

**The Voluntary Adoption of Green Electricity
by Ontario-Based Businesses**

by

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I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

This paper explores the contextual factors that promote and inhibit firms' motivations to adopt a voluntary environmental initiative that is good for the environment but does not provide a clear competitive or legitimating benefit to the firm itself. Using green electricity (e.g., wind, solar, small hydro, and biomass) as an example of such an initiative, the study uses qualitative research to investigate the willingness of 20 Canadian businesses to voluntarily adopt green electricity for at least a portion of their total electricity requirements.

Although the corporate ecological responsiveness literature reveals that external factors (e.g., economic, government, infrastructure), organizational factors (e.g., industry cohesion), and individual factors (e.g., leadership, individual interest, manager discretion) can all affect the types of environmental projects that firms will adopt, in the case of green electricity the external factors were the more significant obstacles to it being perceived as a viable means to improve corporate environmental performance. In firms currently using green electricity, these obstacles were largely overcome by the successful efforts of an internal champion motivated primarily by individual values. An important aspect of the champion's success is her ability to attach her personal interest to a tangible business issue. This task is in turn aided by proactive or sustaining corporate environmental strategies that formalize continual environmental improvement processes and are predisposed to evaluating the success of an initiative on more than its financial or legitimizing contribution to the firm.

Based on these findings, the thesis concludes that the two most important factors associated with the willingness of firms to adopt an initiative that is good for the environment but not necessarily good for the firm are the development of decision-making criteria that extend beyond the bottom-line and the capability of concerned individuals to legitimize the initiative within the firm.

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In times of big picture questions, the one person that I could always reliably count on to give me a big picture perspective was Bob Gibson. Bob’s capacity to understand and explain the complexity of sustainability is unparalleled. Although I often walked out of Bob’s office with more questions than I entered with, they inevitably left me with a stronger concept of the whole.

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Dedication

This thesis is dedicated to my Father who taught me to never give up on pursuing my dreams.

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Chapter 1: Introduction

1.1 Introduction

The production, distribution, and disposal of goods and services in the modern industrialized economy have imposed a heavy toll on the natural environment, particularly since the 1950s. Climate change, soil erosion, air and water pollution, and the loss of biological diversity are but a few examples of the negative impacts of modern industrialism. These in turn place strains on human sociological systems that are – despite our modernity - reliant upon the health of ecosystems for personal security and well-being. The irony of modern industrialism is that although it has placed an ever greater burden on the natural environment, it has simultaneously generated historically unprecedented levels of wealth, innovation, and personal well-being for a large portion of the world's human population.

In recent years, a number of business representatives, government officials, non-governmental organizations, and scholars have started to argue that industrialism does not have to lead to the degradation of natural systems. However, in order for this to happen, businesses, governments, and individuals need to ensure that their collective impact, including overall material and energy throughputs do not exceed the capacities of environmental systems. That is, we need to ensure that we do not use more than the natural environment is able to renewably generate, nor can we create more waste than can be assimilated back into the natural system without degrading its regenerative capabilities.

A major actor in this more sustainable model of industrialism, particularly in the liberal-capitalist context, is the business community because it produces and distributes the bulk of the goods and services that are eventually consumed and discarded by society. The adoption of sustainable material and energy practices by businesses, therefore, is an integral part of sustainable industrialism. However, “what happens when what’s good for the environment is not good for the company” (Banerjee, 2001: 509)? Until the 1980s, this question would have been answered with two words - government regulation. Since the 1990s, though, governments have increasingly favoured voluntary environmental initiatives (VEI) over traditional “command-and-control” legislation (Wylynko, 1999).

If the transformation toward sustainable industrialism is a desired societal outcome and if governments are increasingly reliant upon the voluntary actions of businesses to improve their environmental performance, then it is worthwhile to understand what factors are influencing companies to improve their environmental performance voluntarily. In order to study the factors

that influence firms to voluntarily adopt an environmental initiative that is good for the environment but not necessarily good for the company, this study uses the adoption of green electricity (GE) as an objective measure to research how companies make decisions regarding such initiatives. GE, while good for the environment, costs more to use, does not improve a firm's efficiency and is arguably not a normal environmental practice for most firms. By investigating the factors that have influenced firms to voluntarily adopt GE, it is the aim of this study to develop a better understanding of what is leading some firms to develop more sustainable practices than others. From this knowledge, it may then be possible to determine some of the conditions that are necessary for the broader business community to transform more rapidly from modern industrialism to sustainable industrialism.

1.2 Rationale

This thesis addresses both theoretical and practical issues associated with the business decision to voluntarily adopt more sustainable practices. Addressing the issue of corporate voluntary environmental initiatives (VEI), Gibson (2000: 3) points out that "the overall system of pressures, responses and further expectations, is clearly important. But to date the interacting parts have come together more or less accidentally. Academics and practitioners have not yet done much even to understand the system of incentives for, and barriers to, voluntary actions."

Although research into corporate environmental performance has begun to answer some of the questions relating to the motivations and factors that influence voluntary environmental responses, most of this work has looked at strategies or initiatives that either improve the company's bottom-line or mitigate an issue that is associated with significant external stakeholder pressure. After making the observation that "environmental strategy remains internally focused and is evaluated by its financial benefit to the firm rather than an external strategic focus on sustainable development" (Banerjee, 2001: 507), Banerjee (2001: 509) later states:

"[W]hat happens when what's good for the environment is not good for the company. As Walley and Whitehead (1994) have pointed out, environmental challenges facing industry are extremely complex and do not always result in win-win situations and need not always provide value to customers. Management decision-making processes in these challenging situations merit further research attention."

Given the lack of empirical research to date on such situations, my thesis seeks to contribute to the corporate ecological responsiveness literature by developing a better understanding of the factors that influence some firms to adopt an initiative that is good for the environment but does not necessarily provide a clear benefit to the firm.

In order to study the decision-making process of firms for initiatives that are good for the environment but not necessarily good for the firm, I selected the voluntary adoption of GE as the object of this study. GE is generally considered to be “electricity that has been generated by more environmentally sustainable means” (Rowlands, Scott, & Parker, 2003: 36). GE improves the environmental performance of firms that use it but costs more than conventional electricity, does not improve efficiency, and there is relatively little external pressure placed on firms to adopt it. In addition to these features, GE’s generic and relatively ubiquitous characteristics make it a technically uncomplicated practice to adopt. Its potential use, therefore, is not limited to specific firms or industries allowing for multi-sector comparisons to be studied. My research, therefore, was guided by the following question: What factors promote and inhibit the voluntary adoption of green electricity by businesses?

Studying GE and its comparative properties is also in keeping with Sharma’s (2000: 693) comments that there is a need for “objective data on corporate performance in sustainable process and product redesign, materials and *energy substitution*, and habitat preservation to aid research on the comparative environmental performance of organizations” (emphasis added). As GE serves the same function as conventional electricity, its adoption by firms is an objective measure of energy substitution. From a theoretical perspective, therefore, the research on the decision by firms to use green electricity also adds empirical evidence on energy substitution to emerging theories of corporate ecological responsiveness (Bansal & Roth, 2000; Hart, 1995; Jiang & Bansal, 2003; Sharma, 2000; Sharma & Vredenburg, 1998).

From a more practical perspective, information on the market preferences of businesses with regards to green electricity provides an opportunity for various groups to understand the role that they can play to encourage corporate participation in this market. These groups would include policymakers, community groups, environmental organizations and suppliers of green electricity interested in developing sustainable power generation in Canada. To date only a handful of publicly available studies on the motivation of firms to voluntarily purchase green electricity (e.g. wind, solar, and biomass) have been conducted (Hanson & Austin, 2002; Lewis, 2003; Wiser, Fowlie, & Holt, 2001). These studies have tended to focus more on the motivation to use GE than the contextual factors that influence the decision-making process. In addition to this, the studies have been more closely aligned to marketing studies than to academic

research on corporate ecological responsiveness. As well, the study by Wisser, Fowlie, and Holt (2001) is the only one of the three that has publicly disclosed its methods and analysis. The full research by Lewis (Lewis, 2003) is only available for commercial purposes and the article by Hanson and Austin (2002) tends to provide more anecdotal information than empirical evidence. Therefore, while the information contained in these reports was useful to this study, their direct applicability to the research question was limited.

