialogue with government, developing a better understanding of the industry, and developing higher standards. One also noted that there are limitations to government's role, and two noted the limitations of provincial jurisdiction.

Two respondents stated that government can support environmental leadership through program support and incentives. An example provided of this was the federal government waiver, in 2010, of a 25 percent import duty on new ships. This change allowed the shipping company to renew their fleet with more advanced ships that had a reduced ecological footprint. Another way would be to provide incentives for emissions reduction project, to help "industry just get over that first hurdle for the business case." In the view of one informant, the current government of Canada does not provide support, "and it's painful to watch" compared to the support and incentives that are provided by the U.S. government. At the provincial level, BC Hydro's program in which the costs of technology are offset if companies buy power from approved vendors, is an example of supporting companies taking environmental initiatives. In addition, where information and support is provided, it can also help companies with their efforts to be sustainable. An example of this is BC Hydro's key account managers, whose "whole job is to help us save energy because Hydro themselves are…up the creek without a paddle in terms of

the need to conserve energy because we're kind of at the max." Government support for program such as Green Marine was also cited as an example, as a method of supporting dialogue between the industry and government. Dialogue with government was identified as important because of the complexity of the shipping industry and the need for government to understand the industry in order to develop effective and appropriate regulations.

The importance of science was expressed as the need to have reliable information that all parties involved in a marine issue can rely on. The informant who discussed science was specifically thinking of contentious project proposals where little trust exists. The informant stated,

> …however, if you had completely clean, independent science looking at the question arm's length from industry, arm's length from government …with no vested interest in the outcome and that science is transparent and it was publicly accessible and it went through the peer reviewed process, then …the time intervals to actually get environmental decisions would be shorter…the cost to industry would be far less…and thirdly…the controversy would be would be markedly reduced so you would have much more consensus.

Three informants stated that government can support leadership by working out its own jurisdictional issues. For example, international conventions guide shipping and port activities, and may require the improvement of port facilities. However, the federal government subsequently says it is up to the province to put those facilities in place; the provincial governments say it is the federal government's responsibility. Working in a multijurisdictional environment can be challenging when there is a market difference in the approach of the two governments. One informant stated:

> I'm not going to state something that's not obvious here...the expectations, the regulations of the province are greater than the fed[s]… and that creates...a challenge for the community...because...there's certainly been concern in British Columbia about…retreat of the federal government from certain environmental publications and commitments.

There is a vacuum at the federal level and that poses a problem for a port, if for example, the port's tenants believe they only need to comply with federal regulations. The expectations of government are out of alignment with those of the public, and companies decide it's better to ensure they are complying with public expectations. One informant summed it up by saying "only regulators look at it through regulation and so, if you're managing expectations, stakeholders aren't really too concerned with regulation because they don't know how to reconcile what that would mean for them in terms of their world view."

The provincial and federal officials interviewed were in a better position to discuss the efforts of the governments to coordinate. When it comes to marine issues, the provincial government was described as being "in influencing mode" due to its limited direct jurisdiction. The province must rely primarily on moral suasion. The provincial government can and does work closely with the federal government on issues such as spill response and marine species at risk. The province may not be able to directly regulate many marine matters, but it can put in place economic incentives and encourage certification programs, and establish or support intergovernmental and stakeholder management organizations.

Regarding British Columbia in particular, one official stated that "we use whatever jurisdiction that we have" to regulate the marine environment and noted that British Columbia is in a unique position to other coastal provinces due to the *Georgia Strait Reference* case (1984) in which the Supreme Court of Canada determined that the province has jurisdiction over waters "within the jaws of the land" in the Strait of Georgia and Strait of Juan de Fuca. Finally, where government does have jurisdiction, it can ensure that its standards are not too low. Informants repeatedly made comments indicating that the current marine standards (of the federal government in particular) are quite low. One informant stated that the standards are just the minimum and that regulated parties will go over them by "a lot more percentage points to cover themselves," that "the minimum regulations don't do anything really" and "if you follow compliance today the likeliness is we'll find ourselves in a risk situation in the future with regards to our environmental performance because the expectations of our constituents and stakeholders are greater than compliance."

In summary, the interview results in the marine case emphasized the importance of social licence, and in particular, good relationships with the local community. Compliance with regulations is insufficient because the regulatory standards are considered low, and joining a voluntary program does not constitute leadership because they are compliance-based and are not tailor made to local community concerns. Voluntary programs can however be helpful to smaller businesses with little capacity (financial or in expertise) to exceed regulatory requirements. The main role for government is in providing programs and incentives to help firms with the transition to greener practices. These results are similar to those in the surveys in that environmental leadership requires steps beyond compliance, but voluntary programs are not useful for compliance, but not in being an environmental leader. In the survey results, aspect of the local community and the need for tailor made programs was less evident.

5.3.2 Surveys

Overall, the survey results are consistent with those of the interviews, with less in depth discussion of the concepts. For example, community relations was identified as important, but details regarding issues such as how community needs may differ, or why the British Columbia context may be different from other jurisdictions were not elaborated upon. The surveys in this case provided consistent expressions of environmental leadership as the interviews, with leadership requiring a business to exceed regulatory requirements. As one informant stated, the concept of environmental leadership is difficult to express in a survey. Nevertheless, the survey results were similar to the interviews. Only one particular difference stands out, and that is the response of one survey informant that government could make regulations less stringent. In the interviews however, no informants suggested less stringent standards, and the results were very clear that standards are considered insufficient and could be strengthened.

With respect to the first question, four respondents identified inadequate resources as the biggest challenge facing their organization today; three identified the cost of compliance with regulatory

requirements, two identified international competition, and two labour costs (Table 21). One identified competition from others in Canada, and one identified another, unspecified, challenge.

Table 21: Challenges in the marine sector

Response	Chart	Percentage	Count
Competition from others in Canada		7.7%	1
Competition from others internationally		15.4%	2
Inability to keep up with demand			0
Insufficient demand			0
The costs of compliance with regulatory requirements		23.1%	3
Inadequate resources		30.8%	4
Labour costs		15.4%	2
Other (specify)		7.7%	1
	Total Responses		**13**

When asked to rank items in order of importance with respect to environmental leadership, four respondents identified having an EMS system as the most important, three identified exceeding regulatory requirements, two identified maintaining a good relationship with the nearby community, and one identified having a formal CSR policy as the most important. No respondents identified joining a voluntary standards program as being the most important for environmental leadership.

All ten respondents stated that their organization does demonstrate environmental leadership, and identified a number of ways their organization does so (outlined in Table 22). Two themes that emerge in the responses are membership in a voluntary program (such as Green Marine), and integrating sustainability initiatives into daily business through steps including putting in place an EMS, ongoing monitoring, and attempts to continually reduce emissions.

Table 22: Demonstration of environmental leadership

Do you believe that your organization demonstrates environmental leadership?

	Yes	No	Total Responses
	10 (100.0%)	0	10

If yes, explain how:

#	Response
1.	Voluntary initiatives, Stakeholders committees, Corporate Policy, EMS, Air/Noise quality monitoring etc...
2.	We are one of the organizations that have created the voluntary environmental program for our industry.
3.	Proactive approach to environmental protection. Always thinking of ways to lessen our footprint and improve our environmental program.
4.	By becoming charter members of Green Marine and *[other voluntary organization; name removed to preserve anonymity because there is only one Canadian member*] and promoting the use of marine transportation at each opportunity that presents itself.
5.	We are actively engaged in seeking ways to track and minimize emissions and environmental impact (through my participation in Green Marine's West Coast Advisory Panel), we also actively seek best environmental options when upgrading equipment.
6.	Providing facilities and policies for waste removal.
7.	In house environmental footprint monitoring. Voluntary membership of environmental organization (Green Marine). External audit of previous.
8.	This is difficult to define through a survey. Leadership is a variety of small and large actions taken by the company as a whole and by all its employees.
9.	By exceeding regulatory requirements, striving to anticipate environmental impact ensuring unnecessary harmful effects are avoided.
10.	We have an EMS, we are part of Green Marine, we exceed regulatory requirements, we have excellent community relations, we organize an annual community shoreline cleanup, we enhance herring and salmon habitat, etc.

The identification of an EMS or membership in a voluntary program as key steps for environmental leadership is perhaps not surprising given that most respondents (90%) have joined a voluntary stewardship program such as Green Marine, and 60% have an EMS in place. Only three of the respondents have a CSR policy in place however.

With respect to the questions regarding *why* an organization joined a voluntary program, seven of the nine respondents either agreed or strongly agreed that they did so in order to improve compliance with regulatory requirements and all nine either agreed or strongly agreed they joined in order to make their organization more sustainable. Nine either disagreed or strongly disagreed that they joined because of pressure from other shipping companies or ports. Concerns

from community neighbours also did not appear to be a strong driver, with two respondents strongly disagreeing, three disagreeing, and three neither disagreeing nor agreeing. Displaying the regulatory program logo also did not appear to be a strong motivator, with four strongly disagreeing, two disagreeing and one responding being neutral. However, two agreed that the ability to display the logo was a reason for joining the program. Seven agreed or strongly agreed that the decision was driven by the vision of one leader of the organization, one disagreed that it did, and one was neutral (Table 23).

Table 23: Reasons for joining a voluntary program

Indicate how strongly you agree or disagree with the following statements:	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know	Total
My organization joined a voluntary program in order to improve compliance with regulatory requirements	1 (11.1%)	1 (11.1%)	0 (0.0%)	3 (33.3%)	4 (44.4%)	0	9
We joined a voluntary program due to pressure from other ports or ship owners	4 (44.4%)	5 (55.6%)	0	0	0	0	9
We joined a voluntary program due to a need to address concerns from community neighbours	2 (22.2%)	3 (33.3%)	3 (33.3%)	1 (11.1%)	0	0	9
We joined a voluntary program in order to display the program logo	4 (44.4%)	2 (22.2%)	1 (11.1%)	2 (22.2%)	0	0	9
The decision to join the program was driven by the vision of one leader of the organization	0	1 (11.1%)	1 (11.1%)	4 (44.4%)	3 (33.3%)	0	9
My organization joined a voluntary program in order to make our business more sustainable	0	0	0	5 (55.6%)	4 (44.4%)	0 (0.0%)	9

When asked whether there were additional reasons, two respondents identified the desire to exceed regulations and one additionally noted the importance of public recognition for efforts to meet or exceed regulations. Public recognition could take the form of labelling, certification, or a business otherwise making it clear to the public that they are a good corporate citizen. Two additional comments pointed to the Green Marine program and what it can offer as a tool for assisting organizations in seeking environmental leadership. The responses are included in full in Table 24.

Table 24: Other reasons for joining a voluntary program

Are there other reasons why your organization joined a voluntary program? Please explain.

#	Response
1.	Our internal policy required that we must abide to strictest regulations (or exceed) but got very little recognition for the effort, this help to get the good word known....
2.	To go beyond regulations.
3.	We do not currently have environmental staff, the green marine program has proven a very effective tool for our organizations various departments.
4.	Green Marine has a good reputation, access to best practices, opportunity for continuous improvement.

Cross referencing the size of business with the reasons for joining a voluntary program, there does not appear to be much support (at least from the respondents to this survey) for the proposition that the larger the firm, the more likely it will join a program or otherwise take publicized steps to demonstrate environmental leadership, in order to maintain social licence. The sample size for the respondents to this question is very small (11 companies), and answers by those who did respond are scattered across the size of firm categories, making it impossible to conclude either way whether the size of firm is related to its decision to join a voluntary program.

Respondents who indicated that they had not joined a voluntary program were asked a number of questions exploring why they had not done so. There was only one respondent who fit within this category, either disagreeing or strongly disagreeing with the statements that the organization had not joined because of pressure not to, because the costs were too high, because alternatives (such as an EMS or CSR policy) are sufficient. The respondent was neutral about the statement it had not joined because of the paperwork, lack of economic benefits, and also that the respondent is

unaware of the program. Because there was only one respondent for this question, who did not agree with any of the probes for reasons for not joining, and because there was no space to indicate other reasons, it is not possible to determine from these responses why the organization did not join a voluntary program.

When asked what would have the greatest positive impact on the organization's business, three respondents each identified either a better relationship with the community or more training and educational support. Two identified more flexible government regulations. One each identified less stringent government regulations or subsidies for green technology. No respondents identified different international standards (Table 25).

Table 25: Encouraging environmental leadership in the marine sector

Which of the following would have the greatest positive impact on your organization's business (select one):

Response	Chart	Percentage	Count
Different international standards			0
More flexible government regulations		20.0%	2
Less stringent government regulations		10.0%	1
Better relationship with the nearby community		30.0%	3
More training and educational support		30.0%	3
Other (please specify)		10.0%	1
	Total Responses		**10**

Other (please specify)

#	Response
1.	Subsidies for upgrading to greener/cleaner technology. Right now upgrades (which would have the greatest impact environmentally) are cost and logistically prohibitive.

When asked how government could support environmental leadership in the marine industry, five suggestions were received. Two involve investment in government to assist companies in making the expensive leap to more sustainable equipment. Two suggested incentives (as opposed

to command and control regulations) and one suggested consistent enforcement. These answers are included in full in Table 26.

Table 26: Government support of environmental leadership

Please share any further thoughts you have on how government could support environmental leadership in the marine industry:

#	Response
1.	Support companies and shippers who decide to make a modal shift to marine, in order to reduce their environmental footprint.
2.	Provide incentive based programs that are based on best practices and not prescriptive regulation. Work cooperatively with business to develop programs and measures to improve environmental leadership.
3.	Provide positive support rather than strictly enforcing regulations. Stop borrowing from our voluntary stewardship programs to build their new regulations. Stop trying to one up other regulatory bodies, thus creating regulations that are impossible to meet.
4.	For the harbour towage industry, the biggest problem is older vessels or older engines. With participation in Green Marine, we towage companies meet up to about level 3 just by existing (access to ultra low sulfur diesel, shore power, etc.). Jumping up a level is next to impossible unless you start changing out your fleet - something that is extremely expensive and very time consuming. Often certain parts are only available in far corners of the world. If the government committed money for upgrading new builds, for example, I am sure more companies would adopt these technologies. There is presently too much risk. We also need more research into alternate fuel sources for smaller boats. This, however would also require significant investment and sea-trialing - something that many local companies could not afford. For the most part, it seems companies in the maritime industry are willing to go along with whatever makes fiscal sense. If a business case can be made for these alternate technologies, everyone will likely follow suit!
5.	Consistent application of regulations as well as flexibility when appropriate.

In summary, the two largest respondents (more than 500 employees) disagreed or strongly disagreed with the statement that they joined a voluntary program because they needed to address concerns of community neighbours or because of wanting to show the logo. The logo was more influential for smaller (6-99 employees) or medium (100-499 employees), but those respondents either agreed or neither agreed nor disagreed; none of them strongly agreed. In summary, the ability to demonstrate an environmentally friendly program logo did not appear to be a strong incentive. So, while public pressure is important, needing to meet or exceed regulations is critical. Regulations set the minimum standard or benchmark. This result was also consistent with the responses to the question of what one thing would have the greatest impact on

the respondent's business – three said a better relationship with the community, but three indicated education and support and two more flexible regulations.

The interviews and surveys were similar in describing environmental leadership as being beyond compliance behaviour, and as comprising an ongoing process. The interview responses described leadership as being an ongoing integration between business and environmental concerns, community engagement, transparency and accountability. In the survey results, this was specified through having an EMS or CSR program. Motivations for environmental leadership identified in the interviews are social licence and there being a business case for it, as well as the vision of leaders and it being consistent with the values of the corporation. The survey results identified helping improve compliance and making the business more sustainable. Both the surveys and interviews clearly identified the vision of a single leader as being important. The interview results identified fewer factors than the surveys as being a challenge. Lack of education on environmental issues was identified as the primary challenge to the interview informants, whereas survey respondents identified a variety of things as posing a challenge: inadequate resources, costs of compliance, competition and labour. The policy implications identified by interviewees were the need for government to demonstrate leadership though the delivery of programs, and incentives and support of science as being important in encouraging environmental leadership. The need for greater dialogue and understanding between industry and government was also identified, as well as the need to make standards higher.

5.3.3 Summary of marine results

Overall, we can conclude from the interviews and surveys in the marine case that environmental leadership (sometimes expressed as sustainability or CSR) is something that most informants in the sector consider important. The results of the marine case study support the observation in the literature that ports, shipping companies and other marine industries are increasingly engaging in voluntary programs due to the perceived need for a more proactive approach to meet consumer or community demand for greater transparency and accountability (Coady, 2013).

Taken together, the interviews and surveys in this case share the themes that environmental leadership is an ongoing process, but that a Corporate Social Responsibility program, an Environmental Management System, other voluntary program does not constitute leadership if they focus on meeting regulatory requirements. The ability for a voluntary program to assist in environmental education and practices is important, particularly for the smaller businesses. Finally, in the marine sector, government regulations do not appear to be viewed as particularly hard to meet, and to some informants, regulations were seen as incorporating such low standards that the company does not take compliance with them seriously as a measure of environmental performance.

Motivations to joining a voluntary program specifically appeared to come from both inside and outside the firm. One respondent identified public relations as a motivator, but several of the respondents pointed to the internal drive to exceed regulations, and the usefulness of a program like Green Marine in providing structure for doing so. It is interesting that fewer challenges were identified in the marine sector than in the other case studies. The interview respondents identified lack of internal education and regulations not matching the context (open sea versus lake transport). The surveys identified sector competition, inadequate resources and the costs of compliance with regulations. Unlike agriculture, where a debate exists around what constitutes leadership, concern over high costs with low return, and frustration over conflicting or inadequate regulation, in the marine sector, the response to the issue of regulation itself was muted. It appears as though regulations are the floor, rather than the bar to meet in this sector, because the standards in the marine sector were described as being low and easy to meet. The results of the interviews and surveys are summarized in Table 27.

Table 27: Interview and survey results – Marine case study

<table>
<tr><th>Interviews</th><th>Surveys</th><th>Summary</th></tr>
<tr><td colspan="2">Environmental leadership</td><td rowspan="18">Social licence (community) influences environmental performance

Need for knowledge and training

Culture, values/ethic of the business are important in environmental leadership

Visionary leadership of the business is important in environmental leadership

Continuous learning important for environmental performance

Regulatory standards are too low; not considered a serious target</td></tr>
<tr><td colspan="2">Involves an ongoing process of improvement</td></tr>
<tr><td colspan="2">Requires beyond compliance behaviour</td></tr>
<tr><td colspan="2">Main challenges</td></tr>
<tr><td colspan="2">Lack of education (internal)</td></tr>
<tr><td>Regulations do not fit the context</td><td>Competition</td></tr>
<tr><td></td><td>Inadequate resources to comply; cost of compliance</td></tr>
<tr><td colspan="2">Main motivations</td></tr>
<tr><td colspan="2">Social licence (community relations)</td></tr>
<tr><td colspan="2">Vision of leaders</td></tr>
<tr><td colspan="2">Business case</td></tr>
<tr><td colspan="2">Company values</td></tr>
<tr><td colspan="2">Policy implications</td></tr>
<tr><td colspan="2">Education and training are required</td></tr>
<tr><td colspan="2">Standards could be more stringent</td></tr>
<tr><td>Support for independent science</td><td>Flexible regulations (not prescriptive)</td></tr>
<tr><td colspan="2">Support for transition to greener technology</td></tr>
</table>

5.4 Agriculture: A case of contestation and capacity

5.4.1 Interviews

Overall, the interview results indicate that disagreement around what constitutes environmental leadership, and in particular, whether organic practices are required for leadership. All respondents, be they organic or conventional farmers, considered themselves environmental leaders and good stewards of the land by complying with regulatory requirements. Motives for environmental leadership, however defined, are primarily social licence and consumer demand for sustainable products. Sometimes the product is “sustainable” because it is organic; other

times farmers refer to how it is locally grown, or grown responsibly using conventional farming options. Challenges are lack of farming knowledge, the low profitability of farming, conflicts or land, and lack of data regarding farming practice and outcomes. Key policy implications are for government to have a more robust strategy around not only agriculture, but land use generally, primarily to address conflicts over land. Support for training and education is also a key suggestion, and specifically, a government presence in the field offering direct advice to farmers. These results are similar to those in the surveys, though the debate around whether conventional practices constitute leadership was clearer in the interview results, likely because of the open-ended, verbal nature of the interviews, and possibly because the survey was refined to identify conventional methods as a sufficient approach to leadership or sustainability.

Environmental leadership

In describing what they thought constitutes environmental leadership, a common theme among informants in the agriculture case study was that all farmers already think they are behaving in a sustainable way that demonstrates leadership. One informant stated, "I think all famers are doing their best to be environmentally sustainable." Another stated:

> I think every farmer thinks they're demonstrating environmental leadership. I don't think…many farmers actually want to believe that what they're doing is harmful… but I think people generally don't like change, people generally like to believe...what they're doing is the best way.

The topic seemed to be a sensitive one, with some farmers apparently offended at the suggestion in their field of work that it is necessary to be organic, or to produce food locally, or to reduce pesticides. All farmers interviewed saw themselves as careful stewards of the land in which they were financially and in many cases, emotionally, invested, and that constituted a form of environmental concern, if not environmental leadership.

All informants mentioned debates around what is "organic", whether organic is environmentally superior to conventional methods, and whether local farming is important and more sustainable than organic, or whether other approaches such as food safety certification are more important. Five of the respondents stated that it is not necessary to be an organic farmer to demonstrate environmental leadership, and that number includes organic farmers. Where organic certification was considered essential to leadership, as it was by three informants, the reasons were not only that organic standards are considered higher but because of the ongoing education and dialogue that being part of a certification program entails. In addition, the market benefits of certification were identified. These were not only increased interest by consumers, but the simplicity that a certification label can provide to consumers who want to purchase ecologically sustainable products, but are unable to determine which products are so. Also, for some producers, certification is useful in selling ingredients up the line to processors, who then have a system to vouch for the standards under which their ingredients were produced. However, a few noted that where farmers sell locally and are able to talk to consumers directly about their products, the label is not necessary:

> I've got people looking for organic but then if we can explain to them that Integrated Pest Management is providing them with a good product, but it's not pesticide free, but we are using the proper process to ensure that there's no residual chemicals… they will buy the product.

One informant stated that environmental leadership "means being aware of the big picture but also being aware of what you can do as an individual. Breaking the problem down into manageable pieces and doing what you can do within your own…control. To me that's leadership of a practical way." Another stated that leadership "is doing thing that others aren't but others are following you" and entails long term thinking, and "using the land…but also not destroying the land and making it viable for other creatures to inhabit the area without harm to their habitat."

Two informants discussed environmental leadership in terms of morals or ethics. One stated that environmental leadership is "doing the right thing" and another said it involves raising animals in

a healthy environment and treating them ethically. Two farmers identified beyond compliance behaviour as constituting environmental leadership, be it organic or not organic. Three informants stated that organic certification is necessary; five said it is not. One farmer identified compliance with food safety programs instead of organic certification as a form of environmental leadership. Local and small scale farming was also identified as important for long term sustainability and as a demonstration of environmental leadership. Smaller farmers in particular were mentioned as not needing organic certification to find a strong market. One farmer stated that when participating in consultations to develop government-regulated certification standards, some farmers:

> …told us that there are so many other sales words out there that they can use that they did not necessarily need to use the term organic. Organic is a shortcut term to define a standard so that when you're doing third party sales…there's the assurance that goes with it.

Three informants discussed the process of pushing each other and reflecting by discussing practices and continual improvement. Environmental leadership is not encouraged by the fear of an environmental officer coming around: "that will be probably by and large a far distant third in my concern." Rather, it is the social pressure of colleagues, coworkers and friends in the organic agricultural sector. To some informants, environmental leadership is about learning and modelling behaviour to each other, not to the public. The certification process is helpful in this respect because it "is important in bridging, having conversations going both ways up and down that huge chain from 5,000 acre farm to my five acre farm, and sharing information and even helping each other out with…product recognition in the market place" and because it supports the whole organic industry, including researchers and plant breeders. The certification process was also seen as helpful in sorting out the different marketing terms used for agricultural produce: "Everyone's constantly talking natural, or …growing organically [but] if you're not following standards it's very subjective."

A couple of informants questioned whether the distinction between organic and nonorganic farming remains a valid one. The organic industry's existence and success has pushed all farmers

to scrutinize their activities and to change their practices, mainly by reducing the use of pesticides. A few farmers also questioned whether organic standards are actually more environmentally sustainable. Organic certification programs will, for example, accept the use of plastics to control weeds as an alternative to pesticides. When asked about this, organic farmers acknowledged the difficulty in setting standards, the debate that continually exists within the farming community, and how it is usually a case of selecting the lesser evil than adopting a clearly superior practice.

A couple of farmers stated that they are harder on themselves as a community than is the government. For example, one farmer stated that as soon as government got involved in organic standards, the standards organic farmers put forward and were using were watered down in the ones adopted legally: "Government's sort of put their stamp on what's organic and what's not and actually it's watered down the regulations. We're harder on ourselves than government …much harder on ourselves." Finally, one farmer emphasized transparency as an element of environmental leadership: "companies, industry can demonstrate leadership on their own through appropriate information being available, transparency, using the internet, posting their results…in real time…and comparing those results to the...standards of the day."

In summary, the responses to the question of environmental leadership fell into two categories. One entailed a sense of activism, requiring certification in some form of program, or steps to be involved in public education and the community. The other group believed the struggle to make ends meet while being stewards of the land, through compliance with laws, avoiding waste, and producing food, are all demonstrations of environmental leadership.

Motivations for environmental leadership

Several motivating factors for environmental leadership were identified, with no one factor standing out as much stronger than the others. The motivations included social licence, consumer demand, and a belief that organic farming is better in practice. These factors were each noted by three informants. Two informants identified an environmental ethic as the motivation for environmental leadership, and two identified the price premium that organic farmers can receive

for their products. One stated that the good practices modelled by some farmers motivate others, and one identified competition and brand from certification as a motivator.

Engaging in environmental leadership behaviour by farmers was described by one informant as "an extension of their social licence from communities…it builds and maintains and enhances their social license and capital" and makes investors happy. Another stated that farmers are aware of the importance of their reputation and that "all of the farm organizations certainly make the right sounds when…they talk about how much they care about maintaining and enhancing their social licence. You certainly hear good words from them [but] how much an individual farmer is motivated...I still think there are improvements that can be made." The pressure can come from industry as well as consumers. One informant stated that while there is no pressure to join a certification program, there is pressure from farmers to look carefully at their practices.

Some farmers are motivated by the belief that organic farming is actually better in practice because organic farming contains natural checks and balances around pest and disease problems, such as crop rotation, taking better care of soil, and building fertility for the long term. Others explained the decision to be an organic farmer as just making sense: "why spray a carcinogenic chemical…if there's an organic spray [that] does the same."

The ethical motivation was described by one farmer as preserving the environmental sustainability of farms, and a desire to treat animals humanely. Another described the stringent environmental approach of her farm as coming from the younger people who work there, forming a "stronger and stronger" influence to take the most environmentally friendly route in addressing farm practices and waste management. Several farmers talked about environmental practices being motivated by farmers' values or ethics, because economically, the business is hard. Another mentioned the motivation that comes from the farming community itself, in which organic farming is a way of policing and informing good farming practices.