At the time of writing, no publicly available studies had been completed on the voluntary purchasing of GE by businesses in Canada. Because business demand accounts for 66.6% (CEA, 2003) of the electricity used in Canada, there exists a considerable gap in our understanding of the demand market for green electricity. Without this information, it is difficult to assess how closely the findings by others (Hanson et al., 2002; Lewis, 2003; Wisser et al., 2001) can be applied to the Canadian marketplace. Because electricity is a highly regulated commodity throughout most jurisdictions in the world, one cannot assume that the political and economic context that the decisions made by the firms in these studies regarding the voluntary adoption of GE is the same context that exists in Canada. In order to address this information gap and to minimize the influence that different regulatory regimes may have on firms' decisions to adopt GE, my research question was adapted to read: What factors promote and inhibit the voluntary adoption of green electricity by Canadian-based businesses?

In Canada, electricity regulation is predominately a provincial and territorial responsibility. However, the federal government also influences electricity related issues through its national energy policies and environmental policies. This means that there are fourteen different regulatory regimes that influence GE in Canada. In an effort to further minimize the influence that different regulations may have on the willingness of firms to voluntarily adopt GE, this study's primary data were collected from a single province - Ontario. This focused research objective will allow for a more transparent comparison of my findings with international studies to determine what correlations, if any, exist. The Canadian and Ontario GE markets and government programmes are discussed in section 1.3.4 and section 1.3.5.

1.3 Background Discussion

My research is based on two major assumptions. The first is that the use of electricity generated from "green" sources (e.g. solar, wind and small hydro) is more sustainable than electricity generated from conventional sources (e.g. large-hydro, nuclear, and fossil fuels). The second assumption is that the actions of business are generally important in terms of their effects on the economy, society and the environment. Therefore, it is important to develop a

better understanding of what makes businesses move towards more sustainable practices. The following section explain these two assumptions by first introducing the concept of sustainability. It then explains how sustainability applies to the business community and electricity generation and consumption. Finally, it provides a brief background on the green electricity market in Canada and Ontario.

1.3.1 Sustainability

The concept of sustainability or “sustainable development” is one that has been widely discussed for much of the past two decades. The most oft-cited definition for sustainable development is from the World Commission on Environment and Development’s (WCED, 1987:43) 1987 report, *Our Common Future*: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Although the commission’s report states that no single blueprint for sustainable development exists, it does conclude that both economic growth - which adheres to the “broad principles of sustainability” - and the provision of equitable opportunities are essential elements of any plan (WCED, 1987:44).

The WCED report, commonly known as the Brundtland Report, is certainly not without controversy. Common criticisms of the paper include that it provides too vague a concept of sustainability; it places too much reliance on continued economic growth and technological efficiencies; it fails to address alternatives to industrial development; and it is a tool intended to reinvigorate centralized technocratic approaches to development (Robinson, 2001; Sachs, 1999). In fact, it is not uncommon for “sustainability” advocates to avoid using the phrase “sustainable development” because of its association with the Brundtland Report definition. Despite the report’s apparent shortcomings, it is important because of the significant influence it has had on the issue of sustainability for almost two decades. It also provides the foundation for many of the existing interpretations of sustainability put forth by the business sector.

As to the controversy surrounding whether “sustainability” is more appropriate than “sustainable development”, Robinson (Robinson, 2001) makes the following argument:

“[S]ustainable development should not be conceived of as a single concept, or even as a consistent set of concepts. Rather it is more usefully thought of as an approach or process of thinking that indicates we need to integrate environmental, social and economic issues in a long-term perspective, while

remaining open to fundamental differences about the way that is to be accomplished and even the ultimate purposes involved.”

With this point kept in mind, Robinson and Tinker (1997) suggest that sustainability is based on mutually attaining three broad imperatives:

- 1) The ecological imperative is to stay within the biophysical carrying capacity of the planet;
- 2) The economic imperative is to provide an adequate material standard of living for all; and
- 3) The social imperative is to provide a system of governance that propagates the values that people want to live by.

Taken as whole, the imperatives are intended to ensure that human activities do not exceed the biophysical capability of the earth to support a sufficient material standard of living for all humans, nor do they jeopardize the values by which they choose to live.

The three imperatives listed above help to create a clearer idea of what sustainability consists of at a global scale. It is not practical, however, to apply these imperatives at the micro decision-making level. How, for example, can one know if one's decision to use a less expensive but more ecologically harmful coal burning source of energy will lead to the world's biophysical carrying capacity being further exceeded? Even at the scale of a multinational firm, the actual global effects of one firm's operations amidst the actions of thousands of other firms is open to considerable debate. Although interesting from a global governance perspective, these imperatives are not directly applicable to micro-level decisions makers.

Rather than listing a broad set of imperatives, Gibson (2002) has suggested the use of seven principles to link macro-level sustainability issues with micro-level decisions. These principles are: integrity; sufficiency and opportunity; equity; efficiency; democracy and civility; precaution; and immediate and long-term integration. Each principle represents a specific characteristic or requirement of a sustainable society. If the projected outcome of a decision violates any of the principles, then the decision could potentially further deter the sustainability of the society under review. Under these circumstances the decision-makers will ideally reassess their plan in order to find a more sustainable alternative. The intent of these principles, therefore, is to provide a framework that will allow the macro concept of sustainability to be operationalized at the micro level.

1.3.2 Business and Sustainability

Attempts to promote healthy natural and social environments within a liberal-capitalist world raise a number of questions about the role and responsibilities of business with regards to its effect on society, the environment, and the economy. This debate is not new, nor does it appear to be close to any definite conclusion.

Although the social responsibility of business is an idea that has been debated since the mid-18th century, most businesses until the 1970s remained staunchly committed to the narrow fiduciary responsibility of maximizing profits for their shareholders. Proponents of this approach argue that the free-market's "invisible-hand" is the most efficient and accurate indicator of society's values and wants. This neo-liberal viewpoint is perhaps best summed up by economist Milton Friedman's (Friedman, 1962: 133) oft cited quote: "(T)here is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game..."

In this argument, the responsibility of business is to reflect the values and desires of a society as efficiently as possible in the goods and services it produces; a company that does this well will be rewarded in the market place by customers supporting its products. The support of a company's products is in turn understood to include support for how the products were produced in the first place. The rules that determine how products are produced and sold are set by democratically elected governments. It is then the task of business to compete with one another within the parameters of these rules.

Beginning in the 1960s, public concerns about environmental degradation and threats to human health and safety, as well as a general distrust of government and business interests, caused the business community to begin to consider its broader ramifications. Starting in 1970 and approximately lasting until 1985, the government responded to public pressure by rolling out a steady stream of "command-and-control" regulatory policies. Much of this early legislation was closely tied to specific technical requirements. Fisher and Schot (as cited in Walley & Whitehead, 1994) call this first era of corporate environmental management "resistant adaptation" because of the adversarial position taken by the majority of the business community toward these changes.

In the mid-1980s, government policy eventually shifted away from high technical specificity to setting desired environmental results which business had the responsibility to achieve in the most efficient manner possible. The shift in policy from technical solutions to setting environmental goals gave business the flexibility to experiment with new techniques and

processes. With this new policy framework in place many firms began to exceed environmental standards while also lowering their operating costs due to increased efficiencies and reductions in waste-treatment volumes (Walley et al., 1994).

The mutual environmental and economic gains of the mid to late 1980s encouraged a number of firms and academics over the past decade to extend the lessons learned about business ingenuity and the environment to a broader set of sustainability issues (e.g. environment, social, and economic). The underlying idea is that profits and social responsibilities, rather than being mutually exclusive, can actually be mutually reinforcing. It is, therefore, not a question of choosing to be profitable or socially responsible, as Friedman argues, but *voluntarily* choosing to be both profitable *and* socially responsible. Hoffman (2000) refers to this latest business approach to environmental issues as “strategic environmentalism”. Some of the concepts behind this new strategy for business include corporate social responsibility (Hopkins, 2003), natural capitalism (Lovins, Lovins, & Hawken, 1999), the Natural Step (Robèrt, 2002), the Triple Bottom Line (Elkington, 1998), and resource productivity (Porter & van der Linde, 1995). Each of these concepts argues that our current modes-of-production are unsustainable in the long-term. Our own modern prosperity, in essence, is leading to the planet’s long-term social, ecological, and economic demise. This same prosperity, so the argument goes, if generated with both social responsibility and profits in mind, can result in a sustainable future.

The evolution of more sustainable business practices when framed in sequential eras of time appears to have occurred in a logical linear progression. The difficulty with the linear presentation of these eras is that it may obscure the fact that the beginning of a new era does not necessarily result in the absolute cessation of past ones. Instead, each era blends into the next with the majority of businesses still one, two or even three steps behind the most recently emerging paradigm. This non-uniform progression presents a challenge to anyone attempting to understand what factors promote the adoption of the next paradigm by some firms and its simultaneous rejection by others.

Despite the fact that many firms have not yet adopted a “sustainable” business paradigm, the above review of the evolution of the social and environmental business paradigms over the last 40 years highlights the ability of organizations to change and adapt to new cultural and social norms. What is less clear, however, is whether this shift will ultimately lead to global sustainability.

1.3.3 Canadian Electricity Choices and Sustainability

Electricity generation in Canada is presently dominated by three methods of production: hydro (61%); nuclear (12%); and thermal (26%), e.g. coal, natural gas and oil (CEA, 2000). The majority of this generation - 66.6% - was consumed by the business sector (37.7% manufacturing; 22% commercial and institutional; 6.9% mining, oil and gas extraction) (CEA, 2003).

Each of Canada's three main sources of electrical power generation – hydro, nuclear, and thermal – is linked to a unique set of potentially harmful environmental and social impacts. The negative impacts of hydro-electricity, for example, include ecosystem damage caused by upstream flooding, rises in release water temperature, lower downstream water tables, sediment build-up, and human population resettlement (Holdren & Smith, 2000). It is important to note, however, that most of these problems are generally associated with large-scale dams. Proponents of large-hydro projects argue that because the impacts of the dams are generally only local or regional in scale and because hydro-electricity generation does not create high levels of harmful atmospheric emissions, it should be considered an environmentally favourable source for large-scale electricity needs.

Electricity generated by nuclear power, like hydro, is argued by many to be a clean, reliable source of large-scale electricity generation because of its low levels of harmful atmospheric emissions. Environmental and social concerns with nuclear power, however, arise from its reliance on highly radioactive products. The problems of the radioactive products are twofold. First, they require a high level of persistent management in their initial extracting processing, immediate use and long-term waste disposal. As was witnessed in the 1986 Chernobyl disaster, the failure to meet these standards can be devastating. The second chief concern with nuclear power is the fact that weapons-grade plutonium or uranium can be siphoned from energy designated stockpiles. If placed in the "wrong-hands", these materials could pose a serious threat to global security (Holdren et al., 2000).

Electricity generated from thermal sources (e.g. coal, natural gas and oil), arguably pose the most compelling environmental and social case for a need to shift to more sustainable sources of electricity. Harmful emissions from the burning of fossil fuels for electricity generation include sulphur oxide (SO_x), nitrogen oxide (NO_x), volatile organic compounds (VOC), methane (CH₄), and carbon dioxide (CO₂) (EC, 2003a; Venema & Barg, 2003). The cumulative effects of these gases contribute to negative environmental and social impacts at all geographic scales: local, regional and global. Locally the greatest immediate impact is the harm caused to human

health from air-pollution and ground-level ozone (O₃). At the regional level these emissions contribute to acid rain and regional haze. Regional haze, like ground-level ozone, exacerbates numerous human-health and ecosystem concerns (Holdren et al., 2000). It is perhaps at the global level, however, that the ramifications of fossil fuel generated electricity receives their greatest level of attention. In the book *Fueling the Future*, MacFarlane (2003: 130) writes: “In concert with the growing evidence of a link between fossil fuels and climate change, a decrease in reliance on fossil fuels for electricity supply is needed.”

Climate change is perhaps the greatest global environmental challenge of the 21st century. On a global scale, emissions of greenhouse gases (GHG) have increased almost fourfold over the past five decades (EC, 2002b). This global increase, in turn, is contributing to a gradual warming trend in the earth’s surface temperature. The Intergovernmental Panel on Climate Change estimates that this increase will be between 1.5 to 4.5°C by 2100. Although the exact impacts of global warming over the next century are not known, it is anticipated that the accumulated outcome of the climatic phenomena will lead to greater levels of environmental degradation, human suffering and property damage (IPCC, 2001).

In Canada, GHG emissions increased by 30 percent between 1981 and 2000. This increase is largely attributable to the country’s heavy reliance on fossil fuels and continued economic growth (Harchaoui, 2003: 1). Canada’s Kyoto Protocol commitment is to reduce its average annual GHG emissions between 2008 and 2012 to six percent below what they were in 1990. Without any action taken to reduce the country’s GHG emissions, it is estimated that Canada’s emissions in 2010 will be 36 percent higher than they were in 1990 (GOC, 2005). In 2001, electricity generation alone contributed 19 percent to the country’s total GHG emissions (EC, 2003b). This makes electricity generation Canada’s single largest emitter of GHGs.

Although thermal sources of electricity account for only 26 percent of the total electricity generated in Canada, they are almost exclusively responsible for the sector’s GHG emissions. Coal generation in particular, which accounts for 20 percent of the sector’s generation, is responsible for almost 80 percent of its GHG emissions. The remaining emissions from electricity generation come from natural gas (12 percent) and oil (nine percent) power sources. Despite coal’s heavy contribution to the country’s GHG emissions, its use for electricity generation increased by 27 percent between 1990 and 1999 (EC, 2002a).

In contrast to the country’s three main sources of electricity, GE is generally considered to be “electricity that has been generated by more environmentally sustainable means”, although there does not exist in the academic literature or within the electricity sector one distinct definition of green electricity (Rowlands et al., 2003: 36). Canada’s Environmental

Choice Program (ECP) defines GE or “renewable low-impact electricity” as “electricity that has been generated from naturally occurring energy sources (such as the wind and the sun), and from power sources that, with the proper controls, add little in the way of environmental burdens (such as less intrusive hydro and certain biomass combustion).” This definition is contentious, however, because it excludes some sources of energy, such as large-hydro projects and nuclear power, which as discussed above can be argued to have environmentally favourable attributes. However, if the seven principles of sustainability are used as a guide, GE is preferable because it is more efficient in that it uses passive energy throughputs, it is more amendable to democratic control, it is more diverse and dispersed, it adheres to precautionary thinking, and it maintains the integrity of natural systems (Gibson, 2002). The Pembina Institute (Dogterom, McCulloch, & Pape-Salmon, 2002: 9) extends the ECP definition further by insisting it holds benefits to human health as well as to the natural environment. According to Pembina, electricity should only be considered green if it is “generated from renewable sources; and the sources of electricity promote the protection of human health and the environment”. My thesis adopts this latter definition to recognize that environmental and social sustainability are both desired outcomes of a sustainability paradigm.

Green electricity currently accounts for less than one percent of Canada’s electricity generation (Bramley, Boustie, Vadgama, Wieler, & Pape-Salmon, 2003:27). The country’s total installed green electricity generation falls well behind the industry’s global leaders. In wind generation, for example, Canada’s installed capacity was only 313 MWs of electricity in 2002 (Tampier, 2003: 7), compared to countries such as Germany, Spain, the United States, and India which had installed wind capacities of 12,000 MWs, 4,820 MWs, 4,685 MWs, and 1,702 MWs respectively in the same year (EPI).