Three informants believed that consumer demand was definitely driving the move towards organic farming. One stated that consumers are very aware and concerned about where their food comes from and what's in it. Another stated that consumers "are very concerned about their food

and should be." Consumer interest in organic was not just linked to ecological concerns, but to the better quality of food. One informant discussed the growing interest in local food as having more to do with quality of food and stated "a berry that has been travelling a long way doesn't taste as good."

Some farmers discussed how growing consumer demand for organic products has resulted in organic farmers receiving higher prices for their products. This factor was particularly mentioned as a motivator for larger organic food companies, not for smaller farms. For smaller farmers, the price premium was not considered a major factor because of the "need to be committed to sustaining yourself through the transition" and because the market for organic products is not always stable because often, when deciding what to purchase, if "an environmentally, animal-friendly egg costs you another 50 cents a dozen than regular eggs, the majority of people will take the cheaper eggs." Where ethical motivations can be lined up with business benefits however, there is a strong motivation for farmers: "if doing things in an environmentally sound way makes you more money than the conventional way you were doing them then you've got a win-win" and "you've found the…Holy Grail." Where this happens, a farming method "just takes off like wildfire." An example provided was the no till approach to grain farming that was new 25 years ago but which has become conventional because it is more profitable as well as being better for soil conservation.

Challenges to environmental leadership

The challenge most often identified by informants was inadequate knowledge of farming. Cost of land and inadequate enforcement were also identified by two informants each. Other challenges were: ability to produce enough, cost of equipment and other inputs, cost of labour, lack of a level regulatory playing field, weather, pests, and land conflicts. These challenges were identified by both organic and conventional farmers. With each of the challenges identified, there was little distinction made between the challenges of farming generally, compared to the challenges of trying to demonstrate environmental leadership. As one organic farmer stated, her challenges are "just pests, weeds and fertility, that's all!"

Organic farmers were asked to specifically identify challenges to their type of farming. The most frequently mentioned challenge, raised by five informants, was trouble with distribution of their products. Transportation networks can be particularly problematic for organic farmers due to the need to avoid contamination by sharing trucks and containers with conventional farm products. Also frequently mentioned were profitability and the challenges of remaining in business given competition from industrial organic farms. The costs of certification were mentioned by two informants, as well as the challenge of remaining dedicated and patient during the transition to organic certification. Two identified the regulatory and funding advantages enjoyed by conventional farmers, and another two identified pressure or criticism from non-organic farms. Also identified by one informant each were: contamination from conventional farms; determining what exactly is "organic"; lack of data; making the transition to organic; and too many regulations. A further informant also stated that the challenges faced by farmers vary by region. The specific example given was that contamination from conventional farming is more likely to happen where farms are close together.

Profitability of a farm is a challenge because farming is an expensive business due to the cost of inputs, it is dependent on uncontrollable factors like the weather, and tends to bring in little income. The cost of inputs is high. Farmers need to purchase seeds, fertilizers, mulch, mechanical equipment, greenhouses, heat, diesel, and labour up front. Getting a good yield and trying to protect the environment at the same time is a challenge when farmers feel compelled to think short term and how they're going to make it to the next year. The cost of land was identified as a barrier to farmers because they often have to take out large mortgages, and when leasing rather than owning land, run the risk of investing a lot of time and money in land they cannot keep for the long term. Because they often occupy a large amount of land, one farmer observed that people often think they're rich, but they are "land poor" and often losing money. As a result, farmers often have difficulty interesting the younger generation in taking over the farm. One farmer stated: "how can you turn around and say to a kid, make you know 15 to 20 thousand dollars on the farm" when he can earn $30,000 per year working at McDonald's. When asked about challenges, one farmer stated:

> The income's so low, the price of food is so low in North America compared to the price of…producing it… If you look at the wages of anyone on this farm, we're far below poverty. So we're part of the privileged poor. We're living, we're eating like royalty, but …when we go to do our taxes it's pretty discouraging how much we've made. It's very low.

Knowledge of farming was identified as one challenge. One informant stated that after two to four years of agriculture courses at university, students come out with no practical skills. Informants acknowledged that governments sometimes offer courses for farmers, but they are inaccessible because of the fees, the distance required to travel to them, and the inability of farmers to take time off from their business to attend the classes. However, the ability to draw on the expertise of government or other advisors without formal classes was identified as important in augmenting farmers' knowledge. One farmer stated that their designated government representative is

> …kind of like the centrepoint...if we do have questions we can ask him, we email him, phone him…he sometimes comes to visit the farm but he also…hosts producer meetings and shares information. Without that one particular employee, I think our industry would be set back quite a bit.

Land conflicts were identified as another challenge, particularly in areas of high population and where farmers live close to housing subdivisions, such as in the Fraser Valley. One informant who had worked for government discussed the challenges for farmers who have "little room to manoeuvre" in circumstances where government has shown little strategic leadership in addressing the tensions between farmers and neighbours nor adequately addressed the conflicts between farming practices and the protection of aquifers or riparian areas.

Lack of data was identified as a challenge by an organic association because lack of data on the number and location of farms poses a barrier to marketing. For example, without information on the organic market, farmers may have difficulty setting an appropriate price for their carrots. Currently, farmers observe what their neighbours are charging. Better data about the organic

industry was identified as needed to help organic farmers run their businesses.

Trouble with distribution of their products was identified as a major challenge for organic producers. Their crops are perishable, shipping options are limited and because the number of organic farmers is relatively small and the production relatively unreliable, the distribution network and processing facilities required are not economical to put in place. Transporting and processing organic products requires separation from non-organic products, but "you can't have a dedicated organic beef processor in a plant because there's not enough organic beef in any one place to keep that plant going." This challenge was identified as a growing pain for the industry, but as organics become more available the "distribution problems work themselves out because you start having the volumes to have the efficiencies."

Transportation problems were also identified by conventional farmers as a challenge. During the time interviews were conducted for this thesis, there was a shortage of trains to carry grain to the ports in Vancouver from the Prairies, and interview informants expressed frustration with shipping delays. The potential waste and what it was costing farmers every day to store their grain had become a major political issue. One farmer stated that his single biggest challenge was the problem transporting grain to buyers because the trains were "too busy hauling oil instead of grain" along with other reasons such as cold weather. Another challenge is the cost of labour, particularly for organic farmers: "organic is very labour intensive. Extremely labour intensive and unless you're prepared to do a lot of it yourself, I can't afford the labour to $15 an hour which is…what the contractors are charging us now."

The cost of certification is a challenge to organic farmers, particularly smaller ones. Not only do smaller farms find the certification fees more onerous, but they may be less likely to see the benefits if they can benefit from consumers' interest in locally grown products. The transition to organic is also seen as a challenge because it takes years (usually three) to achieve organic certification and therefore takes a firm commitment to not reap the benefits of certification while waiting to achieve certification. At the same time, farmers struggle to stabilize the ecosystem of the farm and transition to new forms of pest and weed management. One farmer stated that

evidence shows that organic yields are similar to those from conventional farms, but it takes time for the ecosystem to regulate itself, requiring "waiting and long term planning" by the farmer.

One farmer noted that regional context is important when discussing challenges. Grain farmers in Alberta for example, may have difficulty obtaining organic certification because the RoundUp Ready canola would be grown all around them and cross-pollination would be hard to avoid. Or in areas with a rampant pest infestation, organic farmers may find it difficult to avoid pesticides and come under pressure from other farmers who consider the pesticide-free farms to be breeding grounds for pests that will harm all farms in the area. In regions such as southern Vancouver Island however, the barriers to organic farming were seen as less problematic because the crops grown rarely include RoundUp Ready canola.

Two informants expressed frustration with regulatory and funding advantages of conventional agriculture. This appeared to manifest itself in two ways: (1) research, and (2) regulation, including enforcement activities. Respecting research, one informant stated:

> At one time, governments funded research because research is [for] the public benefit, [and] because governments are public they put public money into it. And then research could be used by everybody. Now that government research funding has been drastically cut and they've added the requirements that there be industry funding for at least a portion. So every research project has to have…industry funding and…in the case of organics, where's it going to come [from]?

Because the subjects that interest organic farmers have to do with techniques rather than products, there is no interest from business in co-funding research. For example, if research will result in a new seed variety or pesticide, a seed or chemical can be sold at the end of the research. But organic farmers save their seeds and avoid the use of pesticides, and "there is no profit in selling a technique."

Two farmers argued that too many regulations hindering their ability to run their farm, even where a small-scale farmer doesn't keep the chickens in cages and "isn't trying to be industrial."

For example, regulations restricting the number of chickens a farmer may raise per year hamper the farmers' ability to meet demand, which leads to customers going elsewhere. Another farmer stated that it is not the laws themselves, but the way they are enforced that is the problem. One farmer in Manitoba wondered why enforcement officers make the decisions they make around enforcement because it seems to her that the officers fail to adequately address issues such as illegal drainage. This farmer observed that it is a large province and thought perhaps the enforcement officers "have bigger fish to fry" but that "it sometimes feels that the bigger farmers and the bigger…agricultural companies and such are allowed a little more leeway than some of the smaller farmers." Further, one organic farmer talked about where organic farmers have a conventional farmer next door, the organic farmer is obligated to leave a buffer between the farms. The obligation is on organic farmers, who have no rights not to get themselves, their crops and their livestock "covered in a mist of nerve agents" and instead "it's the people who don't want to be covered in chemicals that are expected to pay for the buffer zone."

The problem one informant identified is that the environmental benefits may be enjoyed by society as a whole, but the individual farms pay for the benefits. Demanding good environmental performance from farmers means "you've got to say to someone…*'you're going to harm your bottom line and you're doing this for the good of society at large'*. And the standard response will be, well if society wants to share the costs, I'm prepared to listen." Government support is needed so that the farmer does not bear all the costs and therefore only want to do the minimum required to comply with the law because otherwise farmers will ask themselves: "Why would I ever do extra if it's simply reducing my bottom line and nobody else seems to care. No one else cares enough to bring money to the table so why would I care?"

Policy implications

By far the strongest policy implication for government mentioned by informants was the need for government to demonstrate leadership in planning and policies. This factor was mentioned by seven of the informants. One informant stated: "Industry is moving at quite a rapid pace; I'm not sure government's keeping up." A second common comment was that government needs to be proactive in the field, mentioned by five informants. The following suggestions were each made

by four informants: governments need to work better together, to provide education and training, to support research and innovation, and to provide funding to help farmers. Two informants mentioned the need to reduce or coordinate regulations, even within the same government, to set standards, to address international trade issues, and to address imbalances in who bears the costs of environmental leadership.

The following additional suggestions were each made by one informant: enact mandatory organic standards, address the high cost of land, address the low income of farmers, and putting green procurement policies in place. Finally, one informant suggested that government act in a manner that recognizes farmers often know their land and farm better than government does, and another that it is not all up to government to support environmental leadership; the farmers themselves must take responsibility.

Demonstrating better leadership was the prevalent theme in answers from farmers when asked what government could do differently. Environmental Farm Planning (EFP) is one attempt of government to put more strategic planning in place regarding farms. EFP is a provincial program in British Columbia that provides farmers with resources and advice on how to improve the environmental management of their farms. The EFP was described as a useful pollution reduction program because with farms, the issue is nonpoint source pollution and in order to solve that type of pollution, "you have to have it not occur in the first place." One informant, a former government official, expressed frustration that enforcement officials still tend towards a more industrial, point source approach:

> …that's a hard message to get across in my experience with regulatory agencies, they love to have a hard and fast, easily quantifiable way to determine compliance or noncompliance. That's very difficult in agriculture, any place where you have a non-point source. I mean, so you have a degraded stream, well who's, who caused that? Well nobody, you can't, there's no way to go back to an individual so the only way to improve that stream is if you have all the people in the watershed, or at least the majority of people in the watershed, changing and improving their practice.

As a result, a "softer, more educational-supporting approach…is going to get you a lot further." One farmer suggested education and incentives to help farmers both understand the long term effects of their farm practices, along with advice on how to meet standards in a way that is less costly and easier for them. Another informant stated that "government can also be a little more creative in terms of the nonregulatory approaches" and suggested promoting or highlighting good performance, setting longer term goals for industry's continual improvement, environmental performance audits and third party certification. Enforcement taken more seriously is also a factor. As one informant said: "Sure I'm not supposed to spray in windy conditions, but there is no one to enforce that rule, so it's not really a rule."

Another way in which government strategic planning is important is around biosecurity, particularly in areas such as the Fraser Valley where farms are located close together. The responses of farmers indicated that government is out of touch in other ways. For example, government wages are higher, but government officials expect farmers to take time away from their work to talk to the government. One informant summed up the concerns about lack of strategic planning by stating that in British Columbia,

> …there's no overall policy that takes everything into account: how do you make agriculture in BC economically effective and…the environmental impact of faring, the environmental impact of trade, the environmental impact of federal regulations, the impact of workers' compensation, the impact of employment standards. There's no real coordinated provincial agriculture policy and…how to manage the [environment].

One informant said that the old adage that an ounce of prevention is worth a pound of cure has been turned on its head, with government cutting back on field officers, experts who can help farmers and set and monitor standards. Performance outcomes are established and farmers are left on their own to figure out how to achieve them, at the same time as education, training and other resources have been drastically scaled back. When asked what government could do to help motivate environmental leadership or reduce challenges, one informant stated simply: "The BC government could hire back the organic extension agents…the conventional provincial

extension agent doesn't know anything about organic practices." Manitoba farmers (who do still have government extension agents, though not for organic specifically) expressed appreciation for the specialists their provincial government makes available to them in addressing problems and offering proactive advice. One farmer stated that the past practice of having more government people in the field:

> …has nothing to do with regulation, it had everything to do with having a good, well-educated group of people that were out and about in the field working with farmers on a daily basis, bringing them along...to the 21st century.

One organic farmer mentioned a book written by a U.S. farmer, Joel Salatin, entitled *Everything I want to do is illegal* (Salatin, 2007). The farmer summarized Salatin's argument as being that there are too many regulations, that "the way the regulations are set up" constrain farmers on all sides. For example, abattoirs are so closely regulated that so few of them continue to operate and farmers now have to travel long distances for pig slaughtering. That is an issue not only in Salatin's southeastern U.S. she stated, but also on Vancouver Island. Another example is regulations that prohibit eggs from being sold without the farm also having a chicken-slaughtering system - at a farm with just forty chickens. Regulations "are a blunt instrument" that hit small famers most "because the voices that shape it are mainly large farmers." Reduction and coordination of regulations – often by the same level of government - was therefore identified as important. The need for regulations was acknowledged, but the farmer stated that they need to be more straightforward and clear. The key role for government is to set minimum standards that all businesses know they have to meet. Government could go further by profiling those who are good performers. Initially, it could appear unlikely that an anti-government, NRA-supporting farmer from Virginia would have much in common with an organic farmer on an island on the west coast of Canada. However, there is something in Salatin's writing and speaking tours that resonates with farmers in British Columbia. The first is local, sustainable food production, and related to that, the frustration with one size fits all regulations that put smaller farms out of business; as well as onerous, conflicting and regulations that constrain everything a farmer does.

Another informant identified a specific way in which government could demonstrate leadership. This farmer stated that the government has to recognize that Canada has a reputation for quality, and that people "want to buy a story with what they buy." If the government "would just realize" the competitive advantages Canada has and grab the opportunities, "whether it's an organic farmer or someone who's...recycling electronics or whatever, and work with us, then it would really be helpful." Instead, the government acts as though relatively new industries such as organic farming are "just a big bother." The farmers on the other hand see themselves as filling a niche and having difficulty keeping up with demand, while government seems oblivious to the opportunity.

One informant suggested that government do a better job of bringing industry groups together for a government-sanctioned discussion. Government would establish the forum, but would not be responsible for finding the solution. Government could also develop standard ways for businesses to report out on their activities publicly, and to ensure that the reports are actually translated, or digestible, by the general public. The same informant also suggested that government keep up its own knowledge base around regulation, in particular what is achievable by an industry sector.

One informant suggested that government set up a land trust to address the high cost of land. Setting aside land for incubator farms with training opportunities for farmers would be very helpful. She stated that the demand for local food is huge, yet "everybody wants to give us markets." The government does not seem to understand the organic agriculture market at all, offering what the farmers do not need and neglecting what they do need. To this farmer, it was obvious: "Land and then training. I don't need help with marketing."

Transportation and distribution challenges could be addressed by assisting the smaller industries where there tend to be gaps. For example "the larger grocery stores won't even talk to you if you can't ensure our product is on their shelves every day." Consequently, the smaller industries have difficulty getting over the hurdle of establishing themselves enough to remain established. Another specific suggestion was insurance. Larger agricultural operations are influential in how crop insurance schemes are designed, and as a result, "big industry is supported with all kinds of

crop insurance," however, the small, diverse, local organic industry has no insurance, and no subsidies available. Smaller producers also face hurdles in trying to improve the environmental performance of their farm. Funding for projects such as improving manure storage capacity would assist farmers in making the transition. Finally, one farmer suggested that government support environmental leadership through its own procurement policies and, for example, purchase food only from producers that pay their labourers minimum wage, or who exceed environmental standards in some way.

Coordination of regulations within one government was identified as a necessity, and so was the need for greater cooperation between governments. Organic farmers discussed the challenges they have selling their products into other provinces: "I can't cross that boundary without a whole bunch more paperwork...and it's quite expensive." The paperwork impact of the federal organic standards was identified as a huge barrier for a lot of organic farmers. Organic farmers can partially addressed interprovincial trade issues by ensuring they adopted the same standard provincially as federally (as done in Manitoba), but shipping across provincial boundaries still entails additional paperwork.

One informant who was an employee of a provincial government discussed how the province works with the federal government and referred to "relationships and communications" as the most important to coordination and collaboration between governments. The relationships and lines of communication have to be built in advance, and maintained, so that if there's a need to address something, they are not "wasting time debating who's going to do what." Forums such as the Canadian Council of Ministers of Environment is important because things are signed off at the political level, even though the party might change, or individual employees in a department changes, the initiatives are more likely to continue and have an enduring element. Finally, opening international markets was identified as a step government could take. It is not a matter of dollars, but expertise. The federal government used to have more specialized expertise in helping producers find markets for their products in specific nations – "if you're going to sell to China it requires one set of circumstances; if you're selling into Brazil...it's something quite different." But that expertise has disappeared from government.

An organic farmer spoke to a trade issue related specifically to organic ingredients that are produced in Canada, certified organic, subsequently purchased by manufacturers of other products such as jams or cereals. The producers of those products benefit from the organic ingredients, because they rely on the certification within Canada to sell their products in turn. However, many of those producers certify internationally, not within Canada, and none of the money that flows from producers to the international certification programs flows back to the Canadian organic farms. The farmer suggested that the government could find a way of ensuring some of the funds for international certification flow back to the domestic organic producers, to support education and training. One informant said that while government should introduce Environmental Farm Planning and similar programs, "there comes a point where government's role probably should end." If farmers will still not comply with the law, then it is between the farmer and the regulator.

In summary, the interview results indicate disagreement within the agriculture respecting what constitutes environmental leadership. The issue of whether conventional methods are sufficient or whether organic agricultural practices are required is highly contested, as is the very definition of "organic." Overall, the motives for environmental leadership of all farmers, regardless of their views on what constitutes leadership are primarily social licence and consumer demand for sustainable products. Challenges are lack of farming knowledge, the low profitability of farming, conflicts over land, and lack of data regarding farming practice and outcomes. The need for a government presence "in the field" was repeatedly identified, particularly by organic farmers in British Columbia where organic extension workers from the Ministry of Agriculture are no longer funded. Key policy implications are for government to address land conflicts and cost, and to develop a more robust land strategy. As will be seen in the next section, the survey results are similar, although the survey results do not provide as much information on the debate around organic versus conventional, or regarding land use issues. Both interviews and surveys support the recommendation that governments provide more training and expertise.

5.4.2 Surveys

The survey results are similar to those of the interviews in that both conventional farming and organic farming were identified as demonstrating environmental leadership. The motivations for both included consumer demand, and ethical or moral drivers. Challenges identified by the interviews and surveys are not inconsistent, but the primary ones in the interviews were farming knowledge, profitability, land conflicts, and lack of data. The survey results provided a longer list of specific challenges, including the ones identified in interviews as well as labour costs and lack of processing facilities. However, those challenges were also mentioned by a couple of the interview respondents, and because the challenges were not ranked in the survey results, it is possible that the longer list of factors is not indicative that they are more of a challenge to survey respondents. The survey results support the interviews in identifying the need for government support for training and education, and the need for more consistent enforcement of government regulations.

Of the 46 responses to the question of what they see as the biggest challenge facing their business today, nine identified labour costs, six identified competition from other agricultural producers internationally and six identified costs of compliance with regulatory requirements. Five identified lack of processing facilities, three identified insufficient demand, and two identified either competition from other agricultural producers in Canada or transporting product to market. Two said “all of the above” are challenges. Nine identified other challenges. The specified “other” challenges included: the inability to charge what food is really worth, sustainability, a community certified kitchen that would spur value added chains, lack of supports for small famers, fraud by non-certified growers who label their produce as organic and do not follow Canadian Organic standards, the availability of affordable agricultural land, the intensity of the season (i.e., just summer months and long hours), labour retention, and inability to keep up with demand on a small hobby farm (Table 28).

Table 28: Challenges in the agricultural sector

What do you see as the biggest challenge facing your business today? (Select one)

Response	Chart	Percentage	Count
Competition from other agricultural producers in Canada		4.3%	2
Competition from other agricultural producers internationally		13.0%	6
Insufficient demand		6.5%	3
Inability to keep up with demand		4.3%	2
The costs of compliance with regulatory requirements		13.0%	6
Lack of processing facilities		10.9%	5
Transporting product to market		4.3%	2
Labour costs		19.6%	9
Other (specify)		23.9%	11
	Total Responses		46

Other (specify)	**Response**
1.	Inability to charge what food is really worth.
2.	Sustainability.
3.	A community certified kitchen would spur value added chains.
4.	Lack of supports for small farmers.
5.	Fraud by non-certified growers who label their produce as organic and do not follow Canadian Organic Standards.
6.	All of the above.
7.	Availability of affordable agricultural land.
8.	Intensity of season, i.e. just summer months and long hours.
9.	Labour retention.
10.	We're very small and our little farm is a hobby and a small second income. If we have a problem, it's our inability to keep up with the demand because we just can't do much more ourselves. We hope to employ WOOFers next year.*
11.	All of the above are big challenges for us.

*WWOOF: World Wide Opportunities on Organic Farms (a work exchange program)

When asked what environmental leadership means to them , twenty five of the responses indicated joining a certification standards program (a further response indicated that environmental leadership is “other” then identified an organic certification program as constituting environmental leadership), 17 selected exceeding regulatory requirements,

12 identified meeting regulatory requirements, and four said environmental leadership is something else. The "other" responses defined environmental leadership "doing business in an environmentally sustainable way", "creating a truly sustainable food and social system where our environment takes precedence" and "understanding ecological principles and managing my farm based on agro ecology. Often blanket environmental regulations work counter to sustainable farm management" (Table 29).

Table 29: Definition of environmental leadership

What does environmental leadership mean to you? (select all that apply)

Response	Chart	Percentage	Count
Meeting regulatory requirements		26.7%	12
Exceeding regulatory requirements		37.8%	17
Joining a certification standards program		55.6%	25
Other (please specify)		8.9%	4
	Total Responses		45

Other (please specify)

#	Response
1.	Doing business in an environmentally sustainable way.
2.	Understanding ecological principles and managing my farm based on agro-ecology. Often blanket environmental regulations work counter to sustainable farm management.
3.	Certified organic.
4.	Creating a truly sustainable food and social system where our environment takes precedence.

When asked to rank the importance of different factors with respect to environmental leadership, a strong first choice was meeting all requirements to operate my farm in a safe and sustainable manner. Twenty-three respondents selected this as the most important factor. Eight respondents ranked exceeding regulatory requirements as number one, seven selected maintaining a good relationship with the nearby community as number one, and six selected joining a voluntary environmental standards program. As a second choice, 14 selected maintaining a good relationship with the nearby community, 13 selected meeting all requirements to operate my farm in a safe and sustainable natter, nine selected joining a voluntary environmental standards program, and eight selected exceeding regulatory requirements. As the third-ranked choice,

15 selected maintaining a good relationship with the nearby community, 13 selected joining a voluntary environmental standards program, and 12 exceeding regulatory requirements. Only four selected meeting all requirements to operate my farm in a safe and sustainable manner as their third ranked choice. Putting these responses together, the most important factor for respondents in environmental leadership is clearly meeting all regulatory requirements to operate my farm in a safe and sustainable manner. It is not exceeding regulatory requirements, community relations, or joining a program. The second most important factor in environmental leadership is community relations, and the third is either exceeding regulatory requirements or joining a volunteer environmental standards program, being very close in the number of responses. These responses are outlined in Table 30.

Table 30: Environmental leadership in the agricultural sector

Rank the following in order of importance with respect to environmental leadership, with 1 being the most important

	1	2	3	Total Responses
Exceeding regulatory requirements	8 (28.6%)	8 (28.6%)	12 (42.9%)	28
Maintaining a good relationship with the nearby community	7 (19.4%)	14 (38.9%)	15 (41.7%)	36
Joining a voluntary environmental standards program	6 (21.4%)	9 (32.1%)	13 (46.4%)	28
Meeting all requirements to operate my farm in a safe and sustainable manner	23 (57.5%)	13 (32.5%)	4 (10.0%)	40

Asked to indicate the extent to which they agree with the statement that regulations regarding agriculture are too onerous, 7 strongly disagreed, 11 disagreed and 11 neither agreed nor disagreed. Eight agreed and three strongly agreed. Two did not know. When asked whether or not regulations are not onerous enough, 14 disagreed and three strongly disagreed. Thirteen neither agreed nor disagreed, none agreed, and one strongly agreed. Two did not know. Based on these results, it appears that most respondents do not think that regulations are too onerous but also do not think they are too weak. When asked how much they agreed with the statement that government should provide more support to farmers, through training and sharing expertise,

14 strongly agreed and 17 agreed, indicating a strong sense of a lack of support. Three neither agreed nor disagreed, seven disagreed and one strongly disagreed. With respect to the question of whether government should more consistently the regulations in place, 15 respondents agreed, nine strongly agreed, and 11 neither agreed nor disagreed. Two strongly disagreed and three disagreed. Two did not know. These responses are outlined in Table 31.

Table 31: Regulation and enforcement in the agriculture case

Indicate the extent to which you agree with the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know/not applicable	Total Responses
Regulations regarding agriculture are too onerous	7 (16.7%)	11 (26.2%)	11 (26.2%)	8 (19.0%)	3 (7.1%)	2 (4.8%)	42
Regulations regarding agriculture are not onerous enough	3 (7.1%)	14 (33.3%)	13 (31.0%)	9 (21.4%)	1 (2.4%)	2 (4.8%)	42
Government should provide more support to farmers, through training and sharing expertise	1 (2.4%)	7 (16.7%)	3 (7.1%)	17 (40.5%)	14 (33.3%)	0	42
Government should more consistently enforce its regulations	2 (4.8%)	3 (7.1%)	11 (26.2%)	15 (35.7%)	9 (21.4%)	2 (4.8%)	42

The next set of questions probed the context of the respondent's farm. Not surprisingly, all respondents either agreed (10) or strongly agreed (32) with the statement "my production methods create food security and are sustainable." Fifteen agreed and eight strongly agreed with the statement that it is not necessary to exceed regulatory requirements to be sustainable. Eight neither agreed nor disagreed, six disagreed, and three strongly disagreed. Two did not know.