1.3.4 Green Electricity in Canada

In April 2005, the Government of Canada released its third climate change plan in five years. Each of these plans has explained the steps the government intends to follow in order to meet the country’s Kyoto Protocol commitments. In the most recent plan, titled *Moving Forward on Climate Change* (GOC, 2005), the government has said that “[e]merging renewable energy (e.g., wind, solar, tidal power) can make an important contribution in Canada’s fight against climate change, moving Canada’s electric power generating sector towards lower emissions intensity in the long term, diversifying Canada’s energy mix and promoting sustainable economic growth” (GOC, 2005: 19). Two of the measures outlined in this plan are the reduction of GHG emissions from large final emitters (LFE) by 45 mega tonnes (Mt) (reduced from 55 Mt

in the 2002 plan) and incentives that could lead to 5500 MW of new generation from “emerging renewable sources”. In 2000, LFEs accounted for 46 percent of the country’s GHG emissions, 37 percent of which was produced by large electricity generators (NRC, 2003). As stated above, the bulk of GHGs generated from electricity is a result of the country’s heavy reliance on fossil fuels as a source of electricity generation. In fact, the burning of fossil fuels for electricity constituted nearly 19 percent of the country’s total GHG emissions (EC, 2003b). These figures, coupled with the stated goals of the Canadian government’s climate change plan, make it evident that if Canada hopes to meet its Kyoto commitments it must develop a market for cleaner sources of electricity.

The development of any market can be approached from either a supply-side or a demand-side approach. In Fuchs and Arensten’s recent study of emerging green electricity markets in Europe and North America, the authors argue that government policies need to address both the production and consumption sides of the electricity market to develop successfully a long-term GE infrastructure (Fuchs & Arensten, 2002). In Canada, existing federal government programs address both the production and consumption side of the market, however, the consumption side is receiving considerably less attention. On the production side, key government programs include the Wind Power Production Incentive (WPPI) (\$200 million over five years), the Renewable Power Production Incentive (RPPI) (\$97 million over five years) and an accelerated tax write-off for capital expenditures (all dollar values are in Canadian dollars unless otherwise stated). The main federal programs on the consumption side, meanwhile, are the \$25 million Market Incentive Program (MIP), and a commitment to purchase a portion of the federal government’s electricity needs from green sources (GOC, 2005). Although the government has reaffirmed its commitment to procuring GE, there is no indication in the 2005 plan that the MIP will be extended beyond its termination date of March 2006.

Despite the lack of consumption-side GE policies that are targeted specifically at the business sector, a number of enterprises throughout Canada are voluntarily purchasing green electricity at a premium price. These companies are acting as “early adopters” of green electricity. According to Fuchs and Arensten’s (2002: 32) study, attracting “early adopters” is crucial for successful market development.

“Rather than accept that green electricity may continue to serve only a niche market or wait for its slow, gradual growth into a larger market share, we have to ask how we can achieve a substantial momentum of change towards renewable energies now. In other words, we have to determine what would make ‘early

adopters' purchase green electricity and what would lead to the greatest extent of societal diffusion of this consumption choice.”

Given the federal government's most recent climate change plan, it does not appear that the development of “early adopters” is a current policy priority.

1.3.5 Green Electricity in Ontario

Over the past decade GE development in the province has received a couple of false starts as a result of policy flip-flops. The first about faced occurred in January 1997 when Ontario Hydro cancelled its Renewable Energy Technology (RETs) Strategy and Program. The 125 MW program, which started in 1994, was intended as a pilot project for a more aggressive GE program by the provincial utility that was scheduled to begin in 2000. No new generation was ever created from RET, however, because the project was shut down due to cost concerns before final approval was given to any of the proposals (Kelly, 1997).

The second false start happened in November 2002 when the provincial government reinstated a regulated electricity market after only one month of deregulation. The deregulation of the province's electricity market meant that consumers for the first time had a choice about the type of electricity that they purchased. GE retailers saw this as an opportunity to differentiate their product from conventional electricity and charge a premium price for its environmental attributes. The reinstatement of the regulated market, however, placed restrictive measures on the price of electricity sold in the province. This in turn diminished the market led incentive for generating and selling GE and all but removed it from the public's eyes.

The most recent development in the province's dance with GE was its announcement of a renewable portfolio standard (RPS) in 2004. An RPS is a goal set by a government to have a specific percentage of its jurisdiction's electricity portfolio supplied by green sources. At the time of the announcement, GE accounted for approximately one percent of Ontario's electricity portfolio. The bulk of the province's electricity portfolio, meanwhile, was made up of nuclear power (48%), hydro (25%), and thermal sources (17% coal, 8% natural gas, 1% oil). The RPS commits the government to increasing the percentage of new GE to five percent (1,350 MW) of the provincial electricity portfolio by 2007 and 10 percent (2,700 MW) by 2010 (OME, 2005).

Although the RPS is a potential boon to new GE development in Ontario, there has been no effort made by the government to develop a simultaneous demand market for the product. At present, it appears that almost all of the new GE will be pooled with conventional electricity and sold as a single commodity.

1.4 Chapter Outlines

After this introduction, which presents the rationale for this study and provided a background on some of the key concepts that are examined throughout the thesis, I discuss in chapter two the corporate ecological responsiveness literature. This literature addresses corporate motivations for adopting voluntary environmental initiatives and the contextual factors that influence these motivations. The key theories and concepts discussed in the review of the literature include: stakeholder theory, issue salience, strategic issues management, competitive advantage, institutional theory and altruism.

Chapter three is a look at the method used by the study to collect and analyze data to answer the question of what factors promote and inhibit the voluntary adoption of GE by Canadian-based businesses. The majority of data used by the study were collected through two sets of interviews. The first set of interviews was held with marketing representatives from companies selling GE to businesses in the Canadian marketplace. The second set of interviews was conducted with Ontario-based businesses. Half of these companies have voluntarily used GE and half have not.

Chapter four presents the primary data collected from the preliminary interviews with marketing representatives from companies selling GE to businesses in Canada and the primary interviews with Ontario-based businesses. The data are presented in three main sections: primary interviews, users of green electricity, and non-users of green electricity. The first section summarizes the information from the preliminary interviews that explains the business motivation for voluntarily adopting GE and the factors that influence the willingness of firms to adopt this initiative. The latter two sections present the data from the primary interviews in a disaggregated and semi-quantitative format. This format provides the basis for the analysis in chapter five.

In chapter five, the data that were presented in the previous chapter are analyzed. The findings discussed include the motivation of the study's participants to adopt GE, the factors that promoted the voluntary adoption of GE among the participants' firms, and the factors that inhibited the voluntary adoption of GE by these same firms. In the case of the factors that promote the decision by firms to adopt GE, a predictor-outcome matrix is used to facilitate a comparative analysis between the firms using GE and the firms not using GE.

Finally, in chapter six I derive a series of hypotheses that explain the factors that positively influenced the decision by the study's participants to voluntarily adopt GE. The chapter also presents a model that incorporates the factors that influence a firm's decision to

adopt GE with the existing corporate ecological responsiveness literature. The chapter concludes with a discussion of this study's broader implications, an explanation of the contributions that it makes to the academic literature and suggestions for future research.

Chapter 2: Corporate Ecological Responsiveness

2.1 Introduction

The literature reviewed in this chapter addresses the question of what factors promote and inhibit the voluntary adoption of green electricity (GE) by Canadian-based businesses. GE is a voluntary response to an environmental issue because it improves a firm's environmental performance but is not required by legislation (Labatt & Maclaren, 1998). The environmental issues that the voluntary use of GE addresses are ones that are related to the impacts of conventional electricity generation. These impacts were discussed in section 1.3.3 in the previous chapter.

At the time of this study, I was unable to find any publicly available information that addressed the specific issue of the factors that promote and inhibit Canadian firms to adopt GE voluntarily. The absence of such information indicates a need to conduct research on this topic. The first step in this process was to assess the level of existing knowledge about the factors that influence how firms respond to environmental issues. More specifically, I was interested in determining what the literature said about the willingness of firms to adopt voluntary environmental initiatives (VEI) with properties similar to GE, that is, while it is good for the environment it does not hold a clear benefit to the firm because it costs more than conventional practices or commodities, it does not improve corporate efficiency and it is associated with minimal external pressure. Although a number of bodies of literature were consulted by the study, the corporate ecological responsiveness literature provided the thesis' conceptual foundation.