With respect to the question of whether business considerations (eg; the costs of fertilizers or waste) promote environmental sustainability of their farm, 14 informants agreed and six strongly agreed. A further six neither agreed nor disagreed, seven disagreed, and two strongly disagreed. Three did not know. Twenty-four respondents strongly agreed and twelve agreed with the statement that decision on the farm are primarily driven by one or two people, indicating that either the farms are very small, or the views of one or two people are nevertheless fairly influential.

One neither agreed nor disagreed, three disagreed and two strongly disagreed. With respect to the statement "organic certification is not required for sustainable farming", 14 agreed and thirteen strongly agreed. Five neither agreed nor disagreed, eight disagreed, and two strongly agreed. Table 32 outlines the responses to this question.

Table 32: Types of farming techniques

Indicate the extent to which you agree with the following:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know/not applicable	Total Responses
My production methods create food security and are sustainable	0	0	0	10 (23.8%)	32 (76.2%)	0	42
It is not necessary to exceed regulatory requirements to be sustainable	3 (7.1%)	6 (14.3%)	8 (19.0%)	15 (35.7%)	8 (19.0%)	2 (4.8%)	42
Business considerations (eg: the cost of fertilizers or waste) promotes environmental sustainability of my farm	2 (4.8%)	11 (26.2%)	6 (14.3%)	14 (33.3%)	6 (14.3%)	3 (7.1%)	42
Decisions on my farm are primarily driven by one or two people	2 (4.8%)	3 (7.1%)	1 (2.4%)	12 (28.6%)	24 (57.1%)	0	42

Organic certification is not required for sustainable farming	2 (4.8%)	8 (19.0%)	5 (11.9%)	14 (33.3%)	13 (31.0%)	0	42
The costs of organic certification are too high	2 (4.8%)	8 (19.0%)	9 (21.4%)	8 (19.0%)	12 (28.6%)	3 (7.1%)	42

The majority of the respondents practiced some form or organic farming, be it certified or not certified (Table 33). Nineteen indicated that they are certified organic, and seven that they use organic farming methods but are uncertified. A further four indicated that they have "other" farming methods, and that those are a combination of organic and conventional, or organic and Biodynamic Farming Methods, or by adding value by processing and marketing. As noted in the Methodology (Chapter 3), this could indicate a nonresponse bias in the data obtained in the agriculture sector, with informants representing farmers may be more interested in the issue of environmental leadership or less concerned about their compliance record.

Table 33: Respondents approach to farming

Select the following statement that best describes your approach to farming:

Response	Chart	Percentage	Count
Conventional farming methods, meeting all regulatory requirements		24.4%	10
Conventional farming methods, exceeding regulatory requirements. Please specify:			0
Organic farming methods (with certification)		46.3%	19
Organic farming methods (without certification)		17.1%	7
Other, please specify...		12.2%	5
	Total Responses		41

Other, please specify...

#	Response
1.	Organic farming methods, some use of conventional inputs (seed stock, feed grains).
2.	Conventional with regulatory requirements and organic farming with certification.
3.	Organic and Biodynamic Farming Methods with certification.
4.	Certified organic plus natural sustainable practices based on solar energy use.
5.	We value add by processing and marketing.

When asked whether or not they agreed with a number of reasons for being a certified organic farm, ten strongly disagreed, six disagreed and two neither agreed nor disagreed with the statement that it was due to pressure from other farmers. Needing to address concerns from community neighbours also did not appear to be as strong factor driving certification, with eight farmers disagreeing one strongly disagreeing, and six neither agreeing nor disagreeing with that as a factor. Eight agreed and six strongly agreed with certification being driven by consumer demand. Ten agreed and four strongly agreed with the ability to display a certified organic label as a reason why their farm is certified organic. Four were neutral (neither agreed nor disagreed) with the statement that the label influenced their decision to become certified organic. Table 34 outlines these responses.

Table 34: Reasons for organic farming

The following reasons for being certified organic apply to my farm:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know	Total Responses
Pressure from other farmers	10 (55.6%)	6 (33.3%)	2 (11.1%)	0	0	0	18
Consumer demand	0	2 (11.1%)	2 (11.1%)	8 (44.4%)	6 (33.3%)	0	18
Need to address concerns from community neighbours	1 (5.6%)	8 (44.4%)	6 (33.3%)	2 (11.1%)	1 (5.6%)	0	18
To be able to display a certified organic label	0	0	4 (22.2%)	10 (55.6%)	4 (22.2%)	0	18
It is the right thing to do environmentally	0	0	0	6 (33.3%)	12 (66.7%)	0	18
It is the right thing to do socially	0	0	0	8 (44.4%)	10 (55.6%)	0	18
The decision to seek certification was driven by the vision of one person	0	2 (11.1%)	3 (16.7%)	5 (27.8%)	7 (38.9%)	1 (5.6%)	18

Are there other reasons why your business is certified organic? If so, explain.

#	Response
1.	We are stewards of our land and as such we must continue to improve the quality of the soil and thereby improve the quality of our products.
2.	The main reason to obtain Organic certification was to ensure our methods were truly producing healthy food crops.
3.	THAT IS WHAT I WANTED FOR MYSELF AND THE CONSUMERS OF MY PRODUCE.
4.	I believe in independent third party verification and the structures put in place by pioneers in the Canadian organic industry.
5.	Buyer demand.
6.	We have a moral obligation to be good stewards of what God has given us.
7.	To set our product apart in a health conscious group of consumers.
8.	To make a difference for the health conscious.
9.	To produce healthy, nutrient dense food.
10.	We have a relative who is an importer and distributor of organic produce and he buys our product. (easy peasy).
11.	It was certified organic when we bought it and it is important to us to keep up the status.

When asked how much they agreed with the statement that their farm is certified organic because it is the right thing to do environmentally, twelve strongly agreed and six agreed. Ten strongly agreed and eight agreed with the statement that it's the right thing to do socially. Finally, seven strongly agreed and five agreed that the decision to seek certification was driven by the vision of one person. Eleven respondents provide additional reasons for being organic. Four of the responses indicated that the higher health quality of organic produce was a factor. Two referred to the importance of organic certification in being good stewards of the land. One referred to by demand, one bought an organic farm and decided it was important to keep up the status, and a final one found it was simply easy ("easy peasy") to be an organic farm because they have a relative who is an importer and distributor of organic products.

Organic farmers were asked if it makes a difference whether the certification program is international, national or provincial. Ten of the 18 said it did, seven said it does not make a difference, and one didn't know. In explaining their answer, farmers said it does matter because some programs (in this case the local program), has higher standards than the local one. Farmers who indicated they are organic but not certified were asked a separate series of questions. The reasons for the farm being organic but not certified were it is difficult to be

certified when neighbouring farms are not (three responses and the cost of certification is too high (three responses). Six stated that they have other reasons for not being certified. The other reasons are that it is of no value for the current business, it is not needed to sell the product, customers are not demanding it, the time required for certification is high as well as the costs, and they have no interest. One farmer said that the word "organic" has been over-used and still allows some allocation of chemicals to be used, so they go beyond that and use no chemicals. These results are summarized in Table 35.

Table 35: Reasons for organic but not certified

The reason(s) my farm is organic but not certified (check all that apply):

Response	Chart	Percentage	Count
I am in the process of obtaining certification			0
It is difficult for my farm to be certified because neighbour farms are not organic		42.9%	3
The cost of certification is too high		42.9%	3
Other		85.7%	6
	Total Responses		7

The reason(s) my farm is organic but not certified are (check all that apply): (Other)

#	Response
1.	It is of no value for my current business.
2.	Not needed to sell my product.
3.	My customers are not demanding we be certified. They require that we share our agricultural practices with them and based on the information make the decision to purchase.
4.	Costs are high but also take time to obtain certification.
5.	No interest in obtaining organic certification.
6.	The word "organic" has been over used and still allow some allocation of chemicals to be used. We go beyond this and use no chemicals etc.

All farmers were asked what the most important thing is to making a difference to the success of their business. The most common answer (18 of the 41) was increased consumer demand. Thirteen selected lower costs of production. More flexible government regulations, lower transportation costs for distribution of products, and improved access to production facilities were each selected by two farmers. Four identified other reasons. One said it the most important thing that would make a difference to the success of its business is available labour. Another said covering actual costs and allowing for some profit that could allow for sustainable practices to be

carried out. One said they want government to be honest about conventional food production that is sold in the stores. One said all of the above, which included increased consumer demand, lower costs of production, fewer reporting requirements, more flexible regulations, lower transportation costs, improved access to production facilities, and more training and learning support. This farmer state that "[all] these things tie into each other and at the end of the day, we make so little money that it is a labour of love." These responses are included in Table 36.

Table 36: How government can support farming

The most important thing to making a difference to the success of my business is:

Response	Chart	Percentage	Count
Increased consumer demand		43.9%	18
Lower costs of production		31.7%	13
Fewer reporting requirements			0
More flexible government regulations		4.9%	2
Lower transportation costs for distribution of my products		4.9%	2
Improved access to production facilities		4.9%	2
More training and learning support			0
Other (specify)		9.8%	4
	Total Responses		41

Other (specify)

#	Response
1.	Available labour.
2.	Actual costs are paid plus some profit which allows for sustainable practice to be carried out.
3.	We want the government to be honest about conventional food production that is sold in the stores!
4.	Again, all of the above. All these things tie into each other and at the end of the day, we make so little money that this is a labour of love.

When asked to rank the top three things government could do to support environmental leadership of farms, 19 famers ranked financial assistance for equipment, investments, training, certification and/or compliance costs as first. Sixteen ranked more funding for research and innovation as the top item. Increased strictness of regulations, more consistent enforcement of regulations and more training and expertise were selected as the priority by two famers each. Viewing the responses as a whole, the two most important things government could do are

provide more financial assistance, and more support for research and development, though with no clear first and second ranking item between these two. The provision of more training and expertise is the third important item.

Farmers were asked to answer the question "if there was one thing government could do to support my farm it would be?" The responses were highly varied. The most common answer related to help for small scale farmers (eleven respondents). Four farmers identified actions related to labour or job training. Three farmers identified actions related to subsidies or supply management, and three identified processing facilities. One identified more research, one land, one the need to reduce permits required, and one transportation concerns (ferry). Farmers were then asked to identify one thing government could do to specifically support the environmental sustainability of their farm. Five did not know. Of those who did respond, responses varied from very high level (support and promote those people who "do the right thing", to the highly specific (better agricultural plastics recycling program). The most common answers related to water and water conservation (sis responses), customizing regulations for the size of farms (four), tax reform (three responses), and help transitioning to organic farming (three responses).

None of the respondents were large or medium organic farms. All respondents had either under 6, or 6-99 employees. It is therefore difficult to reach conclusions regarding Proposition 7, that the larger the business, the stronger the motivation to address consumer concerns through the ability to display some form of program logo. The four companies that were somewhat larger (6-99 employees) either agreed or strongly agreed with the statement that consumer demand, the ability to display the certified organic logo, or an attempt to address community concerns drove their decision. However, the majority of companies of less than five employees also strongly agreed or agreed with the statement that consumer demand, ability to display the logo or concerns of neighbours drove their decisions.

In summary, there was a high degree of disagreement among survey respondents that regulations are too onerous (42% strongly disagreed or disagreed and a further 26% neither agreed nor disagreed). There was moderate disagreement that regulations are not onerous enough and that government should more consistently enforce the regulations it has in place. There was moderate

to strong agreement that government should provide more support through training and expertise (73%).

Exceeding regulatory requirements is not considered necessary to be sustainable (even some organic farmers agreed with this statement). Business considerations, i.e., costs, are not a strong motivator to environmental sustainability. Leadership at the farm is important, which is not a surprise given that most respondents were owner/farmers of a small business of less than five people. There was moderate support that organic certification is not necessary to be a sustainable farmer, and approximately 50% thought that the cost of certification is a barrier to organic farming. Where a farm is certified organic, there are several motivations. Ability to display the organic logo is a high motivator (14 of the 18 respondents agreed), but the strongest motivators appear to be the belief that certified organic is the right thing to do environmentally and socially (all respondents either agreed or strongly agreed that those were motivators). The comments on "other" reasons for being a certified organic farm are similar: consumer demand, and an ethical or moral sense of duty. The reasons for not being an organic farm included that there is no economic value or consumer demand, the costs and time to transition to organic, and inability to be an organic farm when your neighbours are not. One respondent questioned the term "organic" and what it means.

5.4.3 Summary of agriculture results

There are a number of similarities between the results of the surveys and the results of the interviews in the agriculture case. The similarities included first, a questioning of the value of "organic" farming, either because the farmers do not believe it has an ecological advantage over current conventional techniques, or because they question the standards (e.g.: the use of black plastic is fine in organic farming, but small amounts of herbicides are not). Related to this issue is the complexity of determining what is better ecologically – is it small scale farming? Large-scale, industrial organic farming? Is it local farming?

A second theme common to both the interviews and the surveys was the cost of land, and the cost of labour. Although organic farming is more labour intensive than conventional farming, both types of farmers identified it as a major concern. The third theme was the need for proactive assistance from government for training, education, and hands on in-the-field assistance, rather than waiting for a violation and appearing to enforce a regulation. The final, related theme, is the sense that government is not showing leadership when it comes to agriculture, by not developing long term plans or comprehensive policies that take into account all aspects of farming – land, labour, waste management, air and water quality, and distribution, processing, as well as production. There is not necessarily a conflict between the call for greater leadership from government in this regard and the frustration with regulations. Rather, they are consistent in that the call for government leadership is not a call for more regulations on specific, one off issues, but for overall strategic direction combined with assistance for farmers to make the changes themselves (training, education, expertise, funding to make transitions), combined (by some) for increased support for research and innovation to support both the policies and the changes by farmers.

Overall, we can conclude from the interviews and surveys in the agriculture case that there is considerable disagreement amongst farmers about what constitutes "environmental leadership." This supports the observation in the literature that what constitutes "organic" is the subject of debate, but also adds a greater understanding of the debate around what is "environmental leadership more broadly. Some informants believe that all farming is sustainable and managing a farm while complying with regulation is leadership; others believe that organic certification is required; in between are a number of different interpretations. Further, there is controversy or even tension in in the agricultural sector regarding environmental leadership generally and organic farming in particular. However, all definitions of environmental leadership appear to agree that leadership involves a process and an element of ongoing education and refinement of practice based on the farmer's own experience or on drawing from the experiences of others. Motivations are social licence and a commitment to doing the right thing. Challenges include the cost of land, land conflicts, and lack of farming knowledge. These results are summarized in Table 37.

Table 37: Interview and survey results – Agriculture case study

Interviews	Surveys	Summary
Environmental leadership		Social licence (citizens) influences environmental performance Need for knowledge and training Culture, values/ethic of the business are important in environmental leadership Visionary leadership of the business is important in environmental leadership Continuous learning is important for environmental performance
Contested: compliance or noncompliance/organic or conventional		
Ongoing reflection		
Main challenges		
Land cost and conflicts		
Profitability is low		
Sufficient knowledge of farming		
Main motivations		
Social licence		
Consumer demand		
Values/ethics		
Leadership		
Policy implications		
Training and expertise are required		
Strategic approach to land		

5.5 Summary of results

Respondents in the three case studies were asked about environmental leadership in their business and sector through the use of interviews and surveys. A total of 36 people were interviewed, comprised of 13 in the EPR case, nine in the marine case, and 14 in the agriculture case. The number of surveys received was 15 in the EPR case, ten in the marine case, and 42 in the agriculture case. Approximately half the number of businesses invited to participate an interview resulted in an interview. The responses for the surveys was smaller, though this limitation is mitigated through the use of purposive sampling to obtain a variety of respondents and through triangulation of data sources (documents, interview and surveys), the use of three cases representing different geographic, business and jurisdictional contexts, and three types of respondents for the interviews (businesses, associations, and officials). Limitations of the results

include the self-selection of informants, which may have resulted in an over-representation of informants who are not concerned about their compliance record or who are interested in the question of environmental leadership.

There were a number of similarities between the cases. These include: (1) the importance of social licence; (2) the need for more knowledge and training; (3) the importance of corporate culture or values in motivating environmental leadership; and (4) the role of a visionary leader. There were a number of differences between the cases, including whether regulations are inadequate, whether compliance is sufficient for environmental leadership, and whether harmonization is an issue. Another key difference respects the target social group for obtaining and maintaining social licence. In the EPR sector, it is customers of electronics products. In the marine sector, it is communities. In the agriculture sector, it is citizens, comprised of both communities (neighbours and the community of farmers) as well as consumers of agricultural products.

No inconsistencies were identified in the responses of businesses, officials and association representatives who took part in the interviews. (The surveys were only circulated to businesses, to obtain broader information on business decisions, the focus of this study). However, as would be expected, the interview informants spoke more expansively on the challenges they experience in their day to day business. In the EPR electronics case, businesses emphasized harmonization of regulations more than did officials or associations, although association informants did discuss the work the industry associations are doing to help make regulations more consistent and less complex, particularly around product categories. Government officials, associations and businesses in the EPR case all agreed that government-business cooperation could be improved, and all noted that regulations had been required in this sector in order to get businesses to their level of environmental sustainability. In the marine case, differences between government officials and business informants were somewhat more prevalent. (As noted in the methodology section, no marine association agreed to participate in the interviews). Government officials in the marine sector put more emphasis on compliance and enforcement issues, and efforts towards federal-provincial cooperation whereas the business informants emphasized the importance of community relations. Both agreed that regulatory standards are too low to make compliance with

regulations sufficient for environmental leadership. In the agricultural sector, government officials spoke more about the need for more strategic government planning, but officials, associations and farmers all identified land issues (conflicts, cost) as an issue. The key points from each case and where they overlap between cases is outlined in Table 38.

Table 38: Summary of results from all three case studies

Electronics EPR case	Marine case	Agriculture case
Social licence (customers) influences environmental performance	Social licence (community) influences environmental performance	Social licence (citizens) influences environmental performance
Need for knowledge and training		
Culture, values/ethic of the business are important in environmental leadership		
Visionary leadership of the business is important in environmental leadership		
	Continuous learning is important for environmental performance	
Government standards are necessary for a "level playing field" and for improvement in environmental performance	Regulatory standards are too low; not considered a serious target	Government role in setting standards is important (but there is debate about what the standards should be)
Harmonization of regulations is needed		Lack of government strategic policy and planning

CHAPTER 6: Analysis

As discussed in Chapter 5, the results of this research indicate a number of similarities across the cases: the importance of social licence, the need for regulation to set minimum standards, the importance of knowledge and training, and the connection between corporate culture and leadership and environmental leadership. This chapter will analyze the results based on themes identified in the interviews and surveys, cutting across each case and in relation to the seven propositions outlined in Chapter 1. This chapter will also identify a theme for each case study that summarizes the general character for each case study that is distinct from the other cases selected.

6.1 Themes

The main themes in the electronics EPR case are: business case/social licence/consumer influence on firms; cultural values within a company influence firms' behaviour; there is a need for education of consumers and within firms; government action is required to set standards; and harmonization of standards is required. The three categories of responses relating to business case, social licence, and consumer influence are grouped together because they are different expressions of the related ideas that businesses will respond to consumer pressure in order to retain their social licence, so that they can continue to stay in business. Although social licence is expressed sometimes in the responses as "the right thing to do," it is inextricably linked with the ability of a company to continue to operate, and because where consumer pressure affects a business' profitability, there will be a stronger "business case" for environmental or social action. Overall, the underlying theme for the EPR case is compliance and harmonization. This theme is based on three points heard repeatedly in the data collection: regulation has been critical in making progress on environmental issues in this sector; lack of government coordination and harmonization has resulted in confusing and frustrating regulations; and therefore businesses focus on compliance.

The main themes in the marine case are: business case/social licence influence on firms; vision of leaders affects firms' behaviour; reflecting and learning are important; there is a need for education and training (of smaller operators, of employees); and, standards are too low. In the marine case, social licence usually was expressed in terms of community or neighbour relations rather than customers. The overall theme of the marine case can be summarized as "taking matters into our own hands." In this sector, regulations are considered inadequate to meet environmental and social needs, and businesses are taking voluntary steps motivated largely by pressure from the community.

The main themes in the agriculture case are social licence influences behaviour; consumer demand influences businesses; environmental ethics are important; reflecting and learning influence businesses; there is a need for training and knowledge; there is a lack of government leadership in policy and planning; and, government is responsible for setting standards. These themes are consistent with what has been identified in previous studies, which found that environmental leadership is influenced by internal factors such as culture and leadership, also by external factors such as regulation and consumer pressure, and is the result of a complex interaction between internal and external factors (Bansal & Roth, 2000; Gunningham et al., 2003; Kagan et al., 2003; May, 2004; May, 2005; Nielsen & Parker, 2008; Nielsen & Parker, 2012; Stanbury, 1986; Winter & May, 2001). The overall theme of the agriculture case can be summarized as contestation and capacity. Contestation refers to the debates regarding what constitutes environmental leadership, whether compliance is sufficient, whether organic certification is required, and what constitutes organic. In addition, farmers consistently identified their need for help with capacity and farming knowledge.

A number of themes cut across the three cases for this thesis. The first involves environmental leadership, and how its conception by informants is different from what was originally anticipated. The second theme is that social licence is important in all three cases. Third, that corporate culture or visionary leadership is also important in driving environmental leadership. Fourth, a need exists for greater leadership by government, by strategic planning, taking advantage of new markets, resolving conflicts, or greater harmonization and coordination of regulations. Fifth, the importance of continuous learning, be it through formal training, sharing

of expertise and knowledge, or through ongoing reflection on business practices. These will each be further explained in the remainder of this chapter.

6.1.1 Environmental leadership

This thesis originally conceived of environmental leadership largely as a categorization based on activities of firms, particularly activities that relate to compliance. What became apparent during the interviews and surveys was that people conceive of environmental leadership more as a mindset, and a mindset that must be continually assessed and fostered. Examples are integrating EMS into day to day operations, comparing their actions to those of other businesses in the sector, and engaging in a process of continual improvement. This evolution of the meaning of environmental leadership was perhaps the least apparent in the electronics sector as a whole, where compliance with regulations and frustration with a complex regulatory environment was paramount. However, a few informants in the EPR electronics sector did identify a more thoughtful, broader approach to environmental leadership and how the company expresses it. In particular, one of the interview informants from a major multinational electronics company explained that the firm's environmental policy is to be very clear and careful what they claim, to not, as some companies do, claim that their products are environmentally friendly, because no product is environmentally friendly. Rather, they explain that their product does relatively less harm in particular ways, which they find is more honest with themselves and customers. In addition, the interviews indicate that the levels of environmental leadership fluctuate. Leadership is not a black and white categorization and has much to do with the continuous process of learning. Compliance record is an outward focused measure but does not tell the whole story. For example, does one instance of noncompliance mean a company is a "nonleader" despite rigorous internal steps (such as reduction of corporate footprint) not measured by regulations?

As a result, during this research, the question of what environmental leadership actually is took on more significance than originally anticipated. This research identified what environmental leadership is, what motivates it, the challenges to environmental leadership, and what governments can do to support it. When environmental leadership is expressed as more of a process, rather than as a defined state, and when debate exists regarding what is environmental

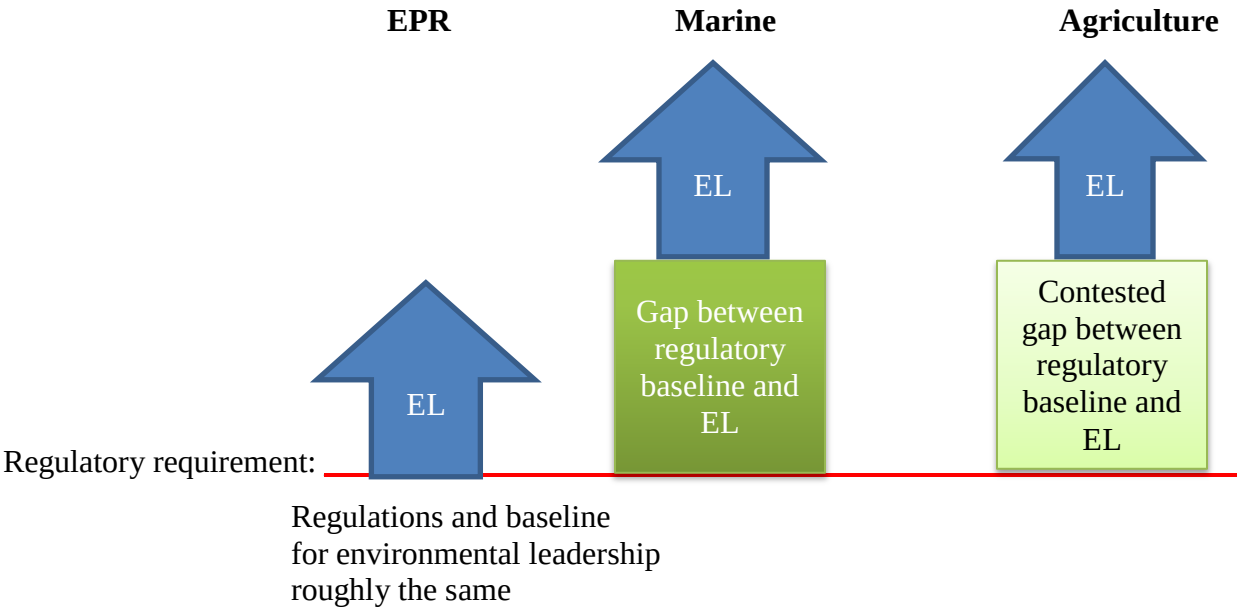
leadership, informants tend to approach the discussion of environmental leadership from a different point. For example, the conventional farmers' starting point for a discussion of leadership was acceptance that conventional practices are rigorous, and ensuring compliance with the regulations while running a successful business demonstrates leadership. However, organic farmers' discussion of leadership starts from the perspective that compliance with regulations is insufficient and that leadership can only exist where a farmer does more. In addition, the informants discussed continuous learning and constant readjustment of practices based on their assessment of what has and has not worked. Therefore, the answers to how government can do more to support leadership did not reflect and understanding of environmental leadership as moving from one category to another, but of their underlying motivations and obstacles keeping them from doing more, regardless of how they defined leadership.

The concept of time is connected to environmental leadership in a few ways. One is the constant evolution, as discussed above, but another is the way the different time frames under which a business operates affects its ability to demonstrate environmental leadership. For example, market pressures for firms to demonstrate profits are often shorter than the time frame needed to reap the benefits of environmental measures. As noted by one informant in the electronics EPR sector, the fact that his company is family-owned rather than publicly traded has helped them make environmental investments without conflicting market pressures. Another example is in the agriculture sector, where the transition time (usually three years) from conventional to organic farming was identified as challenging because in the intervening time, a farmer may not be experiencing the cost-saving (particularly labour related costs) of conventional farming, yet not yet able to sell produce as certified organic at organic prices.