This chapter first introduces the topic of corporate ecological responsiveness. It then looks at the main contextual concepts that relate to a firm's environmental performance. This is followed by a discussion on the motivations that are linked to how firms respond to environmental issues. Finally, it concludes with a summary of how the literature informs the thesis's research question – namely, what factors promote and inhibit the voluntary adoption of GE by Canadian-based businesses.

2.2 Corporate Ecological Responsiveness

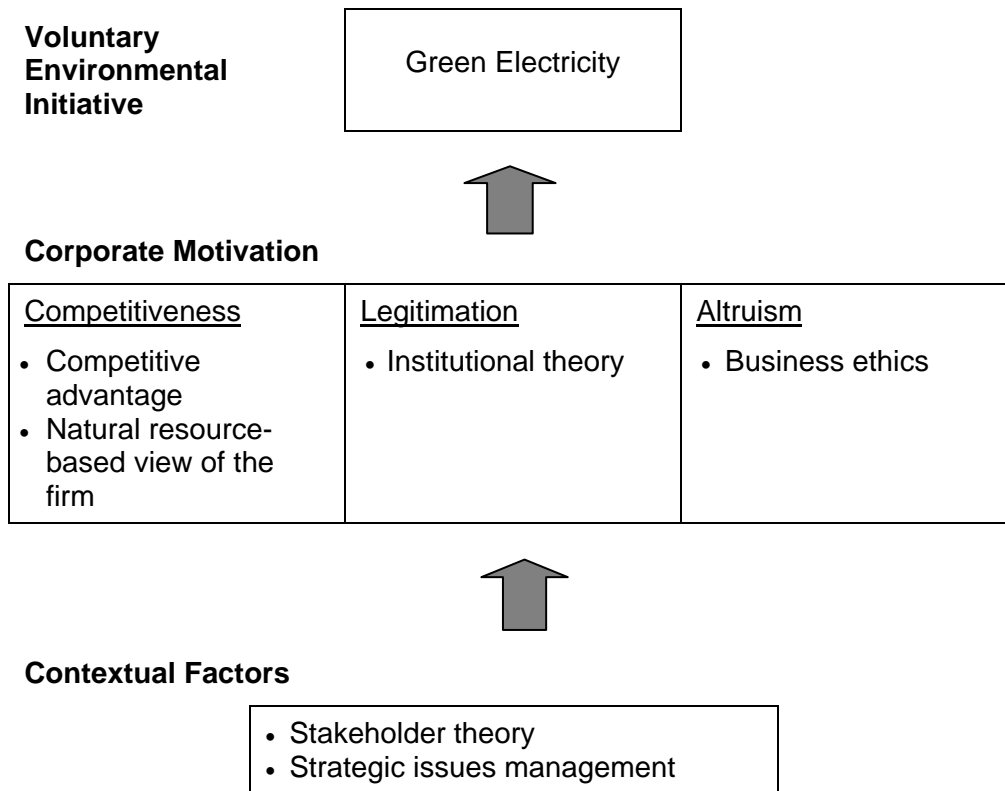
Corporate ecological responsiveness is defined as “a set of corporate initiatives aimed at mitigating a firm's impact on the natural environment” (Bansal et al., 2000: 717). Recent empirical research in this field has been conducted through single industry case studies that

cover a broad range of initiatives (Sharma, 2000; Sharma, Pablo, & Vredenburg, 1999b; Sharma et al., 1998); single industry case studies on specific initiatives such as the adoption of environmental management systems (EMS), voluntary codes of conduct and biodiversity conservation (Jiang et al., 2003; King & Lenox, 2000; Sharma & Nguan, 1999a); multi-industry case studies on a broad range of initiatives (Andersson & Bateman, 2000; Banerjee, 2001; Bansal et al., 2000; Labatt et al., 1998; Stratos & Probe, 2000); and multi-industry case studies on specific initiatives such as EMS and GE (Darnall, 2002; Henriques & Sadosky, 1996; Rains & Prakash, 2005; Wiser et al., 2001). My research falls into the last of these categories. I am studying a specific initiative – the adoption of GE – across a range of industries.

Although there are a number of studies in the corporate ecological responsiveness literature that have been dedicated to theory building that is related to the motivation and contextual factors that influence how firms respond to environmental issues (Bansal et al., 2000; Hart, 1995; Prakash, 2001; Sharma et al., 1999b; Sharma et al., 1998), there is as yet no dominant theory or framework. This lack of cohesion requires research in this field to draw from a number of different theories and bodies of literature. Bansal and Roth (2000: 733) suggest that “to fully understand corporate ecological responsiveness, the application of ideas rooted in institutional theory, economic theory, and individual values is required” and the researcher must also “facilitate the bridging of theories that are often treated independently.” This broad approach is in keeping with Sharma, Pablo and Vredenburg (1999b: 88-89) who suggest that “understanding the requisite conditions for environmental responsiveness is not only an important and legitimate area of inquiry but is also a complex and encompassing endeavour that can fruitfully draw upon multiple research paradigms (e.g. corporate social responsiveness, strategic issues management) to enhance development of more explanatory frameworks of corporate environmental responsiveness.”

Keeping the above recommendations in mind, I have divided my literature review into two main sections: contextual theories and motivational theories. Figure 2.1 illustrates the conceptual framework used by the study. Context in this case refers to the variables that affect environmental decision-making in business organizations and their subsequent actions. Both contextual and motivational theories are reviewed because although my research is primarily interested in the contextual factors that lead firms’ to adopt or reject a VEI, a preliminary review of the literature showed that firms motivations for adopting environmental initiatives provide an important link that help to explain how particular contextual factors affect the types of environmental processes that a firm will adopt.

Figure 2.1: Conceptual Framework



Source: Modified from Bansal and Roth (2000)

The literature reviewed in order to develop a theoretical framework for the contextual factors that influence a firm's decision to adopt a VEI are stakeholder theory and strategic issues management. Stakeholder theory explains the attributes that give different individuals or entities salience to a firm. Strategic issue management, meanwhile, looks at how managers interpret different issues and determine what action, if any, should be taken. These two bodies of literature are reviewed because they address the factors that influence how a particular issue becomes salient enough for a company to act on it. For the purposes of this study, I am interested in understanding how firms and their managers prioritize different environmental issues and decide on the appropriate action for each of the priorities identified. It cannot be expected, however, that the contextual factors explained by these two bodies of literature will be exhaustive. As will be seen in this chapter, the number of possible factors influencing a firm's decision to voluntarily adopt an environmental initiative are numerous and complex. These

concepts are only universal in the sense that all firms have stakeholders and managers within these firms must interpret the issues faced by their organizations.

The motivational theories section draws on the competitive strategy, institutional theory, and business ethics literature to explore the motives that explain why firms respond to different environmental issues. Competitive strategy, as it relates to the natural environment, explains how firms can gain a long-term competitive advantage over its competitors by adopting a proactive environmental strategy. Institutional theory, in contrast, relates environmental actions as a means to stay in step with broadly accepted norms, values, and beliefs. Finally, the business ethics literature reviewed looks at the argument that some businesses adopt environmental initiatives because they are “the right thing to do.”

Each of these bodies of literature is used to provide a theoretical foundation for three specific motivations: competitiveness, legitimation, and altruism. These three categories of motivators are consistent with the ones identified in the literature that explain why firms respond to environmental issues (Arnold & Day, 1998; Bansal et al., 2000). Although these motivations are discussed in isolation of one another for analytical purposes, it is important to keep in mind that studies have shown that firms’ environmental actions are in practice usually driven by a mix of motivators (Bansal et al., 2000; Labatt et al., 1998; Stratos et al., 2000).

As discussed above, understanding the motivations that drive different corporate environmental practices provides an important connection between contextual influences and actions. If different factors can be shown to lead to specific motivations, and specific motivations can be shown to increase the likelihood of certain initiatives being adopted, then the opposite may hold true as well. That is, if a certain initiative – in this case GE – can be linked to a specific motivation, then it may be possible to connect the initiative to a certain set of contextual factors that influence its successful adoption. For this reason, it is important to understand from the literature how a firm’s motivation influences the types of initiatives that it will adopt and what contextual factors are theoretically and empirically associated with each of the three motivators. An analysis of the motivations of firms to adopt environmental initiatives and the contextual factors that influence each motivation is conducted in section 2.4. The applicability of the existing corporate ecological responsiveness literature to explain the factors that promote and inhibit the voluntary adoption of green electricity by Canadian-based business is discussed in section 2.5.