The results of this research also provide additional perspectives on environmental leadership as taking steps beyond compliance with regulatory requirements, whatever government has determined the requirements to be. For the purposes of this thesis, environmental leadership is defined as a business taking steps beyond compliance with the general regulatory requirements because the research question focuses on why businesses do more than avoid violations of the law, not whether the standards of the law are adequate. However, it became apparent that not all

businesses in the case study agree that the minimal regulatory requirements are the baseline above which a business could demonstrate leadership. In the EPR sector, the legal requirements appeared generally accepted as a reasonable starting point from which to measure leadership, but because the regulatory requirements in the marine sector are considered inadequate, leadership is viewed as necessarily starting from a higher standard. In the agriculture case, there is disagreement about whether regulatory requirements are the starting point from which to improve and show leadership, or whether the minimum is organic standards. The misalignment between the regulatory standards and what informants in each case generally considered the starting point for leadership can be illustrated in the following figure:

Figure 6: Regulatory requirements and environmental leadership (EL)



The misalignment between the regulatory baseline and what businesses in a sector generally consider environmental leadership to be has a number of implications for interpreting the conceptual framework and for the policy recommendations of this research. The conceptual framework in Figure 4 builds on previous research of environmental leadership and relevant theories to identify a number of factors internal and external to a firm that influence firms' decisions regarding environmental leadership. The identification of misalignment in some sectors between the regulatory baseline and what firms generally considered minimum

performance provides greater depth to the propositions in the conceptual framework. For example, Proposition 4 identifies that laws will influence firm behaviour. Proposition 5 identifies that consumer and customer pressure will also influence a firm. If regulatory standards are considered low, then the influence of the law, i.e., the strength of Proposition 4, may be weaker than if the laws are considered adequate, and the consumer and customer pressures to meet higher standards may be relatively higher. Similarly, if laws are considered inadequate, then influences internal to the firm (in particular Proposition 3 regarding leadership and culture) may be stronger where a firm has decided to exceed regulations. In other words, the existence of a misalignment between regulatory standards and what businesses in a sector consider the baseline above which environmental leadership exists may be a starting point for, first, identifying the significant policy implication of government needing to strengthen standards, but also of the relative strength of each proposition within the context of particular sectors, or even particular firms.

6.1.2 Social licence

A factor not covered by the propositions is that the nature of the social sector providing the social licence may differ based on the nature of the business. Within each sector, social pressure was evident, but there were variations between each case study regarding what particular portion of society is referred to in "social licence." Due to the lack of domestic control over the design and production of electronics, the focus of informants in the electronics EPR case was on recycling regulations and the confusion both companies and consumers experience regarding environmental issues in the electronics sector. To the extent there is social pressure, it comes from consumers of items, wondering how to recycle their products. In the marine sector, social licence pressures come mainly from neighbours, but also from others within the jurisdiction (primarily in British Columbia) concerned about environmental impacts. For the agriculture sector, the market pressure from consumers, as evident in the reference to a growing market for organic or local food, and from neighbours, as evident in the discussion of conflicts over land use.

It is reasonable to conclude that where a business is physically located in one area, such as a port or harbour, the social licence required to operate will come primarily from the community. Where a business is not physically located close to a community, such as electronics retailers, the social licence will have to come primarily from the marketplace, making consumers the important social sector. Finally, where social licence comes from a combination of consumers and communities, the social licence must come from society, or citizens, more broadly. The example of this is the agriculture sector, where consumer buying preference for organic produce is influential regardless of the physical distance between the farmer and the market, yet location is also important because of the interest neighbours may have in avoiding farm-related pollution, as well as the interest in locally-grown food.

This theme relates to propositions 1, 2, and 5 outlined at the conclusion of Chapter 2 (Literature Review) because they all relate to external pressures on businesses. Proposition 1 states that businesses will decide whether or not to demonstrate environmental leadership based on the collection of relevant information, determination of the options, analysis of the implications of each option, and on the resulting calculation of the costs and benefits. The results of this research indicate some support for Proposition 1 because informants indicated that a business case for environmental action is important, and several noted that taking environmental steps can reduce costs and save money by, for example, reducing energy use. Even informants who discussed corporate social responsibility and social licence demonstrated some level of the rational actor model in that they are influenced by the improved image, reduced litigation or other conflicts with neighbours, potentially increased market share, and economic benefits their socially and environmentally responsible actions are anticipated to derive. This reflects key elements of the rational actor model as outlined by Allison & Zelikow (1971): that the interests and values of the decision maker are translated into a payoff or utility through the setting of goals and objectives; there are alternatives from which the rational actor may choose; and that there are consequences attached to each.

Proposition 2 states that businesses that are influenced by others in their area of business (suppliers, customers, trainers of employees and leaders, competitors in the industry) will make their decision based on approval and/or conformity with others in their area of business. The

responses from farmers indicates that conventional farmers have gradually adopted organic farming practices, either because the practices are considered superior, or because of market pressures from consumers. In the marine case, shipping companies stated that if one company adopts a CSR plan or particular practice, they all feel they need to. There is also some support for Proposition 2 in that it appears to be accepted by all informants in all three cases that some level of corporate responsibility is expected in their field, and that firms must take action and be seen to take action. Many have environmental managers or similar positions. Further, a few informants specifically referred to the pressure on companies that comes from not only leaders, but the employees, who want to work in a firm that has high environmental standards.

Proposition 5 states that pressure from NGOs, community groups, bad publicity or other public attention to their activities will influence businesses to demonstrate environmental leadership. The results of the research indicate support for this proposition. The external sources are primarily regulation and consumer pressure. In the electronics EPR case, the external pressure appears to be mainly regulation, pushing firms to take environmental steps. The external market pressures do not however appear to be strong, given the small influence of the Canadian market, and either consumer confusion or indifference. In the marine case, the external pressures were sometimes investors, but most commonly referred to were the community in the surrounding area of a port or operators within a port. In the agriculture sector, the external pressures take the form of consumer demand for produce that is organic, or considered otherwise sustainable. External pressure also comes from other farmers, manifesting itself as pressure to meet or exceed organic standards, as well as the tension and confusion around what is "organic" and whether anything other than conventional standards are necessary to be environmentally sustainable.

6.1.3 Corporate culture and visionary leadership

In all three case studies, it was evident that environmental leadership needs to be supported from the top and linked to a strong moral sense to give back. "The top" may be an activist organic farmer making his own day to day decisions or leaders at corporate headquarters in another continent. In some cases the leadership was responding to social licence pressures and in others it was motivated by a more ethical concern or desire to give back to the community. In either case,

where corporate culture supports steps to reduce environmental impacts of a firm and to go beyond mere avoidance of regulatory infractions, the support and vision of a leader is critical in how much of an environmental leader a firm will become.

This theme relates to Proposition 3, because it relates to internal pressures in firms. Proposition 3 states that the decision of businesses regarding environmental leadership will be at least partly affected by internal factors such as culture, elites, management style, resources, and capacity for change or innovation. Internal management style and the leadership in a company were identified in all three cases as being important. In the electronics EPR case, Canadian offices of foreign companies referred to the strong leadership of their head offices in Asia in making environmental decisions. Even smaller companies, run by operator/owners, do what they can for environmental leadership. They do not have control over design decisions, but several referred to their efforts to reuse computers, for example, by donating them to local charities. The marine case informants were similar in that they cited leadership at their parent company offices as driving environmental initiatives. In the agriculture case, the decisions of farmers was particularly evident—be it the decision to pursue organic certification, or that conventional standards are sufficient –because of the small size and family orientation of most farms that participated in this research. In this respect, the results of the research demonstrate some support for Proposition 3.

6.1.4 Strategic role of government

In all three cases, the strategic role of government was discussed, though it took different forms. In the electronics EPR case, it was primarily in the form of criticism of the lack of coordination and communication by government, along with specific observations such as government's investment in recycling and difficulties moving beyond that model. In this case, most businesses and particularly smaller ones, focused on mere compliance. In the marine sector, the lack of leadership by government was primarily expressed as weak regulations, therefore businesses are taking matters into their own hands by developing their own responses, in order to meet community expectations. In the agriculture case, lack of government leadership was identified primarily as the lack of land use planning and lack of forward planning for the industry, leading

to conflicts over land, and concerns that some farms are benefiting from consumer interest in organic products without meeting regulatory standards for "organic." Although some informants in each case noted that it is not all up to government to address social and environmental problems, there was the overall general sense that governments in Canada have largely not been demonstrating sufficient environmental leadership itself.

This theme relates to Proposition 4 because it has to do with the influence of government actions. Proposition 4 states that process requirements that encourage reflective behaviour, such as planning requirements or information disclosure, will contribute to environmental leadership. Informants in all cases referred to consideration of regulatory requirements. Whether regulations exist or not, or what the standards are, affects their business decisions. Sometimes the process was formal, through an environmental management system, and for some informants it was less formal, such as organic farmers sharing ideas and continually evaluating their own practices. Further, the responses of informants in each sector asking for increased education, training and learning activities demonstrated the importance of reflective behaviour to the respondents, which is also linked to learning, discussed in the next section. The suggestion by a couple of informants that government requiring the release of firms' performance reports also demonstrates the importance of reflective behaviour, because release of information has been identified as prompting firms to contemplate their business practices.

Respondents in the electronics sector stated that if there were no regulations in place, their sector would be much further behind than it is now regarding recycling and other environmental measures. This observation was unique to the electronics sector. Why is the electronics sector different than the marine or agriculture sector? It is not clear, but could be because within the electronics sector, there is no small movement of individuals with a passion as exists in farming, where individual farmers made a personal choice to live a particular lifestyle and support what they see as a movement. Further, unlike the marine sector, which has had clashes with communities about pollution and other environmental concerns, the electronics sector is more dispersed and remote from individuals and communities. The main way in which people come into contact with the electronics sector is as a consumer.

6.1.5 Learning

A few issues arose from the data that had not been identified in the propositions. One is the importance of learning within a firm, which could have been reflected by a proposition that businesses that are interested in environmental leadership, regardless of their motives, will consciously engage in learning from their own experience and from others in their sector, and take steps to ensure learning continues (such as training and evaluation programs). Learning is linked to but distinct from the concept of reflection in Proposition 4 in the conceptual framework, because Proposition 4 is about internal reflection caused by external factors such as laws, not internal culture and organizational processes, such as internal communications.

In the larger businesses in each sector, learning was more likely to be part of a formal process, through a certification program, a corporate social responsibility plan, or an Environmental Management System. In smaller businesses, learning was more informal and part of the continual adjustment and assessment of how the business was running and how it could run better. In the agriculture sector, learning between businesses was evident, particularly within the organic sector and between the organic and conventional sectors.

In addition, the need for continuous training, including resources to conduct training, to facilitate the sharing of information, and support by government to do so was identified as important. In all three sectors the need for education of the public and of businesses regarding what regulations exist, how to comply, as well as training and sharing experiences in best practices.

6.1.6 Interaction of factors and SMEs

Proposition 6 states that a firm's decision regarding environmental leadership will not be based solely on internal factors nor on external factors alone, but by a combination of them. Where in conflict, whether internal or external pressures prevail may depend on (a) strength of leadership, (b) public attention on the firm's activities, or (c) strength of shareholder and investor concerns. There is support for Proposition 6 because no sector and no informant stated that only one thing is driving environmental leadership. Rather, as indicated above, they all referred to a

combination of internal and external factors, and expressed in a manner that indicates they constantly have to navigate between them and juggle all the motivations and challenges to make their decisions.

The remaining proposition is Proposition 7 which, unlike the other propositions, was not confirmed nor challenged by the research findings. Proposition 7 states that larger businesses will be more amenable to social pressure than SMEs. It is not possible to reach a conclusion either way regarding Proposition 7, mainly due to the very small number of responses received regarding this question. The most that can be said is that public image is important to some degree to firms of all sizes.

6.2 Summary

The data provide support for all propositions except Proposition 7. Two additional factors relevant to environmental leadership that had not been identified in the original propositions and conceptual framework were identified. These are the geographic aspects of environmental leadership and policy implications (international/local as well as provincial) and learning within organizations.

The internal factors that motivate companies' environmental leadership actions are similar across the case studies in that they involve corporate culture (often as fostered by the corporate leadership) and the encouragement or processes in place to facilitate continuous learning. The external factors that influence companies in each case study are similar at a high level. These include regulation and consumer pressure. In addition, the external factors may originate from local sources, provincial sources, national sources or international ones. However, within each case study, there are variations that affect what additional steps governments could take to encourage environmental leadership. In the EPR electronics case study, regulations were key in getting the industry to its current recycling rate, but now the lack of harmonization is a key issue. In the marine sector, harmonization is not an issue at all, but the low standards were identified as not a barrier to environmental leadership, but a manifestation of how little government is already

doing. As a result, many members of the marine industry are taking environmental leadership matters into their own hands. In the agriculture sector, lack of strategic leadership and planning by government is a specific issue. The agriculture case is characterized by contestation over the meaning of environmental leadership and by lack of capacity.

The interaction between external and internal factors was the same in all three case studies: the need for additional knowledge and training. This speaks to a role for government in not only addressing regulatory gaps, but also providing expertise and training, or setting up processes in which expertise and training can be more readily shared or provided by nongovernment actors. Another aspect of the interaction between internal and external factors indicated in the results is the effect of timing. The external pressures of the market do not align well with the time lag often required to benefit from environmentally-sustainable steps and the regulatory requirements may not always provide enough lead time for firms to adjust. Governments have more influence on the latter concern, and steps to allow lead time before regulations take effect are important in addressing the timing issue, as are steps to provide incentives for firms to take early steps towards environmental leadership rather than waiting until compelled to do so.

CHAPTER 7: Conclusions and Recommendations

7.1 Introduction

This thesis addresses the question of how provincial governments can support environmental leadership in businesses, and develops a framework to guide provincial policy and regulatory decisions with respect to environmental leadership. In addition to the applied, practical policy implications of the research question, this thesis also explores what regulatory, organizational, economic and social circumstances will support or hinder environmental leadership. The data was collected by conducting a document review, interviews, and surveys using three case studies (electronics EPR, marine, and agriculture).

The study utilizes an inductive analytical approach as outlined by Yin (2009), in which a set of initial propositions and a conceptual framework are developed from the literature, then refined as the data is collected and analyzed, resulting in a framework inductively developed from the data. Support for six of the seven propositions was found, there being insufficient data to address the seventh proposition. Four additional factors were identified: (1) the importance of learning within a firm, (2) the social sector's importance in providing social licence may vary from sector to sector, (3) that despite the focus on the provincial context, national and international influences are important, and (4) a time lag between regulations and any associated effect on business profitability that can affect environmental leadership.

Five themes that cut across each of the three case studies were identified. The first is the definition of "environmental leadership," and the other four relate to how to achieve environmental leadership: the importance of social licence, corporate culture, learning, and the strategic role for government. In encouraging environmental leadership, the last four themes identified in this thesis each entail a role for government, for businesses and for society. In addition, each case study demonstrated its own distinct theme. For the electronics EPR case, it is the focus on compliance and frustration with lack of harmonization in regulations. For the marine case, it is the sense in the sector that they have to take matters into their own hands in

setting minimum standards because environmental regulatory requirements are so low that compliance is insufficient to meet environmental and social requirements. For the agriculture sector, the theme is contestation and capacity. Contestation because of the debates regarding what constitutes environmental leadership, whether compliance is sufficient, whether organic certification is required, and what constitutes organic. Capacity refers to farmers' need for help with capacity and farming knowledge.

7.2 Addition to the literature

This thesis contributes to the theoretical literature on environmental leadership as well as identifying practical steps provincial government could take to encourage environmental leadership. This thesis makes contribution in the following six areas: (1) environmental leadership in the Canadian context; (2) the concept of environmental leadership as an ongoing process; (3) the relatively different importance of different social groups in social licence of firms; (4) the importance of learning to environmental leadership; (5) the temporal aspect of regulations in relation to environmental leadership; and (6) the importance of the international considerations down to the local considerations.

7.2.1 Canadian context

This thesis adds to the literature specific to the Canadian context, and specific to regulatory instruments available to provincial governments in those governments' legal and cultural context. Previous studies in Canada identified organizational capacity, innovation, and stakeholders as influential in how companies respond to environmental issues (Sharma, 2000; Sharma et al., 1999; Sharma & Vredenburg, 1998). Other Canadian studies linked sound management practices and good relations with employees and suppliers to actual environmental improvements, rather than mechanical compliance with regulations (Roy et al., 2001); a reduction in environmental impact of a firm may be due to operator involvement (Boiral, 2005); that compliance at British Columbia pulp mills depend on internal and external factors combined (Kagan et al. 2003); and that the organizational values and context of a firm are important in its

use of green energy (Berkhout & Rowlands, 2007). However, previous studies did not adopt a cross-sector comparative approach and were not trying to address the question directly of what motivates environmental leadership in firms and the policy implications of their findings.

Although the research question of this thesis focuses on provincial governments in Canada in order to focus the scope of the research, the conclusions of this thesis are not necessarily exclusive to provincial governments. The provincial focus of this research evolved in two unanticipated ways. First, in that provincial governments should not confine themselves to considering only their formal legal jurisdiction when designing policy approaches, and second, the policy implications for provincial governments may equally apply to other governments. The results indicate the inadequacy of any government confining its policy approaches to what it can do within its jurisdiction, because markets are increasingly connected, consumers are likely to purchase over the internet rather than at a local shop, and businesses operate in a broader context than the jurisdictional boundaries of any particular province. Therefore, provincial governments need to consider the broader social and market influences when designing policy approaches, and need to more thoroughly consider the regulatory requirements of key neighbouring or trade jurisdictions. Harmonization and coordination of regulatory requirements among jurisdictions, or of other initiatives to encourage environmental leadership, are more likely to assist in achieving the goal of encouraging such leadership than if jurisdictions act alone.

Further, the information received from informants indicates that there is a similar role for municipal and federal governments in encouraging environmental leadership by increased harmonization, cooperation, cross-sector strategic approaches, and support for research, training and education. Indeed, it is possible that these policy implications apply to all governments, including ones outside Canada. As provinces such as BC must consider the broader context beyond their borders, so must other jurisdictions. In addition, if environmental leadership measured not by the regulatory requirements in any particular jurisdiction but about supporting firms in moving as far and fully as they can in achieving environmental goals, then it is reasonable to propose that other jurisdictions would also benefit from additional coordination, harmonization, training, and education. Further research on the extent to which the findings of this research regarding provinces could be applied elsewhere would be valuable in addressing

policy implications for all governments interested in encouraging environmental leadership of businesses.

7.2.2 Environmental leadership

The majority of the literature on environmental leadership presents taxonomies of businesses based on their compliance behaviour. As noted by Gilad (2012), this static understanding of compliance is a limitation of the literature, and "`compliance' is better understood as a flexible and malleable institution which takes shape over time and alongside its penetration of organisations" (p. 24). The same can be said of environmental leadership: it is malleable and changes over time.

This thesis contributes to the understanding of how environmental leadership is identified and concludes that outside of clear noncompliers, it is difficult to put businesses in the categories such as leader, complier or laggard previously identified in the literature. If the willingness to engage in an ongoing reflective and learning experience is part of environmental leadership, as identified by informants in this research, then "environmental leadership" cannot be determined by primarily considering a firm's compliance record or CSR policy, or membership in a voluntary program that is based on compliance. Further, identifying environmental leadership is difficult to determine in a sector such as agriculture where the experts disagree on not only whether environmental leadership requires organic practices, but do not agree on what "organic" is. Defining leadership is difficult in sectors such as the marine case, where compliance targets are generally considered so low that meeting or even exceeding them is considered by some members of the field to not be environmental leadership. This thesis originally conceived of the policy implications of environmental leadership as being primarily about supporting more firms in moving from a compliance to a beyond compliance mode. The results of this research indicate that encouraging environmental leadership is, first, about assessing whether the regulatory requirements setting a baseline for compliance versus beyond compliance behaviour are sufficient, meet policy goals, and are generally taken seriously or considered legitimate by the regulated sector. Only after that analysis should governments then move into encouraging environmental leadership, which because it is more of a mindset than a category, would involve

removing obstacles (such as unduly complicated and inflexible regulations) and enhancing motivations (through instruments suggested in the research results, including green procurement policies or sharing of training and expertise) to help firms move beyond compliance or even *beyond* their current beyond compliance behaviour.

In addition, the results of this research supports previous findings that that social factors are important to companies even though regulatory approaches traditionally assume businesses are motivated primarily or exclusively by the rational actor model, i.e., profits only (Nielsen & Parker, 2012; Winter & May, 2001) and that complex, multiple factors affect firms and that it is difficult to discern how they interact to influence firm behaviour (Bansal & Roth, 2000; Kagan et al., 2003; Lynch-Wood & Williamson, 2007). The implication of this is that encouraging environmental leadership is not a matter of shifting a business from a noncomplier to complier category on a one time basis, or a matter of taking steps to make a complier a permanent leader. Rather, it speaks to the need to put in place processes and supports to continually maintain and update and refine environmental leadership. This speaks to the importance of reflexive processes such as EMS programs, informational requirements, and forums for sharing information so that businesses are drawn into ongoing scrutiny of their own environmental actions and outcomes. This will be discussed further under Policy Implications (Section 7.4).

7.2.3 Social licence

The results of this research demonstrate the importance of social licence in environmental leadership. Social licence "is based not on legal requirements but, rather, on the degree to which a corporation and its activities meet the expectations of local communities, the wider society and various constituent groups" (Gunningham et al., 2004, p. 313). Much of the literature regarding social licence identifies a number of stakeholder groups from which a business must obtain social licence, but does not explore what factors give those groups influence (Bansal & Roth, 2000; Delmas & Toffel, 2004; Hart & Sharma, 2004; Howard-Grenville et al., 2008; Winn, 1995). Another stream of research considers how firms can manage stakeholder relations (Berry & Rondinelli, 1998; Hart & Sharma, 2004; Spence, Ben Boubaker Gherib & Biwole, 2008; Winter & May, 2001). A few studies consider the different levels of influence that different

stakeholders may have (Mitchell, Agle & Wood, 1997) or which motivations each stakeholder group is likely to activate in a business (Nielsen & Parker, 2008). Lynch-Wood and Williamson (2007) discuss the importance of local communities in Not In My Back Yard (NIMBY) disputes. However, the literature is overall weak regarding which social groups will be critical for social licence and why.

The results of this research add further understanding of when particular groups of society may be particularly important for social licence. The marine case indicates that where a business is in close geographic proximity with neighbours, that neighbouring community is where the business needs to focus on its consultations and concerns regarding environmental performance. This is particularly the case where the community feels a strong connection to their local landscape, as demonstrated in the comments about British Columbians being particularly environmentally concerned. However, the results of the marine case indicate that it is not just NIMBYism. British Columbia residents are often concerned about marine-related issues far from their geographic proximity. Perhaps a more accurate way of describing the concern is that where there is a strong connection with the land, the key social group will be the community, be it the local one or the provincial community. With no strong connection to the land nor geographic proximity between the business and the customers, as is the situation with the electronics EPR case, the community will be less important. Instead, customers who purchase the businesses' products will be more important for social licence. Where there is a connection with the land, as is often the case with agriculture (either through proximity to farms, and a concern about locally-grown food) both community and consumer interests are important. In a situation such as this all citizens (community and consumers) are the important social groups from which a business must obtain and maintain social licence.

The implications of this distinction are that it will affect the actions of both government and businesses. If a business wants to maintain the social licence from its neighbours for example, it will need to do what some of the informants in this research did and develop a process in which it can engage in a discussion with the community, identify the concerns of that community, and tailor make its actions in response to those concerns. If a particular sector is motivated to be an environmental leader primarily by its relationship with the community, then the policy

implications for government are that any actions to support leadership would be focused on how to support or remove barriers in the relationship between the business and the community, not a policy directed at consumers generally. The situations in which one social group is more important for social licence, and why that is the case, is an area that requires further research.

7.2.4 Learning

This thesis further adds the concept of learning to environmental leadership. Learning is a component of new governance arrangement, or reflexive instruments in particular, but the literature on these topics addresses learning socially or at the level of multi-party relations (see for example Freeman & Farber, 2005; and Karkkainen. 2004). The process of learning within a firm is not explicitly linked to environmental leadership of businesses, with the exception of Sharma and Vredenburg (1998), who identify continuous higher-order learning as a key organizational capability in how businesses respond to environmental issues. Sharma and Vredenburg describe higher order learning as including a constantly updated "knowledge base of environmental information and biodiversity data," ability to understand the firm's environmental impacts, ability to "look for solutions to environmental problems from fresh angles," information sharing within the firm, and feedback systems (p. 737).

Although the concept of learning is connected to reflective behaviour prompted by external factors, as articulated in the theory of reflexive law, learning is more focused on the internal processes and sharing of information. A learning organization is interested in developing new knowledge that will help improve performance in the future, and the learning process itself may include questioning basic assumptions (adaptive) or questioning perceptions of the organization's internal and external relationships (generative) (Barker & Camarata, 1998). This definition of learning is seen in the interviews and surveys in all three cases. In each case, informants referred to the need or desire for new knowledge, the importance processes for information sharing and communication (often through the use of environmental management systems), and the need for flexibility, creativity and innovation. In the electronics EPR and marine cases, the link between learning and environmental leadership was evident through the focus on environmental management systems to structure internal communication, evaluation

and adjustment, by environmental training programs, and by the presence in many firms of environmental managers with the specific mandate to coordinate environmental education and programs within the organization. In the agriculture sector, learning was evident in farmers expressing not only the need for more farming knowledge and ability to share it, but also the questioning of assumptions about which practices are sustainable, what is sustainability, and whether their farming practices continue to align with their personal values.

7.2.5 Temporal aspects of environmental leadership

Informants in the interviews and surveys identified time-related issues in their ability to pursue environmental leadership. In all cases, for publicly traded businesses, the market pressures to demonstrate profits is out of sync with the time lag between the implementation of a new policy, such as lower energy-consuming equipment. As noted by one informant in the EPR case, the "market doesn't reward…publicly traded companies for being good stewards at this point unless it adds immediate…economic value." This informant believes that the fact his company is family-owned rather than publicly traded enabled it to take some risks and a longer term view in advancing its environmental leadership. Another example is farmers referring to the difficulties of transition from conventional to organic farming, which takes years, during which neither the full benefits of conventional nor organic production are realized. This concept of timing is given little attention in the literature, except for example Porter and van der Linde (1995b) who call for regulatory phase in periods to allow businesses to adapt.

7.2.6 Geographic aspects of environmental leadership

The geographic aspects of environmental leadership refer to the influential factors spanning from international, to national, to provincial, to local that affect environmental leadership. The international factors can be both positive and negative. As identified in the marine and electronics EPR cases, the vision of leaders at international headquarters has been a positive influence on the environmental aspects of some company's operations. But it is also a challenge in influencing design and manufacturing decisions that take place elsewhere, and in addressing

cross-border and internet shopping. In the agriculture sector, concerns were raised regarding competition from producers outside of Canada, and how that further puts pressure on the profitability of Canadian farms, and on the different rules that apply to produce if it is only to be marketed within a province, compared to marketed in another province. The geographic aspects of environmental leadership are also local, as apparent in the discussion above about how social licence is affected by which group of society provides the licence. It is also evident in the growing consumer demand for locally-grown food. In the agriculture interviews, informants referred to local food as a popular alternative to organically-grown food.

The geographic issues are touched on in some of the literature related to the case studies, notably the references to Canada's limited influence on the international market (Five Winds, 2009; CCME, 2009). However, the literature contains little discussion of the international down to the local implications of environmental leadership. Although the focus of this thesis is on British Columbia and what the province can do within its jurisdiction, the broader context cannot be avoided. Implications of this are that, in addressing environmental issues with an international aspect, such as electronics EPR, it is particularly important that the provincial government work with the federal government, an attempt to bring particular issues (such as internet or cross-border shopping and its implications on packaging) to the federal government's attention. Where issues are national in scope, such as cross-border marketing of agricultural products, cooperation with the federal government and work to harmonize approaches across the country are important. Where issues are local, such as community concerns about marine issues, a line of communication with the local government may be just as important as with the federal government, even though the federal government has substantial jurisdiction. For example, in supporting a port in reaching out to the local community to define and address issues around land use, noise, air, or water quality. In summary, although all governments are constrained by their legal jurisdiction in establishing regulatory requirements, they need to consider the local, national and international context in which businesses operate when developing a policy approach.

7.3 Revisiting the conceptual framework

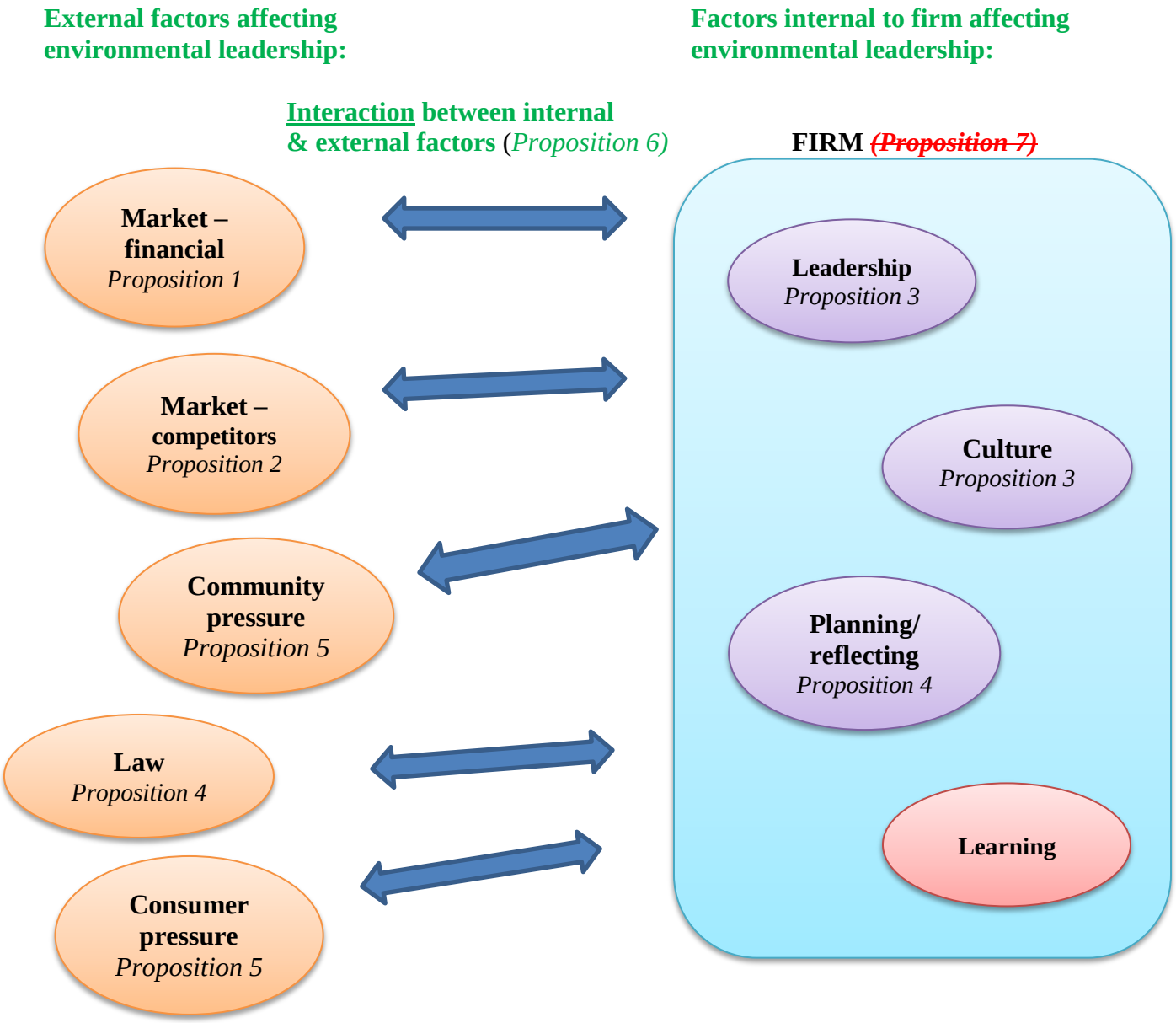
The conceptual framework discussed in Chapter 2 (Literature Review) identifies four key factors external to firms that influence firms' environmental leadership: consumer pressure, community pressure, law, and the market (financial market pressures and pressures to conform to competitors). Law can be seen as a separate influence, but also as a channel for the other external factors. Environmental regulations are traditionally tied to the market through internalizing externalities (Shmelev, 2012). However, regulations can also be a vehicle for leveraging the influence of communities and consumers, by requiring information disclosure or supporting a certification program.

The main modification of the conceptual framework based on the data is the emphasis on ongoing learning processes within firms identified by informants. Although reflective behaviour is related to learning and was identified in the initial framework, the concept of reflection was focused on responding to regulations rather than internal culture of learning. Further, reflective behaviour was conceived as processes to encourage analysis of what a firm is doing, and less so an internal commitment to innovation or sharing of information and expertise, or learning from others' experiences. Government's role regarding learning can include facilitating the sharing of expertise and training, offering expertise to businesses, and supporting processes that share best practices or other knowledge between firms. Certification programs were identified by informants in this research as valuable not for setting particularly high standards, but for the learning process they offer businesses. Innovation and change are related to learning, and government can support these by providing funding support, or (where funding is limited) by procuring products and services that represent innovative, environmentally-friendlier approaches. So were opportunities for training, which does not have to be formal, but simply a forum for sharing information and expertise. The concept of learning has therefore been added to the framework. Learning is related to Proposition 4. Finally, in keeping with the emergent research approach used in this thesis, Proposition 7 (SMEs) (larger businesses will be more amenable to social pressure than SMEs) was been removed from the conceptual framework. The low response rate in the electronics EPR case and an insufficient number of responses generally to

compare size of firm to the nature of their responses resulted in insufficient data to support or discredit this proposition.

The national/international and temporal aspects are not directly reflected in the conceptual framework, because they are a contextual consideration within the elements of the framework. Time is an element of all propositions, but particularly Propositions 1 and 2, through the market pressures requiring profits be reported quarterly, and pressures to perpetually stay ahead of competitors, and Proposition 4, the regulatory requirements for actions to be taken by particular dates, such as reporting and planning (e.g.: Stewardship Plans). The international, national or local factors manifest themselves through internal pressures (corporate culture and leader's vision set by an international office) or external pressures (production decisions being made internationally because of British Columbia's small market size; or locally, by local community pressures). Figure 7 reflects the revised conceptual framework.

Figure 7: Revised conceptual framework



7.4 Policy implications

In addition to developing a conceptual framework of what leads to environmental leadership, this thesis serves a practical purpose in identifying policy implications and specific steps provincial governments could take to encourage environmental leadership. Each of the three case studies identified a role for government in encouraging environmental leadership, as well as the sense that government is not fulfilling that role to the extent thought possible by industry. As identified in the literature and the results of this research, businesses have taken on an increasing role in the social and regulatory environment in which they work.

Some government strategies have also explicitly recognized the role of not only government itself, but of civil society and businesses. For example, the UK's *Prevention is better than cure* report on waste management explicitly outlines what government will do, what business must do, and what civil society must do (HM Government, 2013). The sense that government needs to reflect on its role and make some fundamental changes to how it works with other sectors of society relates to the concept of governance. Government has a role in strategic direction and planning, setting standards, monitoring performance, facilitating partnerships and agreements, improving access to finance, developing the data and research needed, and in leading by doing (e.g.: green procurement policies); businesses have a role in fostering an environmentally-conscious internal culture by measuring their own progress towards environmental goals, by offering sustainably produced and long lasting products, and in using resources efficiently; citizens and consumers have a role in demanding environmentally ethical behaviour by businesses, supporting businesses that demonstrate environmental leadership, by reducing their own waste and resource use, sharing information and knowledge, and by working in partnerships with others (HM Government, 2013).

The different views of businesses on what actually constitutes environmental leadership actually have implications for government. If some businesses believe that compliance is sufficient to be a leader, then their internal motivation to do more will likely be low, and if other businesses are already motivated to go beyond compliance without government involvement, then it raises the question of what government could additionally do. This issue speaks first to the need for

leadership from government in setting out a strategic vision for environmental outcomes and a plan on how to achieve them, using a broad, multi-instrument approach. Part of the plan would likely include traditional command and control regulations, but would ideally include a number of additional instruments such as information disclosure requirements, training and education, or green procurement policies. Since the businesses in any one sector will not all agree on what constitutes leadership and whether compliance is sufficient, the command and control regulations would set a minimum and the additional tools would provide support for businesses that are intrinsically motivated to go beyond compliance, while providing support and encouragement for the businesses that would otherwise be satisfied with compliance to go beyond compliance. The new governance approaches entail government seeking input from a number of actors in society (businesses, experts, communities, and other stakeholders) on what appropriate regulatory standards would be. As indicated in the marine case for example, it appears that the regulatory standards are considered inadequate by some members of all these groups.

Second, the difference between the cases on whether regulatory standards are an appropriate starting point from which to measure leadership has a few implications. When comparing compliance or leadership of businesses across sectors, policy-makers should bear in mind that the baseline of what the sector generally considers sound environmental practices may differ, therefore direct comparisons of performance between sectors may not be appropriate. In addition, if regulatory standards in a sector are generally considered low, government may be more likely to increase standards not because of its own initiative or assessment of their inadequacy, but because the business sector and social pressures call for it. Or, government may put in place parallel standards in a sector, as demonstrated by the current conventional regulatory standards in agriculture and the different standards for certified organic farms, thereby providing higher certainty for consumers and businesses regarding standards, while retaining the ability of farmers and consumers to choose between the two options. These implications speak to the need for government to have a good understanding of the sectors it regulates, to consult with the sector on appropriate policy options, to take a strategic approach in designing policy responses, and to consider the requirements of other jurisdictions in order to develop coordinated and harmonized policy approaches.

Third, the question of what constitutes environmental leadership speaks to the necessity of understanding what part of society is the primary source of social licence – is it the consumers (purchasers of products)? Is it the neighbouring community? Or is it a combination where both are strong? If it is the consumers of products, then government can engage that social group by supporting certification or other voluntary labelling programs that help encourage environmental leadership by, for example, making enforceable standards and providing information to the public about the program. The businesses that are already leaders benefit from enforced standards around labelling, but other businesses that would otherwise find compliance with regulations sufficient would have more motivation to go beyond compliance. If the primary social group providing social licence is a community, as it appears to be with the marine sector, then governance models that engage the community in discussions to identify concerns and address them are more appropriate. As stated by one informant in the marine case, it is not adequate to respond to community concerns with an "off the shelf" idea of what those concerns are. Government can support the process for those discussions by setting strategic direction, helping to establish partnerships between government and other parties, and by providing resources (be they access to funds, training or education). The role of government is that described in the new governance literature. It lies in "scaling up [solutions], facilitating innovation, standardizing good practices, and encouraging the replication of success stories from local or private levels" (Lobel (2004), p. 345). In practice, based on the research in this thesis, this includes steps such as providing assistance in distributing knowledge of best practices and putting officials on the ground who can provide advice.

Governments can do little about corporate culture directly, but government can send signals regarding expectations so that corporations will exceed regulations even if they do not have an internal culture to "do the right thing," because the steps government has taken provide an incentive. For example, governments can encourage leadership through things government has to do anyway, such as procure goods and services. Rigorous or even ambitious standards for green procurement could encourage environmental leadership in the firms that supply goods and services to government. One approach to leading by example is that taken by Nova Scotia *Environmental Goals and Sustainable Prosperity Act* (2007), which requires government performance in promoting "sustainable prosperity" (economic goals achieved in an

environmentally sustainable way) through setting legislative goals and enhancing accountability. Legislative goals include achieving targets for energy efficiency or sustainable procurement. One study found that this legislation has had a positive impact on government performance (Lahey & Doelle, 2012).

Hood's (1986) taxonomy of instruments outlines four categories: nodality, authority, treasure, and organization. As summarized in Table 4 in Chapter 2 (Literature Review), the three case studies in this thesis are mainly regulated by authority instruments. A number of nodality, treasure, and organization tools could be explored as part of a policy response to encouraging environmental leadership. Nodality involves the ability to traffic information on the basis of a location in a network, and having the bigger picture (Hood & Margetts, 2007). Examples of nodality instruments are education, the provision of advice and training, requiring reporting or registration, propaganda, and suppression or denial of access to information (Hood & Margetts, 2007; Howlett, 2000; Howlett, 2004). The main nodality tool identified by research informants was the suggestion that government help with education: providing advisors with agricultural knowledge to help people in the field, a small amount of funding to help struggling businesses share information and learn from each other, and to improve public information regarding programs. A further aspect of this relates to how regulations and their purpose are communicated. One recommendation in the literature is to "learn to frame environmental improvement in terms of *resource productivity*, or the efficiency and effectiveness with which companies and their customers use resource" (Porter & van der Linde, 1995a, p. 106).

Government also has the opportunity to improve its own knowledge of the business sectors it regulates. In the agriculture and EPR sectors, informants indicated that governments do not take the opportunity to support emerging or additional markets, due to lack of understanding of their sector. In the EPR electronics case, businesses are frustrated that government has not correctly identified who needs to be involved in the consultations or receive the information. Ignorance of law not considered valid excuse for violating it, but when government is consulting on regulatory changes, it is important to shift from the old model of regulated parties being identifiable through the issuance of a permit or licence to them, to the newer model of businesses having to develop their own plans, or link up with associations who identify the firms. This may take more effort of

government to seek out the relevant parties, or to have a more assertive advertising campaign (through industry associations for example) to find the parties.

In addition, the view of both businesses and government officials who participated in the research appears to be that government could do more to get its internal house in order, with better coordination within and between governments. Much of the literature on regulation focuses on standards, but what became clear in the most interjurisdictional case study, electronics EPR, is that the overriding issue is coordination and harmonization between governments. Coordination between governments is not addressed in the literature on regulatory compliance and environmental leadership. Nor is harmonization, with the exception that Porter and van der Linde suggest sector wide harmonization of regulations (Porter & van der Linde, 1995b). The results of this research suggest that harmonization of regulations is not only an issue for increasing motivation of businesses to comply or exceed regulations, but for the very credibility of government regulation in the sector. The federal system in Canada leaves provincial governments to determine their own policy and regulatory schemes within their borders, often resulting in different provincial approaches. Provinces look to each other for models and coordination, but attempts to harmonize or coordinate regulations are not always considered a priority and are not necessarily initiated from the initial design of individual provincial regulations. The motivation for provincial regulatory harmonization or coordination requires separate analysis to this thesis; however, the findings of this study suggest pressures to improve cross-jurisdictional regulatory harmonization remain and require further attention by all governments, regardless of jurisdiction. Governments should make it easier for firms to comply with regulations, not by setting low standards, but by improving clarity and reporting requirements.

Treasure tools rely on funds or other resources that can be traded (Hood & Margetts, 2007). Examples of treasure tools are interest group creation, intervener and research funding, grants, loans, taxes, expenditures, polling and policing (Hood & Margetts, 2007; Howlett, 2000; Howlett, 2004). The use of treasure tools may initially appear to be of limited use where fiscal constraints exist, but the amount of resources an instrument requires partly depends on how it is implemented. Authority tools are not always the most costly (Howlett & Ramesh, 2006).

Previous studies have indicated that rewards are to be avoided as they interfere with other motivations to comply with regulations (Braithwaite, 2002; Grabosky, 1995; Shogren, 2012). Several of the informants discussed the need to "reward early leaders" or provide incentives. How would these steps be similar or different from rewards, and how can the disadvantages of rewards be avoided? Grabosky (1995) describes problematic rewards as including direct financial rewards for parties to achieve a certain outcome, such as pollution reduction. However, "green labelling, mandated disclosure of the fuel efficiency of motor vehicles, and other mandatory disclosure rules" can be effective (p. 24). The types of instruments the interview informants were suggesting as "rewards" or incentives were procurement policies to create a market for more socially and environmentally-friendly products.

Organizational tools involve the use of people and equipment (Hood & Margetts, 2007). Examples of organization tools are conferences, hearings, evaluations, institutional or bureaucratic reform, record-keeping and surveys (Hood & Margetts, 2007; Howlett, 2000; Howlett, 2004). The request that government provide in-the-field expertise (such as BC's Environmental Farm Program) and support for farmers would fall into this category; another is the suggestion that government help create forums for businesses, particularly ones with little capacity (such as small farms) to learn and share information with each other.

Government's approach to enforcement is also important. The traditional way of enforcing provisions is to treat all businesses the same when it comes to potential infractions of legislation. Zinn (2002) proposes an alternative, in which government determines first what type of business it is dealing with; is the business a leader and amenable to cooperation on meeting regulatory goals? Or is the business not a leader, but a complier or even a reluctant complier, in which case a more stringent regulatory enforcement approach may be required. This is similar to Ayres and Braithwaite's (1992) concept of responsive regulation in which the regulated party responds in accordance with the actions of the regulated party. Zinn (2002) terms this approach "tit for tat", in which the regulatory chooses its action based on the regulated party's behaviour in the prior round of enforcement: "If the regulatee has cooperated, the agency should cooperate, but if the

regulatee ‘defects’, the agency should punish until the regulatee again adopts a cooperative posture” (p. 104).

Despite the potential to use a broader mix of regulatory instruments, authority remains important in a broad regulatory approach. A key element of government’s authority as expressed through regulations, from a business perspective, is the provision of a “level playing field.” A level playing field is one in which all businesses play by the same rules, and some businesses do not benefit at the expense of others because all must work from the same regulatory foundation. For example, in the EPR sector, businesses spoke about the importance of regulations in raising the standards of the whole sector, so that no one business would be concerned about the costs of recovering or recycling materials, while others did not. In the marine case, the low level of standards was continually identified, and the potential to increase them to encourage a higher level of environmental leadership was noted. In the agriculture sector, an example is the complaint that in British Columbia, while the province has organic standards in regulation, there is no prohibition against using the word “organic” if a product does not meet the standards. In January 2015, the BC government announced a consultation process with organic farmers and the Certified Organic Association of BC to develop new regulations that would address the concerns related to the use of “organic” in marketing of products (British Columbia Ministry of Agriculture, 2015). Another example of the use of authority, which would draw on consumers to help enforce rather than relying on government identifying performance, is the regulation requiring minimum two year warranties for electronic products in Europe.

Government can use a combination of instruments. However, governments in Canada generally use the prescriptive regulatory model and are generally reluctant to use combinations of tools, particularly at the provincial level: “What Canadian governments have generally not done is to seek the kinds of broader, systemic policy outcomes that jurisdictions who have employed more innovative, integrative, and ambitious regimes have attempted to achieve” (Winfield 2009, p. 59). The data from informants in this this research supports this observation, particularly in calls for greater strategic planning and support on the part of government for learning, training, education, research, and innovation, along with the traditional regulatory approaches of setting standards and outlining prohibitions under command and control regulations. All of these

suggestions are consistent with the approach of governance discussed in the literature review. Previous studies have also shown that governments in Canada have not truly moved to a governance model (Tollefson, Zito & Gale, 2012).

A combination of tools can be used in a sector, but another option is a cross-sector approach. Cross-sectoral approaches include intergovernmental cooperation, as many issues cross jurisdictional boundaries. For example, cross border shopping is not provincial jurisdiction, but the provincial government could work with the federal government, have a better process in place to keep up to date on sector issues, and attempt to deal with issues like internet shopping or "leakage" outside the borders of electronic waste. Business informants suggested that government has not grappled sufficiently with current marketplace and that the steps provincial governments take are still jurisdictionally bound primarily because of failure to be on top of the current environment. Some regulatory issues cannot be addressed through a cross-sector approach. For example, whether the use of a label stating "organic" on fruit is legal if the farming process for the fruit does not meet specified standards; or, minimum warranty requirements, or exactly what percentage of bottles should be recovered from consumers as part of a waste management program. However, where possible, an approach that more robustly considers cross-sectoral and sector-specific tools is needed.

An additional issue raised by informants is the time lag between the time frame in which businesses expect to see profits, and regulatory cycles. Lead times before implementing regulatory changes is important, but perhaps another way to grapple with this is to focus on supporting early leaders. This has two components: (1) what business refers to as the "level playing field", i.e., ensuring reasonable minimal requirements and enforcing them so that environmental leaders do not bear the economic costs of benefits to society more generally, and (2) actual incentives or rewards to early leaders, such as green procurement purchasing policies, public announcements drawing attention to environmental leaders, and tax relief where businesses upgrade equipment to more ecologically friendly models, or reduce their energy consumption. For example, an incentive to reduce energy consumption could be a waiver of tax normally payable on upgrades of equipment, or higher fuel prices through taxation.

A key question is what government can do regarding the different motivations of firms. The literature and data from this thesis demonstrate that businesses are motivated by a combination of internal and external factors. However, not all firms are motivated by internal and external factors to the same degree. Interview and survey results in all sectors included businesses that were motivated by ethical considerations. There were also businesses that appeared to be primarily motivated by how social pressures affect their ability to conduct business (such as in maintaining good relationships with port neighbours) or to make a profit (such as with farmers who wanted to benefit from greater consumer interest in organic products). Where a business is primarily affected by external factors, it could be described as extrinsically motivated; where a business is primarily affected by internal motivations, it could be described as intrinsically motivated. Yidong and Xinxin (2013) argue that the concept of intrinsic and extrinsic motivation of individuals can be aggregated to the group level, for example, by firms being intrinsically motivated by "the group's collected belief that the whole group works for the group task rather than for the extrinsic rewards" and that group intrinsic motivation can be fostered by the ethical and moral tone set by the leadership (p. 442). Similarly, Boiral, Baron and Gunnlaugson (2014) found that SMEs that demonstrated environmental management practices influenced by the leadership of managers. These SMEs are led by managers with "post-conventional stages" of consciousness, which entails the ability of a manager to be proactive, to engage with stakeholders, to question and improve roles, and to manage complexity (p. 366). The different degrees of intrinsic and extrinsic motivations of businesses speak to the need for a combination of instruments in order to include elements that resonate with a variety of business motivations. Those firms that are concerned about social licence (extrinsically motivated) and those who are meeting or exceeding regulations based on their internal policies and culture (intrinsically motivated) will both be motivated by the combined effect of the policy instruments.

In summary, this thesis identifies a number of policy instruments provincial governments could make greater use of, particularly support for education and training and publication of information. In addition, cross government cooperation and harmonization of regulations could be improved. There is also support for governments to use a combination of instruments more often, by for example, accompanying stringent standards with training and education, support for transition to greener technologies or processes, as well as public education on the purpose of

regulations, how they work, and the role of society in achieving social goals, not just government and businesses.

7.5 Potential further research

There are a number of areas in which further research would assist in answering the question of this study. A more in depth look at each case study would provide greater insight to motivations and challenges specific to those sectors. Related research could also be conducted on effective ways of government to assess the relative strength of internal and external motivations of businesses in order to design effective policy tool combinations in different sectors. The observation in section 6.1.1 regarding the potential for a discrepancy between regulatory baselines for beyond compliance or environmental leadership behaviour and what a sector generally considers the starting point for environmental leadership may be a useful starting point for studying the relative strength of different motivations. Second, evaluations of the governance models that have been implemented in Canada would be informative, including ones that were not entirely implemented as of the time of this research (such as BC's *Water Sustainability Act* (2014), professional reliance, and new modulated fees in Quebec). Research into what consumers in each sector prefer would also be useful, in order to assess how close the businesses assessments of what customers want, or how confused customers are, relates to how customers actually feel. Cultural factors could be further explored. For example, in two of the three cases (electronics and marine) cultural factors, including the sense of social duty in the company's originating country in Asia, was noted as important in driving leadership for the sake of leadership rather than financial gain. It was beyond the scope of this study to explore corporate culture in greater depth, but corporate culture (as set by leadership) was identified several times and could be further explored.

The relationship between the size of a company and its amenability to social pressure within Canada should also be explored further, with a larger sample size and more focus on that particular question. Which sector of society the licence comes from specifically could also be further analyzed. Additional research with respect to the propositions could also be conducted, to

explore whether the strength of the support for the propositions varies from product to product or context to context, or over time. Research on the question of how municipalities, the federal government, or other governments outside Canada could support environmental leadership would inform the extent to which the conclusions of this thesis apply beyond provincial governments in Canada. Finally, this study focuses on what leads to environmental leadership of firms in the context of regulation of the market. This study does not directly address common pool resources or governance arrangements related to land and resources. Research more directly related to governance arrangements for natural resource management and how those arrangements affect environmental leadership is required to address firm behaviour in that context.

7.6 Conclusion

This thesis is not driven by a motivation to find a way for government to find meeting its responsibilities easier, nor by a desire to relieve businesses of regulatory burdens. It is motivated by concern about pressures on the environment, that government's ability to respond is being increasingly outstripped by social and technological change, and that no degree of funding will ever be sufficient to rely solely on traditional, government-centric methods of regulation. Winfield (2008), Van Nijnattenn and Boardman (2009) argue that government, and Canadian governments in particular, need to be more ambitious. The suggestions that conclude this thesis may be new to Canada and its provinces, which have by many accounts not been bold enough in embracing new forms of regulation based on a true ambition to meet environmental challenges, rather than to simply deregulate. It is hoped that the conclusions and recommendations of this thesis, specific within the legal and social context of Canadian provinces, will be useful in developing a more robust approach to environmental regulation that draws on the motivations, resources, and expertise of all actors.

Bibliography

Afsah, S., Laplante, B., & Wheeler, D. (1996). *Controlling industrial pollution: a new paradigm.* World Bank: Policy Research Department, Environment, Infrastructure and Agriculture Division. Retrieved from: http://aix1.uottawa.ca/~rroberge/pollution.pdf

Aguinis, H. & Glavas, A. (2013). Embedded versus peripheral corporate social responsibility: Psychological foundations. *Industrial and Organizational Psychology, 6*(4), 314-332.

Allen, P., & Kovach, M. (2000). The capitalist composition of organic: The potential of markets in fulfilling the promise of organic agriculture. *Agriculture and Human Values, 17*(3), 221-232.