2.3 Contextual Theories

2.3.1 Stakeholder Theory and Issue Salience

A stakeholder is traditionally thought of as “any group or individual who can affect or is affected by the achievement of the organization’s objectives” (Freeman, 1984: 46). Closely linked to this notion of stakeholders is the concept of issue salience. Writing from a corporate ecological responsiveness perspective, Bansal and Roth (2000: 729) define issue salience “as the extent to which a specific ecological issue has meaning for organizational constituents.” Constituents in this sense are synonymous with stakeholders.

In a study on the role that stakeholders play in determining an organization’s corporate ecological responsiveness Henriques and Sadosky (1996: 383) found that “a great deal of environmental pressures emerge from a company’s stakeholders”. The question of how this stakeholder pressure translates into a firm’s motivation to adopt environmental initiatives is addressed throughout section 2.4. The purpose of this section is to provide a background to the literature on stakeholder theory and issue salience in the context of corporate ecological responsiveness.

2.3.1.1 Stakeholder Theory

Stakeholder theory addresses the question of “who and what really counts” to an organization (Freeman, 1984). The answer to this question is particularly important for understanding why businesses adopt some practices over others. Existing studies on corporate ecological responsiveness (e.g. Banerjee, 2001; Henriques et al., 1996; Jiang et al., 2003; Sharma et al., 1998) indicate that who a company identifies as a stakeholder plays a significant role in its determination of what environmental actions, if any, it should take.

Mitchell, Agle, and Wood (1997) argue that although Freeman’s definition of stakeholder theory is inclusive, it fails to provide managers with the necessary tools to determine to whom or what they should pay attention. A similar critique is made by Banerjee (2001: 490), who indicates that “employing stakeholder theory to understand corporate environmentalism has limitations: critics have pointed out that the definition of stakeholders is too broad to be of any practical use to organizations and that all stakeholders need not be relevant to organizations.” In an effort to address these shortcomings, Mitchell et al (1997) suggest that power, legitimacy, and urgency are the three attributes that should be used to measure a claimant’s importance. The “class” a stakeholder falls into - and hence the level of priority their claim is afforded - is determined by how many of the three attributes are associated with their claim. A claimant must

have at least one attribute, however, to be considered a stakeholder. A stakeholder who has power, legitimacy, and urgency should receive the highest priority. A claimant that is powerless, illegitimate, and non-urgent, according to Mitchell et al (1997), is not a stakeholder.

Hart and Sharma (2004), unlike Mitchell et al (1997), argue that companies increasingly need to engage an ever broadening set of stakeholders irrespective of whether or not they have any of the three attributes discussed above. The extreme levels of competition and uncertainty inherent in the modern global socio-economic system require firms to consider stakeholders traditionally thought of as the “fringe” because they lack power, legitimacy, and urgency. By engaging fringe stakeholders, organizations stand to benefit from previously unexplored concepts and markets, while at the same time developing a better perception of “future change”. This suggests that firms that acknowledge a broader set of stakeholders than the ones suggested by Mitchell et al. (1997) can gain a competitive advantage over firms that focus too narrowly on “who and what really counts”.

Research on the ecological responsiveness of Canada’s oil and gas industry by Sharma and Vredenburg (1998) revealed that the more ecologically responsive firms in the study recognized a broader set of stakeholders. These firms considered stakeholder integration as an integral part of their corporate strategy. The inclusion of a broader set of stakeholders helped the organizations to build a sense of trust which in turn reduced the need for litigation, decreased regulatory suspicion, and sped up the process for new developments. It also meant that these firms would withdraw from a development project when stakeholders indicated that it was too ecologically sensitive. A firm that did not integrate its stakeholders as well, on the other hand, spent millions of dollar in legal fees in an unsuccessful effort to force development in an ecologically sensitive area. A similar finding was reported in Banerjee’s (2001: 496) study on corporate environmentalism: “firms that were identified by external agencies (consultants, industry reports, environmental award recipients) as being more pro-environmental tended to have a more comprehensive process of stakeholder integration involving regular meetings and local communities, alliances with environmental organizations, and newsletters sent to external agencies.”

A particularly interesting point about the debate on “who or what is a stakeholder” is how this same question can result in quite different lists of stakeholders among firms, even when these lists are drawn from firms within the same industry. Perhaps this should not be surprising when one considers that the “real and perceived importance of constituencies depends on a number of factors: industry characteristics, organization culture, organizational structure, competitive forces, and regulatory climate to name a few” (Banerjee, 2001: 506). Even with this

wide array of factors, the literature shows that whom firms identify as stakeholders may be roughly predicted based on what motivates its corporate ecological responsiveness (Bansal et al., 2000). Firms motivated predominately by competitiveness have been shown to recognize the fewest stakeholders - shareholders. Firms motivated by more altruistic drivers recognize the most stakeholders - practically everyone and everything. And firms driven by legitimation are somewhere in between the two. Despite Hart and Sharma's (2004) argument that firms need to address fringe stakeholders in order to maintain a sustainable competitive advantage, the identification of stakeholders as predicted by how firms are motivated to respond to environmental issues appears to be the norm. Empirical evidence to support this claim is discussed in section 2.4.

The following section demonstrates that perhaps just as important as the question of who or what are considered stakeholders by an organization is understanding what issues stakeholders actually are concerned about.

2.3.1.2 Issue Salience

As discussed in section 2.3.1, issue salience is closely linked to stakeholder theory. Issue salience in this sense is "the extent to which a specific ecological issue has meaning for organizational constituents" (Bansal et al., 2000: 729).

In a study of the ecological responsiveness of 53 firms in England and Japan, Bansal and Roth (2000) found that three factors contributed to issue salience: certainty, transparency, and emotivity. "Certainty is the degree to which the impact of the issue on the natural environment can be measured...Transparent issues are those that are easily attributable to a polluting firm." And "emotive issues are those that elicit an emotional response from organizational constituents" (Bansal et al., 2000: 729). An issue is highly salient, from a firm's perspective, when all three of these factors are present. An example of a highly salient issue is the Exxon Valdez oil spill in 1989. The size and impact of the spill were more-or-less measurable (i.e. certainty), the tanker was owned by Exxon (transparency), and the media coverage of the incident elicited an intense emotional response from customers, the general public, government officials, and shareholders (emotive). At the other end of the salience scale for many firms is global warming. The measured impacts of global warming are speculative (uncertainty), greenhouse gases are released throughout the world by countless anthropocentric and natural ecological sources (non-transparency), and the proposed impacts caused by global warming are over a longer period of time and therefore are not as readily connected to our every day experiences (low emotivity).

In addition to the three factors discussed above, task visibility and environmental opacity are two additional factors that may contribute to issue salience by potentially increasing transparency and emotivity (Jiang et al., 2003). Task visibility refers to “the extent to which a particular firm task is easily observable or attracts the attention of the public. A firm’s task can be visible because: (1) it is noticeable to the public eye; or (2) the firm itself has a high profile” (Jiang et al., 2003: 1058). The more visible a task the greater the level of transparency connected to it. Environmental opacity is “the difficulty with which the environmental impact of a firm’s task can be measured and understood by external stakeholders” (Jiang et al., 2003: 1062). Opacity can increase emotive concerns by increasing speculations about the environmental and health impacts of a practice. The presence of these two factors were found by Jiang and Bansal (2003) to positively influence the decision of firms with and existing EMS to adopt ISO 14001 – an internationally recognized EMS - in Canada’s pulp and paper industry.