Allison, G., & Zelikow, P. (1999). *Essence of decision: Explaining the Cuban Missile Crisis.* (2nd ed.). New York: Longman.

Ambec, S., (2010). *The Porter hypothesis at 20: Can environmental regulation enhance innovation and competitiveness?* Montreal: Center for Interuniversity Research and Analysis on Organizations.

Annandale, D., Morrison-Saunders, A., & Bouma, G. (2004). The impact of voluntary environmental protection instruments on common environmental performance. *Business Strategy and the Environment, 13*(1), 1-12.

Anton, W.R.Q., Deltas, G. & Khanna, M. (2003). Incentives for environmental self-regulation and implications for environmental performance. *Journal of Environmental Economics and Management, 48*(1), 632-654.

Aragon-Corréa, J.A. (2008). Environmental strategy and performance in small firms: A resource-based perspective. *Journal of Environmental Management, 86*(1), 88-103.

Ayres, I., & Braithwaite, J. (1992). *Responsive regulation: Transcending the deregulation debate.* New York & Oxford: Oxford University Press.

Babbie, E. (2010). *The practice of social research*. (12th ed). Belmont, CA: Wadsworth, Cengage Learning.

Baden, D.A., Harwood, I.A., & Woodward, D.G. (2009). The effect of buyer pressure on suppliers in SMEs to demonstrate CSR practices: An added incentive or counterproductive? *European Management Journal, 27*(6), 429-441.

Battisti, M., & Perry, M. (2011). Walking the talk? Environmental responsibility from the perspective of small-business owners. *Corporate Social Responsibility and Environmental Management, 18*(3), 172-185.

Bansal, P., & Roth, K. (2000). Why companies go green: A model of ecological responsiveness. *Academy of Management Journal, 43*(4), 717-736.

Barker, R. & Camarata, M. (1998). The role of communication in creating and maintaining a learning organization: Preconditions, indicators, and disciplines. *The Journal of Business Communication, 35*(4), 443-467.

Barla, P. (2007). ISO 14001 certification and environmental performance in Quebec's pulp and paper industry. *Journal of environmental economics and management, 53*(3), 291-306.

Baruch, Y. & Holtom, C., (2008). Survey response rate levels and trends in organizational research. *Human Relations, 61*(8), 1139-1160.

Benidickson, J. (2013). *Environmental law*. 4th ed. Toronto: Irwin Law.

Berkhout, T. & Rowlands, I. (2007). The voluntary adoption of green electricity by Ontario-based companies: The importance of organizational values and organizational context. *Organization & Environment, 20*(3), 281-303.

Berry, M., & Rondinelli, D. (1998). Proactive corporate environmental management: A new industrial revolution. *The Academy of Management Executive, 12*(2), 38-50.

Black, J. (2000). Proceduralizing regulation: Part 1. *Oxford Journal of Legal Studies, 20*(4), 597-614.

Blackman, A., & Naranjo, M. (2012). Does eco-certification have environmental benefits? Organic coffee in Costa Rica. *Ecological Economics, 83*(2012), 58-66.

Blundel, R., Monaghan, A. & Thomas, C. (2013). SMEs and environmental responsibility: A policy perspective. *Business Ethics: A European Review, 22*(3), 246-262.

Boiral, O. (2005). The impact of operator involvement in pollution reduction: Case studies in Canadian chemical companies. *Business Strategy and the Environment, 14*(6), 339-360.

Boiral, O., Baron, C., & Gunnlaugson, O. (2014). Environmental leadership and consciousness development: A case study among Canadian SMEs. *Journal of Business Ethics, 123*(3), 363-383.

Boiral, O., Cayer, M., & Baron, C.M. (2008). The action logics of environmental leadership: A developmental perspective. *Journal of Business Ethics, 85*(4), 479-499.

Borck, J. Coglianese, C. & Nash, J. (2008). *Evaluating the social effects of environmental leadership programs.* Regulatory Policy Program: Mossava-Rhamani Center for Business and Government. Retrieved from: http://www.hks.harvard.edu/m-rcbg/rpp/Working%20papers/RPP_2008_08Borck.pdf

Bosso, C. (Ed). (2010). *Governing Uncertainty: Environmental regulation in the age of nanotechnology.* Washington, DC. RFF Press.

Boyd, D. (2003). *Unnatural Law: Rethinking Canadian environmental law and policy.* Vancouver: UBC Press.

Braithwaite, J. (2002). Rewards and regulation. *Journal of Law and Society, 29*(1), 12-26.

Branzei, O., Deveraux Jennings, P. & Vertinsky, I. (2002). A knowledge-based view of environmental performance in different cultural contexts: Canada, Japan, and China. *Academy of Management Conference.* Retrieved from: http://frontiers.sauder.ubc.ca/KBV_Env_Perf.pdf

British Columbia Ministry of Agriculture. (2015). *Plans underway to grow B.C. organic sector*. Retrieved from: www.newsroom.gov.bc.ca/2015/02/plans-underway-to-grow-bc-organic-sector.html

British Columbia Environmental Assessment Office. (2015). Retrieved from: http://www.eao.gov.bc.ca/

British Columbia Ministry of Environment. (2012). *Recycling regulation guide*. Retrieved from: http://env.gov.bc.ca/epd/recycling/guide/pdf/recycling_regulation_guide_2012.pdf

British Columbia Ministry of Environment. (2013). *Environmental reporting BC*. Retrieved from: www.env.gov.bc.ca/soe/.

Calcott, P., & Walls, M. (2005). Waste, recycling, and "Design for environment": Roles for markets and policy instruments. *Resource and Energy Economics, 27*(4), 287-305.

Canada (External Advisory Committee on Smart Regulation). (2004). *Smart regulation: A regulatory strategy for Canada.* Saint-Lazare, Quebec: Canadian Electronic Library.

CCCE (Canadian Council of Chief Executives). (2010). Clean growth 2.0: How Canada can be a leader in energy and environmental innovation. Retrieved from:

http://www.ceocouncil.ca/publication/clean-growth-2-0-how-canada-can-be-a-leader-in-energy-and-environmental-innovation

Canadian Organic Trade Association. (2013). *Canada's organic market: National highlights 2013.* www.ota.com/pics/media_photos.171.img_filename.pdf

Carroll, A.B. (1979). A three-dimensional conceptual model of corporate social performance. *Academy of Management Review*, *4*(4), 497-505.

CCME (Canadian Council of Ministers of the Environment). (2009). *Canada-wide action plan for extended producer responsibility.* Retrieved from: http://www.ccme/ca/assets/pdf/epr_cap.pdf

Chemical Industry Association Canada. (2013). *Responsible care.* Retrieved from: http://www.canadianchemistry.ca/ResponsibleCareHome.aspx

Ciliberti. F., Pontrandolfo, P., Scozzi, B. (2008). Investigating corporate social responsibility in supply chains: a SME perspective. *Journal of Cleaner Production*, *16*(15), 1579-1588.

Clean Cargo Initiative. (2014). Retrieved from: www.bsr.org/en/our-work/working-groups/clean-cargo

COABC. (2014). *Standard*s. Retrieved from: www.certifiedorganic.bc.ca/standards/index.php

Coady, L., Lister, J. Strandberg, C., Ota, Y. (2013). The role of Corporate Social Responsibility (CSR) in the international shipping sector. Retrieved from: http://corostrandberg.com/publications/role-of-csr-in-the-international-shipping-sector

Coglianese, C., & Nash, J. (Eds.). (2001). *Regulating from the inside: Can environmental management systems achieve policy goals?* Washington, DC: Resources for the Future.

Cohen, M.D., March, J.G & Olsen, J. P. (1972). A garbage can model of organizational choice. *Administrative Science Quarterly*, *17*(1), 1-25.

Cranfield, J., Henson, S., & Holliday, J. (2009). The motives, benefits and problems of conversion to organic production. *Agriculture and Human Values, 27*(3), 291-306.

Cresswell, J.W. & Plano Clark, V. (2007). *Designing and conducting mixed methods research.* Thousand Oaks, CA: Sage Publications.

Crinnion, W.J. (2010). Organic foods contain higher levels of certain nutrients, lower levels of pesticides, and may provide health benefits to the consumer. *Alternative Medicine Review, 15*(1), 4-12.

Cyert, R.M., & March, J.G., (1992). *A behavioral theory of the firm.* (2nd ed.). Cambridge: Blackwell Business.

Dahl, R., & Lindblom, C. (1953). *Politics, economics and welfare: Planning and Politico-economic systems resolved into basic social processes.* New York: Harper & Row.

Deakin, S. (2009). Reflexive governance and European company law. *European Law Journal, 15*(2), 224-245.

Delmas, M. & Toffel. (2004). Stakeholders and environmental management practices: An institutional framework. *Business Strategy and the Environment, 13*(4), 209-222.

Denzin, N. (2012). Triangulation 2.0. *Journal of Mixed Methods Research, 6*(2), 80-88.

de Vaus, D. (1990). *Surveys in social research*. (2nd ed.) London: Unwin Hyman.

Dillman. D. A. (2007). *Mail and internet surveys: The tailored design method*. (2nd ed.). Hoboken, NJ: John Wiley & Sons.

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality. *American Sociological Review, 48*(2), 147 – 160.

DiMento, J. (2003). Can social science explain organizational noncompliance with environmental law? In B. Hutter, (Ed.), *A reader in environmental law* (pp. 218-245). Oxford: Oxford University Press.

Doppelt, B., & Nelson, H. (2001). *Extended producer responsibility and product take back: Applications for the Pacific Northwes*t. The Centre for Watershed and Community Health. Retrieved from: https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/2385/Take_Back.pdf?sequence=1

Driedger, R. (2002). From cradle to grave: Extended producer responsibility for household hazardous wastes in British Columbia. *Journal of Industrial Ecology, (5)*2, 89-102.

Egri, C. & Frost, P. (1994). Leadership for environmental and social change. *Leadership Quarterly, 5*(3/4), 201-221.

Egri, C. & Herman, S. (2000). Leadership in the North American environmental sector: Values, leadership styles, and context of environmental leaders and their organizations. *The Academy of Management Journal, 43*(4), 571-604.

Eisenhardt, K.M. (1989). Building theories from case study research. *Academy of Management Review, 14*(4), 532-550.

Eisner, M. A. (2007). *Governing the environment: The transformation of environmental regulation.* Boulder, CO: Lynne Rienner.

Eliadis, P., Hill, M., & Howlett, M. (Eds). (2007). *Designing government: From instruments to governance*. Montreal: McGill-Queen's University Press.

Elster, J. (1989). *Solomonic judgements: Studies in the limitations of rationality.* Cambridge: Cambridge University Press.

Environment Canada. (2013). Land use impacts on freshwater quality. Retrieved from: https://www.ec.gc.ca/indicateurs-indicators/default.asp?lang=En&n=88872F95-1

EPR Canada. (2013). *Extended producer responsibility report card 2012*. Retrieved from: www.eprcanada.ca/reports/2012/epr-report-card-9.16.13-eng-web.pdf

Esty, D.C. (2001). Next generation environmental law: A response to Richard Stewart. *Capital University Law Review, (2001/2002)*29, 173-182.

Etzioni, A. (1967). Mixed scanning: A "third" approach to decision making. *Public Administration Review, 27*(5), 385-92.

Etzioni, A. (1986). Mixed scanning revisited. *American Society for Public Administration*, *46*(1), 8-14.

Fernandez, E., Junquera, B. & Ordiz, M. (2006) Managers' profile in environmental strategy: A review of the literature. C*orporate Social Responsibility and Environmental Management, 13*(5), 261-274.

Fiksel, J. R. (2009). *Design for environment: A guide to sustainable product development.* (2nd ed). New York: McGraw-Hill.

Fiorino, D. (1999). Rethinking environmental regulation: Perspectives on law and governance. *Harvard Environmental Law Review, 23*(2), 441-468.

Five Winds International. (2009). *Design for environment (DfE) best practices lessons for British Columbia's Ministry of Environment*. Retrieved from: http://www.env.gov.bc.ca/epd/recycling/resources/reports/pdf/DfE.pdf

Flannery, B.L. & May, D.R. (1994). Prominent factors influencing environmental activities: application of the environmental leadership model (ELM). *Leadership Quarterly, 5*(3/4), 201-221.

Florida, R., Atlas, M., & Cline, M. (2001). What makes companies green? Organizational and geographic factors in the adoption of environmental practices. *Economic Geography 77*(3), 209-224.

Forest Practices Board. (2013). Monitoring Licensees' Compliance with Legislation. Special Investigation FPB/SIR/37. July 2013. Retrieved from: http://www.fpb.gov.bc.ca/SIR37_Monitoriing_Licensees_Compliance_with_Legislation.pdf

Forte, A. (2004). Business ethics: A study of the moral reasoning of selected business managers and the influence of organizational ethical climate. *Journal of Business Ethics, 51*(2), 167-173.

Fowler, F. (1993). *Survey research methods*. (2nd ed.). Thousand Oaks: Sage Publications.

Fowler, S.J. & Hope, C. (2007). Incorporating sustainable business practices into company strategy. *Business Strategy and the Environment, 16*(1), 26-38.

Frechtling, J., & Sharp Westat, L. (1997). User-friendly handbook for mixed method evaluations. National Science Foundation. Retrieved from: www.nsf.gov/pubs/1997/nsf97153/start/htm

Freeman, J. & Farber, D. (2005). Modular environmental regulation. *Duke Law Journal, 54*(4), 795-912.

Friedman, M. (1970). The social responsibility of business is to increase its profits. *New York Times Magazine,* September 13, 1970, 122-126.

Gallagher, D. (Ed.) (2012). Environmental leadership: A reference handbook. Thousand Oaks: Sage Publications.

Gardner, A.F. (2003). Beyond compliance: regulatory incentives to implement environmental management systems. *New York University Law Journal, 11*(3), 662-710.

Gerring, J. (2004). What is a case study and what is it good for? *The American Political Science Review, 98*(2), 341-354.

Gibson, R.B. (1999a). Questions about a gift horse. In R.B. Gibson (Ed.), *Voluntary initiatives: The new politics of environmental greening* (pp. 3-12). Peterborough, Ontario: Broadview Press.

Gibson, R.B. (1999b). Voluntary initiatives, regulation and beyond. In R.B. Gibson (Ed.), *Voluntary initiatives: The new politics of environmental greening* (pp. 239-257). Peterborough, Ontario: Broadview Press.

Gilad, S. (2010). It runs it the family: Meta-regulation and its siblings. *Regulation and Governance, 4*(4), 485-506.

Gilad, S. (2012). How firms translate regulatory messages. Discussion paper no. 70. Centre for Analysis of Risk and Regulation. Retrieved from: http://www.lse.ac.uk/researchAndExpertise/units/CARR/pdf/DPs/Disspaper70.pdf

Glaser, B. G. & Strauss, A.L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. London: Aldine Transaction.

Gonzales-Benito, J., & Gonzalez-Benito, O. (2005). A study of the motivations for environmental transformation of companies. *Industrial Marketing Management, 34*(5), 462-475.

Government of British Columbia. (2014a). Living Water Smart. Retrieved from: http://livingwatersmart.ca/business/agriculture.html

Government of British Columbia. (2014b). Environmental Farm Plan. Retrieved from: www.bcac.bc.ca/ardcorp/program/environmental-farm-plan-program

Grabosky, P. (1995). Regulation by reward: On the use of incentives as regulatory instruments. *Law and Policy*, *17*(3), 257-282.

Green Marine (2010). Green Marine releases environmental program results (2010, May 20). Retrieved from: www.newswire.ca/en/story/641021/green-marine-releases-environmental-program-results.

Green Marine (2013). *Environmental program summary*. Retrieved from: www.green-marine.org/environmental-program/summary

Green Marine (2015a). *Self evaluation guide for shipowners*. Retrieved from: http://www.green-marine.org/wp-content/uploads/2015/04/2015-Summary_shipowners.pdf

Green Marine (2015b). *Self evaluation guide for ports and seaways*. Retrieved from: http://www.green-marine.org/wp-content/uploads/2015/04/2015-Summary_PortsSeaway.pdf

Green Marine (2015c). *Self evaluation guide for terminals and shipyards*. Retrieved from: http://www.green-marine.org/wp-content/uploads/2015/04/2015-Summary_PortsSeaway.pdf

Greene, J., Caracelli, V. & Graham, W. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis, 11*(3), 255-274.

Gunningham, N. (2009). Environmental law, regulation and governance: Shifting architectures. *Journal of Environmental Law, 21*(2), 179-212.

Gunningham, N., Grabosky, P., & Sinclair, D. (1998). *Smart regulation: Designing environmental policy*. Oxford: Clarendon Press.

Gunningham, N., Kagan, R., & Thornton, D. (2003). *Shades of green: Business, regulation, and environment.* Stanford, CA: Stanford Law and Politics.

Gunningham, N., Kagan, R., & Thornton, D. (2004). Social license and environmental protection: Why businesses go beyond compliance. *Law and Social Inquiry, 29*(2), 307-431.

Gunningham, N., & Sinclair, D. (2002). *Leaders and laggards: The next generation of environmental regulation.* Sheffield, UK: Greenleaf Publications.

Gunningham, N., Thornton, D., & Kagan, R. (2005). Motivating management: Corporate compliance in environmental protection. *Law & Policy*, *27*(2), 289-316.

Hagens, V., Dobrow, M. & Chase, R. (2009). Interviewee Transcript Review: assessing the impact on qualitative research. *BMC medical research methodology*, *9*(1). Retrieved from: http://www.biomedcentral.com.ezproxy.library.uvic.ca/1471-2288/9/47.

Hammond, C. (2007). The wider benefits of adult learning: An illustration of the advantages of multimethod research. *International Journal of Social Research Methodology*, *8*(3), 239-255.

Harrison, K. (2001). Volunteerism and environmental governance. In Edward A. Parson (Ed.) *Governing the environment: Persistent challenges, uncertain motivations* (pp. 207-246). Toronto: University of Toronto Press.

Harrison, K., & Antweiler, W. (2003). Incentives for pollution abatement: Regulation, regulatory threats, and nongovernmental pressures. *Journal of Policy Analysis and Management, 22(3),* 361-382.

Hart, S. & Sharma, S. (2004). Engaging fringe stakeholders for competitive imagination. *The Academy of Management Executive*, *18*(1), 7-18.

Hess, D. (1999). Social reporting: A reflexive law approach to corporate social responsiveness. *The Journal of Corporation Law, 25*(1), 41-84.

Hesse-Biber, S. & Leavy, P. (2013). *Handbook of emergent methods*. New York: Guildford Publications.

Hilliard, I. (2013). Responsible management, incentive systems, and productivity. *Journal of Business Ethics, 118*(2), 365-377.

Hirsch, D.D. (2001). Symposium introduction: Second generation policy and the new economy. *Capital University Law Review, 29*(1), 1-20.

Hirsch, D., & Howell, G.W. (2010). *Green business and the importance of reflexive law: What Michael Porter didn't say*. Capital University Law School. Retrieved from: http://www.law.uh.edu/faculty/thester/courses/Emerging%20Tech%202011/Green%20Business%20and%20the%20Law%20-%20Hirsch.2.pdf

HM Government. (2013). *Prevention is better than cure: the role of waste prevention in moving to a more resource efficient economy*. Retrieved from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/265022/pb14091-waste-prevention-20131211.pdf

Hood, C. (1986). *The instruments of government.* Chatham: Chatham House Publishers.

Hood, C., & Margetts, H. (2007*). The instruments of government in the digital age*. Houndmills, Hampshire: Palgrave Macmillan.

Howard-Grenville, J. (2006). Inside the "black box": How organizational culture and subcultures inform interpretations and actions on environmental issues. *Organization Environment, 19*(1), 46-73.

Howard-Grenville, J., Nash, J., & Coglianese, C. (2008). Constructing the license to operate: Internal factors and their influence on corporate environmental decisions. *Law & Policy, 30*(1), 74-107.

Howlett, M. (2000). Managing the "hollow state": procedural policy instruments and modern governance. *Canadian Public Administration, 43*(4). 412-431.

Howlett, M. (2004). Beyond good and evil in policy implementation: Instrument mixes, implementation styles, and second generation theories of policy instrument choice. *Policy & Society, 23*(2), 1-16.

Howlett, M. & Ramesh, M. (2006). Globalization and the choice of governing instruments: The direct, indirect, and opportunity effects of internationalization. *International Public Management Journal, 9*(2), 175-194.

Howlett, M. & Rayner, J. (2007). Design principles for policy mixes: Cohesion and coherence in 'New Governance Arrangements.' *Policy & Society, 26*(4), 1-17.

Hunt, C.B., & Auster, E.R. (1990). Proactive environmental management: Avoiding the toxic trap. *Sloan Management Review, 31*(2), 7-18

Hutter, B. & Jones, C.J. (2007). From government to governance: external influences on business risk management. *Regulation and Governance, 1*(1), 27-45.

Inbar, M. (1979). *Routine decision making: The future of bureaucracy*. London: Sage Publications.

Industry Canada. (2006). *Corporate social responsibility: An implementation guide for Canadian business.* Ottawa: Government of Canada Depository Services Program.

Industry Canada. (2012). *Key small business statistic*s. Retrieved from: http://www.ic.gc.ca/eic/site/061.nsf/eng/02714.html

IBC (Insurance Bureau of Canada). (2014). *Facts of the property and casualty insurance industry*. Retrieved from: http://assets.ibc.ca/Documents/Facts_Book/Facts_Book/2014/IBC_2014_Factbook_English.pdf

Karkkainen, B. (2004). "New Governance" in legal thought and in the world: Some splitting as antidote to overzealous lumping. *Minnesota Law Review, 89*(2), 471-497.

Kagan, R., Thornton, D., & Gunningham, N. (2003). Explaining corporate environmental performance: How does regulation matter? *Law and Society Review, 37*(1), 51-90.

Kenny, B., Vredenburg, H., & Lucas, A. (2012). The new role of law in stimulating industrial innovation and regional development: The Canadian experience with reflexive law in reconciling economic development, environmental protection and entrepreneurship in the energy industry. *International Journal of Innovation and Regional Development, 4*(1), 8-27.

Khanna, M. (2001). Non-mandatory approaches to environmental protection. *Journal of Economic Surveys, 15*(3), 291-324.

Lahey, W., & Doelle, M. (2012). Negotiating the interface of environmental and economic governance: Nova Scotia's Environmental Goals and Sustainable Prosperity Act. *Dalhousie Law Journal, 35*(1), 1-29.

Lefebvre, E., Lefebvre, L., & Talbot, S. (2003). Determinants and impacts of environmental performance on SMEs. *R&D Management, 33*(3), 263-283.

Lindblom, C. (1959). The science of muddling through. *Public Administration Review, 19*(2), 79-88.

Linder, S.H., & Peters, G.B. (1989). Instruments of government, perceptions & contexts. *Journal of Public Policy, 9*(1), 35-58.

Lobel, O. (2004). The Renew Deal: The fall of regulation and the rise of governance in contemporary legal thought. *Minnesota Law Review, 89*(2), 342-470.

Lobel, O. (2005). Setting the agenda for New Governance research. *Minnesota Law Review, 89*(2), 498-509.

Lowi, T. J. (1972). Four systems of policy, politics, and choice. *Public Administration Review, 32*(4), 298-310.

Lynch-Wood, G. & Williamson, D. (2007). Social license as a form of regulation for small and medium enterprises. *Journal of Law and Society, 24*(3), 321-341.

Lynes & Andrachuk (2008). Motivations for corporate social responsibility: A case study of Scandinavian Airlines. *Journal of International Management, 14*(4), 377-390.

Macdonald, D. (2007). *Business and environmental politics in Canada.* Peterborough, Ontario: Broadview Press.

MacRae, R.J., Lynch, D., & Martin, R.C. (2010). Improving energy efficiency and GHG mitigation potentials in Canadian organic farming systems. *Journal of Sustainable Agriculture, 34*(5), 549-580.

Malloch, T.R. (2013) Foreword. In S. Idowu, N. Capaldi, L. Zu, L, & A. Das Gupta (Eds.), *Encyclopedia of Corporate Social Responsibility* (pp. vii-xv). Berlin: Springer.

March, J.G. (1981). Decision making perspective: Decisions in organizations and theories of choice. In Van de Ven, A., & Joyce, W. (Eds). *Perspectives on organization design and behavior* (pp. 205-236). New York: John Wiley & Sons.

May, P. (2004). Compliance motivations: Affirmative and negative biases. *Law and Society Review, 38*(1), 41-68.

May, P. (2005). Regulation and compliance motivations: Examining different approaches. *Public Administration Review, 65*(1), 31-43.

McDonnell, L. M., & Elmore, R. F. (1987). Getting the job done: Alternative policy instruments. *Educational Evaluation and Policy Analysis, 9*(2), 133-152.

McKerlie, K., Knight, N., & Thorpe, B. (2006). Advancing extended producer responsibility in Canada. *Journal of Cleaner Production, 14*(6–7), 616-628.

Miles, M. & Huberman, A.M. (1984). Qualitative data analysis: A sourcebook of new methods. Beverly Hills: Sage Publications.

Mitchell, R., Agle, B. & Wood, D. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *The Academy of Management Review, 22*(4), 853-886.

Moffat, A & Auer, A. (2006). Corporate environmental innovation (CEI): A government initiative to support corporate sustainability leadership. *Journal of Cleaner Production, 14*(6), 589-600.

Moffet, J. & Bregha, F. (1999). Responsible Care. In R.B. Gibson (Ed.), *Voluntary initiatives: The new politics of environmental greening* (pp. 69-92). Peterborough, Ontario: Broadview Press.

Moffet, J., Bregha, F. & Middelkoop, M.J. (2004). Responsible Care: A case study of a voluntary environmental initiative. In K. Webb (Ed.), *Voluntary Codes: Private governance, the public interest and innovation* (pp. 177-192). Ottawa: Carleton Research Unit for Innovation, Science and Environment.

Morgan, G. (2006). *Images of organization.* Thousand Oaks: Sage Publications.

Morgenstern, R., & Pizer, W. (Eds). (2007). *Reality check: The nature and performance of voluntary environmental programs in the United States, Europe, and Japan.* Washington, DC: RFF Press.

Muldoon, P. & Nadarajah, R. (1999). A sober second look. In, R.B. Gibson (Ed.), *Voluntary initiatives: The new politics of environmental greening* (pp. 51-66.) Peterborough, Ontario: Broadview Press.

Nielsen, V. L., & Parker, C. (2008). To what extent to third parties influence business compliance? *Journal of Law and Society, 35*(3), 309-340.

Nielsen, V.L., & Parker, C. (2012). Mixed motives: Economic, social and normative motivations in business compliance. *Law and Policy, 34*(4), 428-462.

Nonet, P., & Selznick, P. (1978). *Law and society in transition: Toward responsive law*. New York: Octagon Books.

OECD. (2001). *Extended producer responsibility: A guidance manual for governments*. Paris: OECD. Retrieved from: www.oecd.org//env/environmentalpolicyinstruments andevaluation/extendedproducerresponsibility.htm.

OECD. (2002). *Voluntary approaches to environmental protection: Lessons from the mining and forestry sectors*. OECD Global Forum on International Investment Conference on Foreign Direct Investment and the Environment, February 7-8, 2002. Retrieved from: http://www.oecd.org/env/1819792.pdf

OECD. (2006). *EPR policies and product design: Economic theory and selected case studies.* Paris: OECD. Retrieved from: ENV/EPOC/WGWPR(2005)9/FINAL.

OECD. (2008). *Eco-innovation policies in Canada.* Paris: OECD. Retrieved from: http://www.oecd.org/greengrowth/consumption-innovation/42876916.pdf

Organic Agriculture Centre of Canada (OACC). (2008). *Final results of the first Canadian organic farmer survey of research needs.* Retrieved from: www.organicagcentre.ca/DOCs/SurveyReports/top20bysector.pdf

Orts, E. (1995). A reflexive model of environmental regulation. *Business Ethics Quarterly, 5*(4), 779-794.

Ostrom, E. (2005). Doing institutional analysis: Digging deeper than markets and hierarchies. In C. Menard & M.M. Shirley (Eds.). *Handbook of New Institutional Economics* (pp. 819-848). Berlin: Springer.

Parker, C. (2002). *The open corporation: Effective self-regulation and democracy.* Cambridge: Cambridge University Press.

Patton, M.Q. (2002). *Qualitative research and evaluation methods.* (3rd ed.). Thousand Oaks: Sage Publications.

Pimentel, D., Hepperly, P., Hanson, J., Douds, D. & Seidel, R. (2005). Environmental, energetic, and economic comparisons of organic and conventional farming systems. *BioScience, 55*(7), 573-582.

Port Metro Vancouver. (2014). Retrieved from : www.portmetrovancouver.com/en/environment/initiatives/Air.aspx

Porter, M. (1985). *Competitive advantage: creating and sustaining superior performance.* New York: Free Press.

Porter, M., & van der Linde, C. (1995a). Toward a new conception of the environment-competitiveness relationship. *The Journal of Economic Perspectives*, *9*(4), 97-118.

Porter, M., & van der Linde, C. (1995b). Green and competitive: Ending the stalemate. *Harvard Business Review, 73*(5) 120-134.

Portugal, E. & Yukl, G. (1994). Perspectives on environmental leadership. *Leadership Quarterly 5*(3/4), 271-276.

Post, J.E. & Altman, B. (1994). Managing the environmental change process: Barriers and opportunities. *Journal of Organizational Change, 7*(4), 64-81.

Powell, W. & DiMaggio, P. (Eds). (1991). *The new institutionalism in organizational analysis.* Chicago: University of Chicago Press.

Prakash, A., & Potoski, M. (2006). *The voluntary environmentalists: Green clubs, ISO 14001, and voluntary regulations*. Cambridge: Cambridge University Press.

Priest, M., Stanbury, W.T., & Thompson, F. (1980). On the definition of economic regulation. In W.T. Stanbury (Ed.), *Government regulation: Scope, growth and process* (pp. 1-16). Montreal: The Institute for Research on Public Policy.

Ramus, C. (2002). Encouraging innovative environmental actions: what companies and managers must do. *Journal of World Business, 37*(2), 151-164.

Rennings, K., & Rammer, C. (2011). The impact of regulation-driven environmental innovation on innovation success and firm performance. *Industry and Innovation, 18*(3), 255-283.

Rhodes, R.A.W. (1996). The new governance: Governing without government. *Political Studies, 44*(4), 652-667.

Roberts, S., Lawson, R. & Nicholls, J. (2006). Generating regional-scale improvements in SME corporate responsibility performance: Lessons from responsibility northwest. *Journal of Business Ethics, 67*(3), 275-286.

Roine, K. (2005). *Industrial implementation of extended producer responsibility in an industrial ecology perspective: The case of plastic packaging in Norway.* (Doctoral dissertation). Retrieved from Dissertation and Theses database. (UMI No. C824047).

Roulston, K. (2010). Considering quality in qualitative interviewing. *Qualitative Research, 10*(2), 199-228.

Roy, M., Boiral, O., & Lagacė, D. (2001). Environmental commitment and manufacturing excellence: A comparative study within Canadian industry. *Business Strategy and the Environment, 10*(5), 257-268.

Rubin, H. & Rubin, I. (2012). *Qualitative interviewing: The art of hearing data* (3rd ed.). Los Angeles: Sage Publications.

Salamon, L. (2001). The new governance and the instruments of public action: An introduction. *The Fordham Urban Law Journal, 28*(5), 1611.

Salamon, L. (Ed.) (2002). *Instruments of government*. New York: Oxford University Press.

Salatin, J. (2007). *Everything I want to do is illegal: War stories from the local food front.* Swoope, Virginia: Polyface.

Saxe, D. (2003). *A taxonomy of Canadian environmental standards.* Pollution Probe, August 2003. Retrieved from: http://www.pollutionprobe.org/old_files/Reports/taxstandards.pdf

Schneider, A., & H. Ingram. (1988). Systematically pinching ideas: A comparative approach to policy design. *Journal of Public Policy, 8*(1), 61-80.

Scott, W.R., & Meyer, John W. (Eds.) (1994). *Institutional environments and organizations: Structural complexity and individualism.* Thousand Oakes: Sage Publications.

Scott, C. (2010). Reflexive governance, regulation and meta-regulation: Control or learning? In O. de Schutter & J. Lenoble (Eds.), *Reflexive governance: Redefining the public interest in a pluralistic world* (pp. 43-66). Portland, OR: Hart Publishing.

Seaspan. (2014). Retrieved from: www.seaspan.com/environmental-best-practices/

Selznick, P. (1957). *Leadership in administration.* Los Angeles, CA: Harper & Row.

Selznick, P. (1996). Institutionalism "Old" and "New". *Administrative Science Quarterly, 41*(2), 270-277.

Sharma, S. (2000). Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy. *The Academy of Management Journal, 43*(4), 681-697.

Sharma, S., Pablo, A., & Vredenburg, H. (1999). Corporate environmental responsiveness strategies: The importance of issue interpretation and organizational context. *Journal of Applied Behavioral Science, 35*(1), 87-108.

Sharma, S., & Vredenburg, H. (1998). Proactive environmental strategy and the development of competitively valuable organizational capabilities. *Strategic Management Journal, 19*(8), 729-753.

Shmelev, S. (2012) *Ecological economics: Sustainability in practice*. London: Springer.

Shogren, J. (2012). Behavioural economics and environmental incentives. *OECD Environment Working Papers No.49.* OECD Publishing. Retrieved from: http://dx.doi.org/10.1787/5k8zwbhqs1xn-en

Simon, H. (1957). *Models of man: Social and rational.* London: John Wiley and Sons.

Simon, H. (1997). *Administrative behavior: A study of decision making processes in administrative organizations* (4th ed.). New York: The Free Press.

Simpson, M., Taylor, N., & Barker, K. (2004). Environmental responsibility in SMEs: Does it deliver competitive advantage? *Business Strategy and the Environment, 13*(3), 156-171.

Smith, A., & Sarros, J. (2013). Environmental leadership: Baseline surveys and lessons from Australia's leaders. *Australasian Journal of Environmental Management*, *11*(2), 164-176.

Sparrow, M.T. (2000). *The regulatory craft.* Washington, DC: Brookings Institution Press.

Spence, M., Ben Boubaker Gherib, J., Biwole, V., (2008). A framework of SME's strategic involvement in sustainable development. In Wustenhagen , R., Hanmschmidt, J., Sharma, S. (Eds.), *Sustainable innovation and entrepreneurship* (pp. 49-70). Cheltenham: Edward Elgar.

Stanbury, W.T. (1986). *Business-government relations in Canada: Grappling with Leviathan.* Toronto: Methuen.

Statistics Canada. (2011). *Census of Agriculture*. Retrieved from: http://www.statcan.gc.ca/pub/95-640-x/95-640-x2011001-eng.htm

Stenzel, P. (1999). Can the ISO14000 series environmental management standards provide a viable alternative to government regulation? *American Business Law Journal*, *37*(2), 237-298.

Stewart, R. (2001). A new generation of environmental regulation? *Capital University Law Review*, *29*(1), 21-182.

Stoker, G. (1998). Governance as theory: five propositions. Oxford: Blackwell Publishers.

Stratos Inc. (2008). Canadian corporate sustainability reporting: Best practice study. Retrieved from: www.stratos-sts.com

Sustainable Shipping Initiative. (2014). Retrieved from: http://ssi2040.org/

Sutherland, L.-A. (2011). "Effectively organic": Environmental gains on conventional farms through the market? *Land Use Policy*, *2*8(4), 815-824.

Teubner, G. (1983). Substantive and reflexive elements in modern law. *Law & Society Review, 17*(2).

Teubner, G. (1984). Autopoiesis in law and society. *Law & Society Review, 18*(2), 291-301.

Thornton, J. & Byrd, J. (2013). Social responsibility and the small business. *Academy of Entrepreneurship Journal, 19*(1), 41-75.

Timmer, D., Buckler, C. and Creech, H. (2008). *Supporting the next generation of sustainability leadership*. International Institute for Sustainable Development. Retrieved from: www.iisd.org/pdf/2008/support_next_gen_leaders.pdf

Tollefson, C., Zito, A.R., & Gale, F. (2012). Symposium overview: Conceptualizing new governance arrangements. *Public Administration, 90*(1), 3-18.

Tomchyshyn, J.L. (2003). *Extended producer responsibility: Analysing Canadian voluntary programs.* (Master of Science Thesis). Retrieved from Dissertations and Theses Database UMI No. MR00423.

Treib, O. Bahr, H. & Falkner, G. (2007). Modes of governance: Towards a conceptual clarification. Journal of European Public Policy, 14(10), 1-20.

Trubek, D. & Trubek, L. (2007). *New governance & legal regulation: Complementarity, rivalry, and transformation, 13*(3), 539-564.

Tuomisto, H.L., Hodge, I.D., Riordan, P. & Macdonald, D.W. (2012). Does organic farming reduce environmental impacts? A meta-analysis of European research. *Journal of Environmental Management, 12*(112), 309-320.

Tversky, A., & Kahneman, D. (1986). Rational choice and the framing of decisions. *The Journal of Business, 59*(4), S521-S278.

UNESCAP. (1992). *Assessment of the Environmental Impact of Port Development. A Guidebook for EIA of Port Development*. New York: United Nations Economic and Social Commission for Asia and the Pacific. Retrieved from: http://www.unescap.org/ttdw/Publications/TFS_pubs/Pub_1234/pub_1234_ch2.pdf

US Department of Energy. (2013). *Climate challenge: DOE's energy partnerships for a strong economy*. Retrieved from: http://www.climatevision.gov/climate_challenge/climatechallenge.html

VanNijnatten, D.L., & Boardman, R. (Eds.) (2009). *Canadian Environmental Policy and Politics: Prospects for Leadership and Innovation* (3rd ed.). Toronto: Oxford University Press.

Vedung, E. (1998). Policy instruments: Typologies and theories. In M. Bemelmans-Videc, R. C. Rist, & E. Vedung, (Eds.), *Carrots, sticks & sermons: Policy instruments & their evaluation* (pp. 21-58). New Brunswick, N.J: Transaction Publishers.

Wagner, E. & Hansen, E. (2005). Innovation in large versus small companies: Insights from the US wood products industry. *Management Decision, 43*(6), 837-850.

Walls, M. (2004). EPR policy goals and policy choices: what does economics tell us? In *OECD, Economic aspects of extended producer responsibility* (pp. 21-49). Paris: OECD.

Walls, M. (2006). Extended producer responsibility and product design: Economic theory and selected case studies. Washington, DC: Resources for the Future. Retrieved from: http://papers.ssrn.com/sol1/papers.cfm?abstract-id=901661

Wartick, S.L., & Cochran, P.L. (1985). The evolution of the corporate social performance model. *Academy of Management Review, 4*(10), 758-769.

Weber, Max. (1968). *Economy and society: an outline of interpretive sociology*. New York: Bedminster Press.

Webb, K. (2005). Sustainable governance in the twenty-first century: Moving beyond instrument choice. In P. Eliadis, M. Hill, & M. Howlett (Eds.), *Designing government: From instruments to governance* (pp. 242-280). Montreal and Kingston: McGill-Queen's University Press.

Webb, K. (2007). *Voluntary environmental initiatives: The state of play in 2007, and recommendations concerning the Ontario approach*. Toronto: Pollution Probe.

Willard, B. (2005). *The next sustainability wave: Building boardroom buy-in.* Gabriola Island: New Society Publishers.

Williamson, D., Lynch-Wood, G. & Ramsay, J. (2006). Drivers of environmental behaviour in manufacturing SMEs and the implications for CSR. *Journal of Business Ethics, 67*(3), 317-330.

Winders, D. J. (2006). Combining reflexive law and false advertising law to standardize "cruelty-free" labeling of cosmetics. *New York Law Review, 81*(454), 454-486.

Winfield, M. S. (2008). An unimaginative people: Instrument choice in Canadian environmental law and policy. *Saskatchewan Law Review, 71*(79), 80-91.

Winfield, M.S. (2009). Policy instruments in Canadian environmental policy. In VanNijnatten, D.L., & Boardman, R. (Eds.), *Canadian Environmental Policy and Politics: Prospects for Leadership and Innovation* (3rd ed.) (pp. 46-63). Toronto: Oxford University Press.

Winn, M. (1995). Corporate leadership and policies for the natural environment. In D. Collins & M. Sarik (Eds.), *Sustaining the natural environment: Empirical studies on the interface between nature and organization* (pp. 127-161). Greenwich, CN: JAI Press.

Winter, S., & May. P. (2001). Motivation and compliance with environmental regulations. *Journal of Policy Analysis and Management, 20*(4), 675-698.

Wolf, F. (2010). Enlightened eclecticism or hazardous hotchpotch? Mixed methods and triangulation strategies in comparative public policy research. *Journal of Mixed Methods Research, 4*(2), 144-167.

Wood, S., Tanner, G., & Richardson, B. (2010). What ever happened to Canadian environmental law? *Ecology Law Quarterly, 37*(4), 981-1040.

World Meteorological Organization. (2014). *Warming trend continues in 2014.* Retrieved from: http://www.wmo.int/media/?q=content/warming-trend-continues-2014.

World Ocean Council. (2015). Retrieved from: http://www.oceancouncil.org/site/

World Ports Climate Initiative. (2014). Retrieved from: www.wpci.iaphworldports.org/about-us/members.html

Wu, J. (2009). Environmental compliance: The good, the bad and the super green. *Journal of Environmental Management, 90*(11), 3363-3381.

Yidong, T. & XinXin, L. (2013). How ethical leadership influences employee's innovative work behavior: A perspective of intrinsic motivation. *Journal of Business Ethics, 116*(2), 441-455.

Yin, R.K. (2009). *Case study research: Design and methods.* (4th ed.). Los Angeles: Sage Publications.

Zinn, M. (2002). Policing environmental regulatory enforcement: Cooperation, capture, and citizen suits. *Stanford Environmental Law Journal, 21*(2), 81-174.

Zumbansen, P. (2008). Law after the welfare state: Formalism, functionalism, and the ironic turn of reflexive law. *The American Journal of Comparative Law, 56*(3), 769-808.

Legislation and constitutional documents

Federal Acts and Bills

Canada Marine Act, S.C. 1998, c. 10.

Canadian Environmental Protection Act, 1999, S.C. 1999, c. 33.

Fisheries Act, R.S.C., 1985, c. F-14.

Organic Products Regulations, 2009 SOR/2009-176.

Navigable Waters Protection Act, R.S., 1985, c. N-2.

Bill C-38: *An Act to implement certain provisions of the budget tabled in Parliament on March 29, 2012 and other measures.* (2012). 1st Reading, April 26, 2012, 41st Parliament, 1st Session. Ottawa: Parliament of Canada. Retrieved from: http://www.parl.gc.ca/HousePublications/Publication.aspx?Language=E&Mode=1&DocId=5697420

Bill C-45: *A second Act to implement certain provisions of the budget tabled in Parliament on March 29, 2012 and other measures.* 1st Reading, October 18, 2012, 41st Parliament, 1st Session. Ottawa: Parliament of Canada. Retrieved from: http://www.parl.gc.ca/HousePublications/Publication.aspx?Language=E&Mode=1&DocId=5942521

Provincial Acts

Community Charter, S.B.C. 2003, c 26

Environmental Management Act, S.B.C. 2003, c.53

Environmental Goals and Sustainable Prosperity Act, S.N.S., 2007, c.42.

Organic Agricultural Products Act, C.C.S.M., 2013, c.O77.

Waste Diversion Act, S.O. 2002, c. 6.

Water Sustainability Act, S.B.C. 2014, c.15

Provincial regulations

Agricultural Waste Control Regulation, B.C. Reg. 131/92.

Organic Agricultural Products Certification Regulation, B.C. Reg. 200/93.

Recycling Regulation, B.C. Reg. 449/2004.

Wines of Marked Quality Regulation, B.C. Reg. 79/2005.

Waste Discharge Regulation, B.C. Reg. 320/2004, Schedule 2.

Organic Agricultural Products Regulation, Man. Reg. 51/2013.

ISO 14001 Income Tax Credit Regulations, N.S. Reg. 39/97.

Waste Audits and Waste Reduction Work Plans, O. Reg.102/94.

Recovery and Reclamation of Products by Enterprise Regulation, R.R.Q., c.Q-2 r.40.1.

Constitution Acts

Constitution Act, 1867, 30 & 31 Victoria, c. 3 (U.K.)

Constitution Act, 1982, being Schedule B to the *Canada Act,* 1982, c. 11 (U.K.)

Court decisions

114957 Canada Ltée (Spraytech, Société d'arrosage) v. Hudson (Town), [2001] 2 S.C.R. 241, 2001. (CanLII 40).

Canada (A.G.) v. Hydro-Quebec [1997] 3 S.C.R. 213. (CanLII 318).

R. v. *Crown Zellerbach*. [1988] 1 S.C.R. 401. (CanLII 63).

Ref Re: Ownership of the Bed of the Strait of Georgia and Related Areas, [1984] 1 S.C.R. 388. (CanLII 138).

R. v. Canadian Pacific Ltd., [1995], 2. S.C.R. 1028. (CanLII 111).

Appendix 1: Interview Guides

Agriculture case:

What does environmental leadership mean to you? What businesses do you consider environmental leaders (if any)? Do you consider your farm to be an environmental leader? How?

Potential probe: Does environmental leadership include organic certification? Exceeding regulatory requirements? Other?

Organizational context

How was the decision [to seek certification] made? [if applicable]

Who was involved in the decision?

Was one particular leader or manager instrumental in the decision? How/why? (eg: position in organization; leadership qualities; what types of motivation played a role – was the decision seen/described as the right thing to do; or to seek social approval)

Industry context

Was there pressure from competitors?

Others in the industry?

Social and political context

Did any specific events lead to the decision? For example, media events.

Did specific events within the industry or the organization contribute to advancing the decision?

Did special interest groups, such as environmental groups impact the decision?

Did relationships with community neighbours affect the decision? If so, how?

What role did government regulation play?

All:

What are the opportunities and challenges with respect to environmental leadership in agriculture in BC (or Manitoba, as applicable? In Canada?)

What do you believe government should do to encourage environmental leadership?

Marine case:

What does environmental leadership mean to you? Does it include membership in a voluntary organization such as Green Marine? Exceeding regulatory requirements?

Does your business demonstrate environmental leadership? How?

If the business is a member of a voluntary organization

Organizational context

How was the decision to join the program made?

Who was involved (eg: board of directors, management at what level, special employees, what functional areas)?

Was one particular leader or manager instrumental in the decision? How/why? (eg: position in organization; leadership qualities; what types of motivation was displayed)

Industry context

Was there pressure from competitors?

From others in the industry?

Is exceeding regulatory requirements (even without joining a program) something that in your professional experience happens regularly? Why? Why not?

What are the opportunities and challenges with respect to environmental leadership in your industry in BC (or other province as applicable)? In Canada?

Social and political context

Did any specific events lead to the decision? For example, media events.

Did specific events within the industry or the organization contribute to advancing the decision?

Did special interest groups, such as environmental groups impact the decision?

Did relationships with community neighbours affect the decision? If so, how?

What role did government regulation play?

What do you believe governments should do to encourage environmental leadership?

If the firm is not a member of a program:

Is [business name] aware of the [Green Marine, SSI etc.] programs?

If the respondent is aware of such programs: Has [business name] considered joining? Why? Why not? What challenges if any stand in the way?

If the respondent is not aware of it: [describe program] Would [business name] consider joining such a program? Why? Why not?

All:

What are the opportunities and challenges with respect to environmental leadership in your industry in BC (or other province as applicable)? In Canada?

What do you believe governments should do to encourage environmental leadership, either through membership in a voluntary organization?

Electronics EPR case:

What does environmental leadership mean to you in the context of your industry? What firms do you consider environmental leaders (if any)? Do you consider your firm to be an environmental leader?

Potential probes:

- Does environmental leadership include membership in a voluntary organization? Exceeding regulatory requirements?
- Tell me about [business name's] efforts for environmental stewardship of products and waste.
- Has [business name] exceeded the minimum regulatory requirements? In what way? How has this been accomplished? [so they are defining? How to clarify this]
- Has [business name] taken steps to redesign products to reduce end-of-life waste or to facilitate recycling? If so, what? How? If not, why not? What challenges are there to doing so?

Organizational context

What decision making process within the organization led to efforts to exceed regulatory minimums?

How was the decision to redesign [relevant product] made?

Who was involved (eg: board of directors, management at what level, special employees, what functional areas)?

Was one particular leader or manager instrumental in the decision? How/why? (eg: position in organization; leadership qualities; what types of motivation was displayed)

Industry context

How did suppliers view the issue? Has there been pressure from suppliers to either make changes or keep things the same?

What was the position of customers? Did they affect the decision? If so, did they affect the type of outcome or speed of response/ was boycott an issue?

Did subsidiaries/the corporate parent affect the policy? If the firm is a business unit or the corporate headquarters: how did the other members of the corporate network affect the decision?

Had another company set precedent?

What are the opportunities and challenges with respect to environmental leadership in your industry in BC (or other province as applicable)? In Canada?

Social and political context

Did any specific events lead to the decision? For example, media events.

Did specific events within the industry or the organization contribute to advancing the decision?

Did special interest groups, such as environmental groups impact the decision?

What role did government regulation play?

What do you believe governments should do to encourage higher recovery rates of waste?

What do you believe governments should do to encourage redesign of products?

Appendix 2: Interview and Survey Invitations

Phone call script:

My name is Julie Williams and I am a Ph.D. student at the University of Victoria. I am conducting research on how provincial governments can encourage environmental leadership in Canada without relying on traditional regulations. I am contacting you to find out whether your firm would agree to participate in this study. Your business has been chosen because it is an organic producer/agricultural producer/required to meet provincial requirements regarding waste management/ member of Green Marine/a port, marina, harbor authority or shipping company (as applicable). Participation will involve (participating in a confidential one hour interview/confidential on line survey that will take approximately 10 minutes to complete – as applicable) and is entirely voluntary.

I am employed as legal counsel in the British Columbia Ministry of Justice, but am currently on a leave of absence to pursue this doctoral research. The research being conducted is not done on behalf of the British Columbia government, nor will the government have access to the information provided in your interview. My work responsibilities do not relate to any of the case studies selected for this research. The data will at all times be kept in my home office and on my home computer, and will not be shared with or accessible to the BC government.

Could you please advise me whether you are interested in participating (for small firms, i.e, farms)/who the appropriate person in your company would be to discuss this study? (for larger firms where the contact person is not available from the business' contact information)

Email invitation to participate:

My name is Julie Williams and I am a Ph.D. student at the University of Victoria. I am conducting research on how provincial governments can encourage environmental leadership in Canada without relying on traditional regulations. I am contacting you to find out whether your firm would agree to participate in the study. Your business has been chosen because it is an organic producer/agricultural producer/required to meet provincial requirements regarding waste management member of Green Marine/a port, marina, harbor authority or shipping company (as

applicable). Participation will involve participating in a confidential online survey that will require approximately 10 minutes to complete and is entirely voluntary.

I am employed as legal counsel in the British Columbia Ministry of Justice, but am currently on a leave of absence to pursue this doctoral research. The research being conducted is not done on behalf of the British Columbia government, nor will the government have access to the information provided in your interview. My work responsibilities do not relate to any of the case studies selected for this research. The data will at all times be kept in my home office and on my home computer, and will not be shared with or accessible to the BC government.

Could you please advise me whether you are interested in participating (for small firms, i.e, farms)/who the appropriate person in your company would be to discuss this study? (for larger firms where the contact person is not available from the business' contact information)

Appendix 3: Sources for Recruiting Informants

Businesses:

Green Marine members list: http://www.green-marine.org/members/informants. This members list includes links to websites of its members, which was an additional source of contact information for the individuals in the member companies

The Fisheries and Oceans Canada website for contact information for all ports in Canada: http://www.dfo-mpo.gc.ca/sch-ppb/list-liste/harb-port-eng.asp

Organic growers: Canadian Organic Growers website includes a link to directories of organic producers within each province: http://www.cog.ca/our-services/Directory/ . Websites of individual organic growers were be used to determine their specific contact information, and where necessary to identify further informants, the Yellow Pages website was used: http://www.yellowpages.ca/

Directories of agriculture organizations in Canada was used to identify non-organic farms (eg: Canadian Agriculture Human Resource Council: http://www.agriguide.ca/browse-by-type), along with the sector-specific and/or regional specific organizations the Canadian Agriculture Human Resource Council website links to (eg: the BC Blueberry Council: http://www.bcblueberry.com/)

Yellowpages.ca, farmers' markets websites, u-pick directories, and other farmer directories were used to identify additional farms to complete the purposive sample. E.g.:

http://www.pfga.com/pick-strawberries.asp

http://www.duncanfarmersmarket.ca/index.php

Electronics businesses covered by Extended Producer Responsibility legislation in BC were identified through sector organizations listed on the BC government website:

http://www.env.gov.bc.ca/epd/recycling/ipsp.htm , followed by a review of the organizations' websites to identify the contact information, e.g.: http://www.return-it.ca/contact/.

The Stewardship Plans and Annual Reports of sector members was also a source of individual contact information, e.g.: Bell Electronic and Electrical Equipment Stewardship Plan: http://www.env.gov.bc.ca/epd/recycling/electronics/pdf/bell_electronic_electrical_equipment_stewardship_plan.pdf

Ontario sites include:

Recycling Council of Ontario: https://www.rco.on.ca/using_extended_producer_responsibility and the Ontario Waste Management Association: http://www.owma.org/.

Associations:

Green Marine organization: www.green-marine.org

Canadian Organic Growers: www.cog.ca

Certified Organic Growers BC: http://www.certifiedorganic.bc.ca/

Organic Food Council of Manitoba http://www.certifiedorganic.bc.ca/

Recycling Council of Ontario: https://www.rco.on.ca/using_extended_producer_responsibility

EPR Canada: www.epr.ca

Ontario Waste Management Association: http://www.owma.org/

Electronic Products Recycling Association: http://www.eprassociation.ca/

Government officials:

Government directories:

British Columbia www.dir.gov.bc.ca

Ontario: http://www.infogo.gov.on.ca/infogo/searchDirectory.do?actionType=changeLocale

Manitoba: http://web2.gov.mb.ca/contact/index.php?