This brief look at issue salience illustrates how the meaning associated with an ecological issue can contribute to its level of perceived urgency. An issue that a firm’s stakeholders identify as having transparency, certainty, and emotivity will receive more urgency by a firm than one that lacks these attributes. Urgency in turn is one of the three measures suggested by Mitchell et al. (1997) to help an organization determine who its stakeholders are and the level of priority afforded to each of them. Urgency is defined as “the degree to which stakeholder claims call for immediate action” (Mitchell et al., 1997: 869). If the environmental issue associated with a voluntary initiative is considered not urgent, then according to the theory put forth by Mitchell et al. (1997), the likelihood of the initiative being adopted is reduced because it does not have all three of the measures necessary to be given the highest level of priority. Further empirical evidence of the influential role that urgency plays in a firm’s decision to adopt voluntary environmental initiatives was demonstrated in research by Andersson et al. (2000). In this study, the success of an environmental initiative to be voluntarily adopted by a firm was positively affected by the level of urgency given to the associated environmental issue.

One final component included in stakeholder theory, but not yet discussed, is determining how the managers of a firm decide “which stakeholders are salient and therefore receive management attention” (Mitchell et al., 1997: 871). It is the managers of a firm, after all, who define the parameters used to measure a stakeholder’s power, legitimacy, and urgency. The following section on strategic issues management addresses the literature on this component.

2.3.2 Strategic Issues Management

“Firms are comprised of individuals who have ‘bounded rationality,’ cognitive biases, and personal values that direct their actions” (Bansal et al., 2000: 731). Managers in particular have a significant role in determining the direction of a firm. “Understanding how managers interpret environmental issues facing their firm is an important step in attempting to understand the development of pro-environmental organizational behaviour as it is the attitudes and behaviours of managers that shape corporate behaviour” (Banerjee, 2001: 492). Furthermore, emerging studies suggest “that the reactive and proactive strategies of environmental responsiveness are a reflection of managerial interpretations of environmental issues as threats or opportunities” (Sharma et al., 1999b: 105). Strategic issues management literature “explains the processes that determine the events and information that managers pay attention to and those that they ignore” (Sharma, 2000: 683).

Prakash (2001) argues that there are four categories or “types” of environmental initiatives that managers must interpret. The first two types of initiatives are voluntary in that they are not required by legislation. What differentiates a “type 1” initiative from a “type 2” initiative is the ability to measure the likelihood of the initiative’s profitability using existing “investment appraisal procedures”. The profitability of a type 1 initiative can be measured with a high level of certainty; a type 2 initiative cannot. An example of a type 1 initiative is a plant retrofit that will conserve energy. The purchasing of GE is an example of a type 2 initiative. The remaining two types of environmental initiatives included in Prakash’s model - “type 3” and “type 4” – are involuntary because they are required by legislation (Prakash, 2001).

From the perspective of strategic issues interpretation, the driver leading a firm to adopt type 3 and type 4 initiatives is pretty straight forward – government regulation. Firms failing to adhere to government regulations risk their legitimacy to continue doing business. The motive to adopt a type 1 initiative is also relatively straight forward – profit (i.e. competitiveness). These first three initiatives require little interpretation on the part of managers because their adoption is clearly in the best interest of the firm. A type 2 initiative, however, presents quite a different scenario for managers because its potential benefits to the firm are not clear. Prakash (2001) proposes that in these instances the interests and values of managers play a major role in determining how an organization interprets and responds to an issue. The adoption or rejection of an initiative in this circumstance depends in large part on the ability of managers to influence and access the firm’s power and leadership structure.

The above discussion on the different types of initiatives sheds light on the fact that not all decisions made by managers can be made based on a hard set of facts and figures. In

circumstances where formal decision-making tools do not provide all the necessary details – as is the case with type 2 initiatives - managerial interpretation plays a significantly greater role. But what factors contribute to some managers being in favour of an initiative and others to either be neutral to it or to oppose it? In instances such as this, Bansal and Roth (2000) argue that individual concern can play a role. Individual concern “is the degree to which organizational members value the environment and the degree of discretion they possess to act on their environmental values” (Bansal et al., 2000: 731). “Values are enduring, emotionally charged abstractions that are important to individuals” (Rokeach, 1973 as cited in Bansal and Roth 2000: 731). Discretion, meanwhile, refers to the level of action that an individual manager can take on an issue, particularly as it relates to the use of the firm’s resources (Finkelstein & Hambrick, 1990 as cited in Bansal 2003). According to this definition of individual concern, two factors – individual discretion and environmental values – influence how managers interpret an issue and may explain why some managers support “type 2” voluntary environmental initiatives while others do not.

Similar to Prakash’s (2001) categorization of environmental processes into four different types is the idea that firms’ environmental strategies can be either proactive or reactive in nature. A proactive strategy, according to Sharma (2000: 683), “represents a consistent pattern of company actions taken to reduce the environmental impact of operations, not to fulfill environmental regulations or to conform to standard practices”. A reactive strategy, on the other hand, is intended “to fulfill environmental regulations or conform to standard practices”.

The type 1 and type 2 processes identified by Prakash (2001) are arguably proactive in nature, while type 3 and type 4 initiatives are reactive. A difference between the two approaches, however, is that Sharma (2000) considers a strategy that is based on non-regulated standard practices to be in the same category as a strategy that is based on meeting regulatory requirements. Prakash (2001), on the other hand, only distinguishes between regulated and non-regulated processes. He does not further distinguish non-regulated practices on the basis of whether they adhere to a recognized norm. The further differentiation of strategies or processes into either reactive or proactive is important because each is associated with a different motivation. Proactive strategies, the literature argues, are generally motivated by competitive advantage or a sense of responsibility. Reactive strategies, meanwhile, are driven by the need to respond to an established norm or legislation.

If, as discussed above, discretion and environmental values influence a manager’s interpretation of an issue, are there certain organizational factors that can influence the development of these two variables? The work of Sharma, Pablo, and Vredenburg (1999b)

provides some preliminary answers to this question. The authors' study of the development of the corporate ecological responsiveness strategies for seven firms in Canada's oil and gas industry hypothesized that the adoption of a proactive strategy positively influences "managerial interpretations of environmental issues as opportunities" (Sharma et al., 1999b: 100). The strength of this interpretation is in turn argued to be positively influenced by: the legitimization of the issue throughout the organization; the integration of business and environment information throughout the firm; managerial discretion to address environmental issues; and a quantifiable link between environmental performance and employee evaluations.

Evidence for the hypotheses put forth by Sharma, Pablo, and Vredenburg (1999b) is provided in a subsequent study by Sharma (2000). The findings from this research, which are based on a broad survey of Canada's oil and gas industry, support the argument that issue legitimization and discretionary slack do play positive roles in whether managers interpret environmental issues as opportunities or threats. Firms that legitimated environmental issues throughout the organization and provided managers with a greater level of discretionary slack to address these issues were more likely to interpret them as opportunities. These same firms were also more likely to adopt proactive environmental strategies. The study did not support, however, the hypothesis that managerial interpretation of environmental issues as opportunities is positively connected to employee performance evaluations. Sharma (2000: 692) offers the following argument as a possible explanation for this final result, "managers who perceive environmental protection as an integral part of their corporation's identity may not need formal controls and incentives to act accordingly."

In addition to the above mentioned studies on managerial interpretations of environmental issues, empirical studies by Sharma and Nguan (1999a), Bansal (2003), and Andersson and Bateman (2000) have looked at the role that managers play in determining which specific environmental initiatives get adopted by a firm. The first of these studies shows how managers' risk propensities can influence corporate ecological responsiveness (Sharma et al., 1999a). In the case of North America's pharmaceutical industry, the decision of managers to voluntarily adopt a proactive strategy of biodiversity conservation was negatively influenced by their risk propensity, even if they interpreted such a strategy as an opportunity. Recognizing an environmental issue as an opportunity, therefore, is likely not enough in itself to ensure that a proactive environmental path is followed.