Nova Scotia: http://novascotia.ca/government/

Appendix 4: Electronics Survey

I have read the Informant Consent Form and agree to participate in this research.

○ Yes
○ No

What do you see as the biggest challenge facing your business? (Select one)

○ Competition from others in Canada
○ Competition from others internationally
○ Keeping costs down (specify what type of cost) _____
○ Regulatory requirements (specify) _____
○ Other (specify) _____

My business strives for environmental sustainability by doing the following: (Check all that apply)

☐ Compliance with regulations regarding recycling
☐ Exceeding regulations regarding recycling
☐ Having a formal Corporate Social Responsibility policy
☐ Redesigning products with end-of-life in mind
☐ Offering the lease of equipment as an alternative to sale
☐ Other (specify)

Indicate the extent to which you agree with the following statement:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know/not applicable
My business doesn't pay a lot of attention to legal requirements for recycling and recovery of products because that's what stewardship agencies are for.	○	○	○	○	○	○

The following are a motivation for my business to meet or exceed regulatory requirements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know/not applicable
To address consumer/customer demands and concerns	○	○	○	○	○	○
It is the goal or vision of firm leaders	○	○	○	○	○	○
To reduce costs	○	○	○	○	○	○

The following challenges would apply to any attempt of my business to redesign products:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know/not applicable
We do not have control over the decisions (supply chain)	○	○	○	○	○	○
No business case for doing so	○	○	○	○	○	○
Lack of consumer demand	○	○	○	○	○	○
It is already challenging enough to meet the requirements	○	○	○	○	○	○

Rank the top three things government could do to support environmental stewardship in your business sector, with 1 being the most important. (Click and drag the item on the left to the number on the side then let go when the number turns blue).

	1	2	3
Provide more education and training resources	○	○	○
Provide more public information about sustainable products and recycling	○	○	○
Increase the strictness of current regulations	○	○	○
More consistently enforce current regulations	○	○	○
Provide more funding support for research and innovation	○	○	○

Share any other thoughts you have on what government could do to make environmental sustainability easier for your business:

Please take a few moments to provide some information on your business.
In what sector is your business? (Check all that apply)

- ☐ Mobile devices, cell phones
- ☐ TVs, DVD players
- ☐ Computers
- ☐ Audio
- ☐ Other, please specify... _____

Where does your company sell products in Canada? (Check all that apply)

- ☐ British Columbia
- ☐ Alberta
- ☐ Saskatchewan
- ☐ Manitoba
- ☐ Ontario
- ☐ Quebec

- ☐ Nova Scotia
- ☐ New Brunswick
- ☐ Prince Edward Island
- ☐ Newfoundland and Labrador

The business location at which I work is:

- ○ One location in a multi-location business
- ○ The sole location of the business

The business in which I work is: (check all that apply)

- ☐ A manufacturer
- ☐ An importer
- ☐ A distributor
- ☐ A retailer
- ☐ Other (specify): _____

My position in the business is best described as:

- ○ CEO
- ○ Board member
- ○ Senior manager with general responsibilities
- ○ Senior manager with responsibilities specific to environmental management/corporate green initiatives
- ○ Employee

The size of the business location where I work is:

- ○ Less than 5 employees
- ○ 6-99 employees
- ○ 100-499 employees
- ○ More than 500 employees
- ○ Don't know

If your business location is part of a larger company, the overall size of the company is:

- ○ Less than 5 employees
- ○ 6-99 employees
- ○ 100-499 employees
- ○ More than 500 employees
- ○ Don't know

Appendix 5: Marine Survey

What do you see as the biggest challenge facing your organization today?

- ○ Competition from others in Canada
- ○ Competition from others internationally
- ○ Inability to keep up with demand
- ○ Insufficient demand
- ○ The costs of compliance with regulatory requirements
- ○ Inadequate resources
- ○ Labour costs
- ○ Other (specify)

Rank the following in order of importance with respect to environmental leadership.

	1	2	3	4
Exceeding regulatory requirements	○	○	○	○
Maintaining a good relationship with the nearby community	○	○	○	○
Joining a voluntary environmental standards program	○	○	○	○
Having a process such an environmental management system (EMS)	○	○	○	○
Having a formal corporate social responsibility policy	○	○	○	○

Do you believe that your organization demonstrates environmental leadership?

Yes	No
○	○

If yes, explain how:

Has your organization joined a voluntary environmental stewardship program (such as Green Marine, Sustainable Shipping Initiative, or other)?

- ○ Yes
- ○ No
- ○ Don't know

Does your organization have an Environmental Management System (EMS) in place?

- ○ Yes
- ○ No
- ○ Don't know

Does your organization have a formal Corporate Social Responsibility policy in place?

- ○ Yes
- ○ No
- ○ Don't know

Which voluntary program(s) has your organization joined? (Select all that apply)

- ☐ Sustainable Shipping Initiative
- ☐ Green Marine
- ☐ Clean Cargo Working Group (Business of Better World)
- ☐ World Port Climate Initiative
- ☐ World Ocean Council
- ☐ Other (specify) _____

Indicate how strongly you agree or disagree with the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know
My organization joined a voluntary program in order to improve compliance with regulatory requirements	○	○	○	○	○	○
We joined a voluntary program due to pressure from other ports or ship owners	○	○	○	○	○	○
We joined a voluntary program due to a need to address concerns from community neighbours	○	○	○	○	○	○
We joined a voluntary program in order to display the program logo	○	○	○	○	○	○
The decision to join the program was driven by the vision of one leader of the organization	○	○	○	○	○	○
My organization joined a voluntary program in order to make our business more sustainable	○	○	○	○	○	○

Are there other reasons why your organization joined a voluntary program? Please explain.

My organization has not joined a voluntary program because:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know
Alternatives (such as an environmental management	○	○	○	○	○	○

system or corporate social responsibility policy) make my organization more sustainable						
There are no economic benefits to doing so	○	○	○	○	○	○
There are no environmental benefits to doing so	○	○	○	○	○	○
The paperwork for such programs is too onerous	○	○	○	○	○	○
Meeting regulatory requirements is sufficient	○	○	○	○	○	○
Pressure from industry counterparts not to join	○	○	○	○	○	○
We are unaware of such programs	○	○	○	○	○	○
The costs of meeting program standards are too high	○	○	○	○	○	○
My organization has developed its own, custom made environmental sustainability program	○	○	○	○	○	○

Which of the following would have the greatest positive impact on your organization's business (select one):

○ Different international standards
○ More flexible government regulations
○ Less stringent government regulations
○ Better relationship with the nearby community
○ More training and educational support
○ Other (please specify) _____

Please share any further thoughts you have on how government could support environmental leadership in the marine industry:

Please take a minute to answer a few questions about your business:
My organization is the following:

○ Shipping company
○ Port
○ Marina
○ Harbour authority
○ Stevedoring company
○ Other, please specify... _____

My position in the organization is best described as:

- ○ CEO of company
- ○ Board member of company
- ○ Manager with general responsibilities
- ○ Manager with environmental management responsibilities specifically
- ○ Employee
- ○ Other, please specify... _____

The location of my workplace is:

- ○ British Columbia
- ○ Nova Scotia
- ○ Ontario
- ○ Quebec
- ○ Newfoundland
- ○ New Brunswick
- ○ Other (please specify): _____

The number of employees at my workplace is:

- ○ Less than 5 employees
- ○ 6-99 employees
- ○ 100-499 employees
- ○ More than 500 employees
- ○ Don't know

My place of business is:

- ○ One location in a multi-location company
- ○ The sole location of the company

The size of the entire organization for which I work is:

- ○ Less than 5 employees
- ○ 6-99 employees
- ○ 100-499 employees
- ○ More than 500 employees
- ○ Don't know

Appendix 6: Agriculture Survey

Questions are not numbered because respondents were branched in different directions depending on how they answered certain questions.

What do you see as the biggest challenge facing your business today? (Select one)

- ○ Competition from other agricultural producers in Canada
- ○ Competition from other agricultural producers internationally
- ○ Insufficient demand
- ○ Inability to keep up with demand
- ○ The costs of compliance with regulatory requirements
- ○ Lack of processing facilities
- ○ Transporting product to market
- ○ Labour costs
- ○ Other (specify) _____

What does environmental leadership mean to you? (select all that apply)

- ☐ Meeting regulatory requirements
- ☐ Exceeding regulatory requirements
- ☐ Joining a certification standards program
- ☐ Other (please specify) _____

Rank the following in order of importance with respect to environmental leadership, with 1 being the most important.

	1	2	3
Exceeding regulatory requirements	○	○	○
Maintaining a good relationship with the nearby community	○	○	○
Joining a voluntary environmental standards program	○	○	○
Meeting all requirements to operate my farm in a safe and sustainable manner	○	○	○

Indicate the extent to which you agree with the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know/not applicable
Regulations regarding agriculture are too onerous	○	○	○	○	○	○
Regulations regarding agriculture are not onerous enough	○	○	○	○	○	○
Government should provide more support to farmers, through training and sharing expertise	○	○	○	○	○	○
Government should more consistently	○	○	○	○	○	○

enforce its regulations

Indicate the extent to which you agree with the following:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know/not applicable
My production methods create food security and are sustainable	○	○	○	○	○	○
It is not necessary to exceed regulatory requirements to be sustainable	○	○	○	○	○	○
Business considerations (eg: the cost of fertilizers or waste) promotes environmental sustainability of my farm	○	○	○	○	○	○
Decisions on my farm are primarily driven by one or two people	○	○	○	○	○	○
Organic certification is not required for sustainable farming	○	○	○	○	○	○
The costs of organic certification are too high	○	○	○	○	○	○

Select the following statement that best describes your approach to farming:

- ○ Conventional farming methods, meeting all regulatory requirements
- ○ Conventional farming methods, exceeding regulatory requirements. Please specify: _____
- ○ Organic farming methods (with certification)
- ○ Organic farming methods (without certification)
- ○ Other, please specify... _____

Questions provided only to respondents who answered organic farming methods (with certification)in the previous question.

Under which program is your farm certified organic?

[ ]

The following reasons for being certified organic apply to my farm:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know
Pressure from other farmers	○	○	○	○	○	○
Consumer demand	○	○	○	○	○	○
Need to address concerns from community neighbours	○	○	○	○	○	○
To be able to display a certified organic label	○	○	○	○	○	○
It is the right thing to do environmentally	○	○	○	○	○	○
It is the right thing to do socially	○	○	○	○	○	○
The decision to seek certification was driven by the vision of one person	○	○	○	○	○	○

Are there other reasons why your business is certified organic? If so, explain.

It makes a difference whether the certification program is international, national, or provincial:

- ○ Agree
- ○ Don't agree
- ○ Don't know

Please provide a brief explanation of your answer to the previous question:

Questions provided only to respondents who answered organic farming methods (without certification)in the previous question.

The reason(s) my farm is organic but not certified are (check all that apply):

- ☐ I am in the process of obtaining certification
- ☐ It is difficult for my farm to be certified because neighbour farms are not organic
- ☐ The cost of certification is too high
- ☐ Other _____

Questions provided to all respondents:

The most important thing to making a difference to the success of my business is:

- ○ Increased consumer demand
- ○ Lower costs of production
- ○ Fewer reporting requirements
- ○ More flexible government regulations
- ○ Lower transportation costs for distribution of my products
- ○ Improved access to production facilities
- ○ More training and learning support
- ○ Other (specify) _____

Rank the top three things government could do from the following list to support environmental leadership of farms , with 1 being the most important. (Click and drag the item on the left to the number on the side then release when the number you want turns blue).

	1	**2**	**3**
Increase the strictness of regulations	○	○	○
More consistently enforce regulations	○	○	○
Provide more funding to support research and innovation related to farming	○	○	○
Provide financial assistance (for equipment investments, training, certification and/or compliance costs)	○	○	○
Provide more training and expertise support	○	○	○

If there was one thing government could do to support my farm it would be:

If there was one thing government could do to support the environmental sustainability of my farm in particular it would be:

Please take a moment to answer a few questions about your farming business:
Where is your farm located?

- ○ British Columbia (please specify region) _____
- ○ Alberta
- ○ Saskatchewan
- ○ Manitoba
- ○ Ontario
- ○ Quebec
- ○ Nova Scotia
- ○ New Brunswick
- ○ Prince Edward Island
- ○ Newfoundland and Labrador
- ○ More than one region (specify) _____

What do you produce? (check all that apply)

- ☐ Tree fruit
- ☐ Berries
- ☐ Vegetables
- ☐ Dairy
- ☐ Grain
- ☐ Poultry
- ☐ Eggs
- ☐ Meat
- ☐ Other (specify) _____

The size of my farming business is:

- ○ Less than 5 employees
- ○ 6-99 employees
- ○ 100-499 employees
- ○ More than 500 employees

The following best describes my position:

- ○ Owner/farmer
- ○ Business manager
- ○ Manager with responsibilities specific to environmental regulatory matters
- ○ Farming manager
- ○ Employee

Appendix 7: Interview Codes and Frequency

Electronics EPR case	Marine case	Agriculture case
Environmental leadership (number of interviewees who addressed the code[12])		
Business footprint (3)	Beyond compliance (4)	Beyond compliance (2)
Corporate social responsibility (2)	Working for sector appropriate regulation (1)	Long term sustainability (3)
Managing life cycle of products (3)	Transparency and accountability (1)	Pushing each other and reflecting (3)
Reduce toxins (1)	Stakeholders (2)	Organic (3)
Thrift (1)	Integrated with business plan (2)	Does not have to be organic (5)
Voluntary initiatives (4)	Green Marine (2)	Certification (1)
		Certification provides clarity (3)
		All farmers are sustainable (3)
		Local and small scale (3)
		Other programs (1)
		Own leadership and action (5)
		Morals/ethics (2)
Motivations number of interviewees who addressed the code		
Business case (8)	Business advantage (3)	Competition and brand (1)
Consumer influence (9)	Company values (4)	Social licence (3)
Culture (4)	Cost savings (1)	Consumer demand (3)
Do the right thing (2)	Learning (1)	Environmental ethic (2)
Educating the public (2)	Not customers (2)	Modelling good practice (1)
Employees concern (2)	Social licence (5)	Organic is better in practice (3)
Industry working together (2)	Vision of leaders (3)	Price premium for organics (2)
Investors (2)	Enforcement back up (1)	Pushing each other and reflecting (3)
Regulations require it (3)		
Scarcity of resources (3)		
Science and innovation (3)		
Stay ahead of government (2)		
Social licence (5)		
Challenges (number of interviewees who addressed the code)		
Canada small in the	Education (2)	**Challenges general:**

[12] Does not refer to the number of times a code is mentioned. Some interviewees discussed an issue covered by a code more than once in the interview.

Electronics EPR case	Marine case	Agriculture case
international market (7)		
Enforcement (2)	Regulations don't fit sector (1)	Land conflicts (1)
Foreign ownership/distant (1)		Ability to produce enough (1)
Free enterprise (2)		Cost of labour (1)
Institutionalized recycling (2)		Cost of equipment and inputs (1)
Regulatory burdens (1)		Cost of land (2)
Lack of education or understanding (2)		Lack of level regulatory playing field (1)
Lack of harmonization (3)		Inadequate enforcement (2)
		Knowledge of farming (3)
		Weather and pests (2)
		Challenges specific to organic:
		Profitability (3)
		Too many regulations (1)
		Trouble with distribution (5)
		Contamination from conventional (1)
		Cost of certification (2)
		Definition of what is organic (1)
		Depends on region (1)
		Lack of data (1)
		Pressure and criticism from non-organic farmers (2)
		Regulatory and funding advantage of conventional (2)
		Small scale v industrial organic (3)
		Transition to organic (1)
Policy implications number of interviewees who addressed the code		
Advantages and disadvantages of voluntary approach (2)	Dialogue with government (2)	Leadership planning and policy (7)
Clarity yet flexibility (6)	Governance (1)	Governments working together (4)
Collaboration with industry (4)	Limitations of government's role (1)	Support research and innovation (4)
Data required (2)	Program support and incentives (2)	Provide or support education and training (4)

Electronics EPR case	Marine case	Agriculture case
Don't discourage reuse (2)	Provincial jurisdiction (2)	Address diversity (1)
Educating the public (1)	Setting minimum standards (2)	Mandatory organic (1)
Exploit markets and opportunities (2)	Science (1)	It's not all up to government (1)
Fees support program (1)	Set minimum standards (2)	Who bears cost (2)
Leadership (1)	Understand industry (1)	Deal with the cost of land (1)
Level of fees (3)		Farmers know best (1)
Level playing field (2)		Funding to help (4)
Mandatory warranties (1)		In the field proactively (5)
Need to harmonize (4)		Income of farmers (1)
No new fees (3)		Insurance (1)
Procurement policies (2)		International trade (2)
Publish performance of program (2)		Procurement (1)
Renewable and non-renewable resources (1)		Reduce or coordinate regulations (2)
Reward early leaders (2)		Research and innovation (4)
Setting standards and prohibitions (1)		
Systems for supporting life cycle (1)		Setting standards (2)
Targets not ambitious enough (1)		
Use of stewardship agency (6)		
Visible fees (2)		

Appendix 8: Respondents descriptions – Electronics EPR case

Of the 13 responses to the questions about business sector, ten respondents indicated they sell computers, three sell audio, and one sells TVs, and DVD players. Three indicated they sell other products, including printers, networking systems and software, and music and audio production equipment. No respondents indicated that they sell mobile devices (Table 39).

Table 39: Electronics business products

In what sector is your business? (Check all that apply)

Response	Chart	Percentage	Count
Mobile devices, cell phones			0
TVs, DVD players		7.7%	1
Computers		76.9%	10
Audio		23.1%	3
Other, please specify...		23.1%	3
	Total Responses		13

Other, please specify...

#	Response
1.	Printers
2.	Retailer of music and audio production equipment
3.	Networking systems, software

Although the majority conduct business in British Columbia, many conduct business in other provinces as well. Twelve sell products in British Columbia, nine in Alberta, seven in Saskatchewan, six in Manitoba, eight in Ontario, five in Quebec, six in Nova Scotia, six in New Brunswick, and six in Prince Edward Island and five in Newfoundland and Labrador (Table 40).

Table 40: Location of sales in Canada

Where does your company sell products in Canada? (Check all that apply)

Response	Chart	Percentage	Count
British Columbia		92.3%	12
Alberta		69.2%	9
Saskatchewan		53.8%	7
Manitoba		46.2%	6
Ontario		61.5%	8
Quebec		38.5%	5
Nova Scotia		46.2%	6
New Brunswick		46.2%	6
Prince Edward Island		46.2%	6
Newfoundland and Labrador		38.5%	5
	Total Responses		13

Ten of the 13 indicated that their business is the sole location of the business, and three that their location is one of a multi-location business (Table 41).

Table 41: Electronics business locations

The business location at which I work is:

Response	Chart	Percentage	Count
One location in a multi-location business		23.1%	3
The sole location of the business		76.9%	10
	Total Responses		13

Nine indicated they are a retailer, two a manufacturer, three an importer, and five that they are a distributor. Two indicated that their business is "other", identified as onsite installation, training and software development, and one a value added reseller (Table 42).

Table 42: Respondent's business location

The business in which I work is (check all that apply)

Response	Chart	Percentage	Count
A manufacturer		15.4%	2
An importer		23.1%	3
A distributor		38.5%	5
A retailer		69.2%	9
Other (specify):		15.4%	2
	Total Responses		13

The business in which I work is: (check all that apply) (Other (specify):

#	Response
1.	Onsite installations and training, software development
2.	Value added reseller

Six of the respondents identified their position as best described as CEO of the business, four as senior manager with general responsibilities, two as an employee, and one as the senior manager with responsibilities specific to environmental management or corporate green initiatives (Table 43).

Table 43: Respondent's position

My position in the business is best described as:

Response	Chart	Percentage	Count
CEO		46.2%	6
Board member			0
Senior manager with general responsibilities		30.8%	4
Senior manager with responsibilities specific to environmental management/corporate green initiatives		7.7%	1
Employee		15.4%	2
	Total Responses		13

Seven of the businesses have 6-99 employees, four have less than five employees, and two have 100-499 employees. No respondents have more than 500 employees. Of the four that responded to the question of how large the overall company is, if they are one location of a larger firm, and each one of the four indicated a different size. One has less than five employees, one 6-99 employees, one 100-4999 employees, and one more than 500 employees (included in Table 44 and Table 45).

Table 44: Size of electronics business

The size of the business location where I work is:

Response	Chart	Percentage	Count
Less than 5 employees		30.8%	4
6-99 employees		53.8%	7
100-499 employees		15.4%	2
More than 500 employees			0
Don't know			0
	Total Responses		13

Table 45: Overall size of business

If your business location is part of a larger company, the overall size of the company is:

Response	Chart	Percentage	Count
Less than 5 employees		25.0%	1
6-99 employees		25.0%	1
100-499 employees		25.0%	1
More than 500 employees		25.0%	1
Don't know			0
	Total Responses		4

With respect to the question of how much they rely on stewardship agencies for recycling and recovery of products, the majority of the respondents either disagreed or strongly disagreed. These included six retailers, five distributors and three importers, two manufactures, and both businesses that identified themselves as “other”.

Appendix 9: Respondents descriptions – Marine case

Half the respondents to the marine case survey were shipping companies (5), two were ports, and three identified themselves as "other". The "other" categories were two firms that are a stevedoring company as well as a terminal operator, and one identified itself as a Port Authority. As a whole, the responses to this question result in five shipping companies, three ports, and two stevedoring companies that also operate terminals (Table 46).

Table 46: Type of marine sector business

My organization is the following:

Response	Chart	Percentage	Count
Shipping company		50.0%	5
Port		20.0%	2
Marina			0
Harbour authority			0
Stevedoring company			0
Other, please specify...		30.0%	3
	Total Responses		**10**

My organization is the following: (Other, please specify...)

#	Response
1.	Stevedoring Company and Deep Sea Shipping Terminal Operator
2.	Port Authority
3.	Private Break-Bulk Terminal, Also Offer Stevedoring Services

The representative that completed the survey for most organizations (60%) was a manager with general responsibilities, followed by three respondents that were managers with responsibilities specific to environmental matters. One respondent was the Vice President Operations of the corporation (Table 47).

Table 47: Respondent's position

My position in the organization is best described as:

Response	Chart	Percentage	Count
CEO of company			0
Board member of company			0
Manager with general responsibilities		60.0%	6
Manager with environmental management responsibilities specifically		30.0%	3
Employee			0
Other, please specify...		10.0%	1
	Total Responses		**10**

Other, please specify.

#	Response
1.	Vice President Operations

The majority of the respondents (4) were located in BC, followed by three in Quebec, two in Nova Scotia, and one in Ontario (Table 48).

Table 48: Location of business

The location of my workplace is:

Response	Chart	Percentage	Count
British Columbia		40.0%	4
Nova Scotia		20.0%	2
Ontario		10.0%	1
Quebec		30.0%	3
Newfoundland			0
New Brunswick			0
Other (please specify):			0
	Total Responses		**10**

Half the respondents work in workplaces with 6-99 employees and six of the ten at a workplace that is one location of a larger company (Table 49 and Table 50).

Table 49: Size of marine business

The number of employees at my workplace is:

Response	Chart	Percentage	Count
Less than 5 employees		20.0%	2
6-99 employees		50.0%	5
100-499 employees		30.0%	3
More than 500 employees			0
Don't know			0
	Total Responses		**10**

Table 50: Location of marine business

My place of business is:

Response	Chart	Percentage	Count
One location in a multi-location company		60.0%	6
The sole location of the company		40.0%	4
	Total Responses		**10**

Four of the ten respondents can be identified as being from small businesses (under 99 employees), four from medium sized businesses (6-499) and two from large companies (over 500 employees) (Table 51).

Table 51: Size of marine business

The size of the entire organization for which I work is:

Response	Chart	Percentage	Count
Less than 5 employees		20.0%	2
6-99 employees		20.0%	2
100-499 employees		40.0%	4
More than 500 employees		20.0%	2
Don't know			0
	Total Responses		**10**

Appendix 10: Respondents descriptions – Agriculture case

The respondents to the survey were almost evenly distributed between the two provinces in which the survey was distributed: 22 in British Columbia, and 18 in Manitoba. Within BC, seven respondents live in the Okanagan, five on Vancouver Island or the Gulf Islands, three in the Lower Mainland, two in the Fraser Valley. One each live in the Cariboo, Similkameen, Kootenays, or Peace River region (Table 52 and Table 53).

Table 52: Location of farm

Where is your farm located?

Response	Chart	Percentage	Count
British Columbia (please specify region)		55.0%	22
Manitoba		45.0%	18
	Total Responses		40

Table 53: Location of farm in British Columbia

Where is your farm located? (British Columbia (please specify region))

#	Response
1.	Fraser Valley
2.	South Okanagan
3.	North Cariboo
4.	Similkameen valley
5.	Central West Kootenays
6.	Okanagan
7.	Langley
8.	Eastern Fraser Valley
9.	Vernon
10.	Lower mainland
11.	Vancouver Island
12.	Kaleden
13.	Cowichan Valley, Vancouver Island
14.	Gulf Islands
15.	Vancouver Island
16.	Saturna Island
17.	Peace river region
18.	Pemberton
19.	Okanagan
20.	Columbia Shuswap
21.	North Okanagan

Berries and vegetables were the most common crops, grown by 22 and 21 farms respectively. The next most common crops were tree fruit and eggs (eleven farms each). Ten produce meat, eight poultry, four grain, and three produce dairy products. Twelve farms produce other products including wine grapes, hay, garlic, seeds, pulses, sunflowers, pork and one has a portable poultry abattoir (Table 54).

Table 54: Farm products

What do you produce? (check all that apply)

Response	Chart	Percentage	Count
Tree fruit		27.5%	11
Berries		55.0%	22
Vegetables		52.5%	21
Dairy		7.5%	3
Grain		10.0%	4
Poultry		20.0%	8
Eggs		27.5%	11
Meat		25.0%	10
Other (specify)		30.0%	12
	Total Responses		40

What do you produce? (check all that apply) (Other (specify))

#	Response
1.	Eating and wine grapes
2.	Hay
3.	Wine and table grapes ,garlic and assorted vegetables and fruits
4.	We have a portable poultry abattoir
5.	Wine grapes
6.	Vegetable seed
7.	Hay
8.	Wine grapes
9.	Herbs
10.	Upick berries/pumpkins
11.	Pulses sunflowers
12.	Heritage pork

The majority of the famers (28) have less than five employees. Eleven have 6-99 employees, and one has 100-499 employees. None have more than 500 employees (Table 55).

The most common respondent for the farm was the owner/farmer, which were 38 of the respondents. Two of the respondents described themselves as the farming manager (Table 56).

Table 55: Size of farm

The size of my farming business is:

Response	Chart	Percentage	Count
Less than 5 employees		70.0%	28
6-99 employees		27.5%	11
100-499 employees		2.5%	1
More than 500 employees			0
	Total Responses		40

Table 56: Respondent's position at farm

The following best describes my position:

Response	Chart	Percentage	Count
Owner/farmer		95.0%	38
Business manager			0
Manager with responsibilities specific to environmental regulatory matters			0
Farming manager		5.0%	2
Employee			0
	Total Responses		40