In a longitudinal study of how two firms decided which environmental initiatives to adopt, Bansal (2003: 523) found that "two conditions are necessary for an organizational response: individual concern for the issue and congruence between the issue and the organization's

values.” The translation of an individual concern into a firm’s action, however, was moderated by the degree of individual discretion afforded to the concerned individual, the level of excess organizational resources available to respond to the issue (i.e., excess organizational slack), and the level of priority afforded to the firm’s various values. Of the different values observed by the study, it was found that financial values were given the highest priority. Although a list of all the values observed and their relative weight was not provided by the study, a review of the initiatives adopted by the two firms reveals that the majority of initiatives adopted related to either efficiency (e.g., energy management and waste reduction) or legitimation (e.g., environmental management systems, policy statements, and addressing customer concerns). Initiatives not adopted, meanwhile, included ones that were arguably more proactive such as the use of recycled paper, product stewardship, packaging, end-of-life, environmentally sound buildings, sustainable development, and ecolabelling. Given the fact that the author notes that the two firms in the study gave financial values the highest level of priority, it may be reasonable to conclude that these initiatives were rejected, at least in part, because they were not deemed to be financially viable at the time of the study. This leaves the question unanswered of how do the values of firms that are willing to adopt initiatives that are good for the environment but lack a clear economic or legitimating benefit to the firm differ from the values of companies that are not willing to adopt such initiatives?

Andersson and Bateman (2000), similar to Bansal (2003), found that a firm’s “environmental paradigm” and the ability for concerned individuals to pitch an environmental issue as a financial opportunity to the firm positively influenced the success of an initiative being adopted by a company. An environmental paradigm in this sense is “[t]he collective values and beliefs of an organization’s members about its distinctive attributes” as they relate to the natural environment (Andersson et al., 2000: 553). This study also found that the level of urgency attributed to an environmental issue that was related to a proposed initiative and the geographical proximity to the firm’s location of its potential impacts also influenced how decision-makers interpreted whether an initiative should be adopted.

The importance of the role that managers play in determining the course of an organization’s corporate ecological responsiveness is indeed strong. After all the variables have been considered it is ultimately a firm’s managers who must decide what initiatives to adopt and what ones to reject. The sections discussed up to this point in the chapter are about understanding how a firm’s decision makers interpret different environmental issues. The rest of this chapter is used to explore the broad motivational categories and particular contextual factors that influence how these decisions are made.

2.4 Corporate Motivation

2.4.1 Competitiveness

Competitive advantage is a strategic business theory that refers to the long-term economic advantage that is gained when organizations provide “their customers with what they want, or need, better or more effectively than competitors; and in ways which their competitors find difficult to imitate” (Johnson & Scholes, 1999: 271). A key determinant of competitive advantage is that the initiative or set of initiatives must be difficult for a competitor to copy. If this were not the case, then the advantage would be lost almost as soon as it was gained because the competition could quickly eliminate the gain by imitating it themselves. The green business literature argues that one way a firm can gain competitive advantage is by adopting a proactive response to environmental issues (Hart, 1995; Porter et al., 1995; Sharma et al., 1998).

The voluntary purchase of GE by a company is not required by legislation, nor is it a standard practice within Canada. If its adoption by a firm is part of a “consistent pattern” to “reduce the environmental impact of operations” and if this pattern of action leads to a difficult to imitate business function that allows a firm to meet the needs of customers better than its competitors, then the motivation of firms to use GE may be linked to competitive advantage. The possible connection to competitive advantage as a motivator for a firm to adopt GE has led me to explore the theory and its relation to voluntary environmental initiatives. The rest of this section outlines the theory of competitive advantage and its connection to corporate ecological responsiveness, it then discusses empirical studies that support this theory, and finally presents contextual factors that are argued to influence a competitive motivation for responding to environmental issues.

2.4.1.1 Competitive advantage and corporate ecological responsiveness

The argument that pollution equals waste and waste equals inefficiency (Porter et al., 1995) is at the heart of much of the business and environment literature. The inefficiencies associated with pollution arise from conventional production systems that are designed to use more resources than are required for the end product. Porter and van der Linde (1995) make the point that by reducing the amount of waste it produces an organization is moving closer to maximizing its “resource productivity”. In other words, companies interested in reducing inefficiencies should shift their focus from trying to reduce the cost of managing wasted resources (i.e. pollution abatement), to preventing the waste from occurring in the first place. Walley and Whitehead (1994) caution, however, that gains from pollution prevention become more difficult to capture as a firm’s level of waste is reduced. Once a company has addressed

the relatively obvious and manageable inefficiencies - the so called “low-hanging fruit” – they may start to realize diminishing returns on further pollution prevention investments.

The “natural resource-based view of the firm” addresses some of the concerns expressed by Walley and Whitehead (1994). Building on Porter and van der Linde’s (1995) argument, the natural resource-based view of the firm adds product stewardship and sustainable development to pollution prevention as the means by which proactive corporate ecological responsiveness can create competitive advantage for a firm (Hart, 1995). This concept is based on the resource-based view of the firm theory that “takes the perspective that valuable, costly-to-copy firm resources and capabilities provide the key sources of sustainable competitive advantage” (Hart, 1995: 986). Hart (1995: 986) notes, however, that the original theory is limited because “it systemically ignores the constraints imposed by the biophysical (natural) environment”. Firms that recognize and address these constraints today are more likely to develop the necessary firm-specific strategic capabilities required to remain competitive in a global system with diminishing natural resources and sinks, coupled with increasing consumption and social inequity.

The natural resource-based view of the firm presents a compelling argument for organizations to use pollution prevention, product stewardship and sustainable development as strategic capabilities to develop a sustainable competitive advantage. By implementing pollution prevention measures, a firm will increase its efficiencies and reduce costs. A strategy of product stewardship, meanwhile, gives an organization “preferred or exclusive access to important, but limited resources (e.g. raw materials, locations, productive capacity, or customers)” (Hart, 1995: 995) and also raises the barrier for other firms entering the market by establishing a high set of rules, regulations, or standards. Finally, a sustainable development strategy positions an organization to meet the future needs of the world’s poor – a virtually untapped marketplace that represents over 80% of the global population (Hart, 1995). All of these strategies provide a firm’s “customers with what they want, or need, better or more effectively than competitors” (Johnson et al., 1999: 271). In addition to this, all these strategies are “nonsubstitutable” and “socially complex, or rare” (Hart, 1995:998), ensuring that competitors will find them “difficult to imitate” (Johnson et al., 1999: 271).

Research by Sharma and Vredenburg (1998) on Canada’s oil and gas industry provides evidence that the natural resource-based view of the firm theory may not be too good to be true. The study in question found a link between a firm’s proactive environmental strategy and its development “of a capability for stakeholder integration, a capability for higher-order learning, and a capability for continuous innovation” (Sharma et al., 1998:749). Each of these capabilities

are important components of the natural resource-based view of the firm theory. Of the seven companies interviewed in the study, two were determined to have proactive environmental strategies. Specific economic benefits realized by these companies as a result of their corporate ecological responsiveness benefits included lower costs, product innovation and a favourable reputation with the public and regulators alike. Although the researchers warn against making generalizations based on their findings, it does demonstrate that, when taken as a whole, the gains associated with a firm's proactive environmental strategy can extend beyond the immediate cost-benefit associated with any one initiative.

If proactive environmental strategies can contribute to a firm's competitive advantage, then why do more firms not adopt a proactive strategy? In a partial answer to this question Reinhardt (1999) argues that firms pursue an environmental strategy of over compliance when it makes sense from an economic standpoint. Under perfect market conditions, opportunities to gain from internalizing environmental costs would not exist because all firms would be operating under the same set of practices and influences. Given the fact that market failure does exist, however, some firms are able to gain an advantage by internalizing more of the environmental cost than legislation requires. Opportunities to gain from over compliance include: regulatory pre-emption, competitive pre-emption, product differentiation, capturing previously unrecognized internal efficiencies, and environmental risk management. This list of advantages is certainly reminiscent of Hart's (Hart, 1995) list of competitive advantages associated with sustainable business strategies. Reinhardt (1999) cautions, however, that the opportunity to capture economic gains from environmental performance differs between firms and industries. In other words, competitive advantage as realized through a proactive environmental strategy may not be all things to all companies. The factors that influence the ability of firms to capture these gains are discussed in section 4.1.2.

The cumulative findings from empirical studies on the motivation of firms to adopt voluntary environmental initiatives verify Reinhardt's argument that the economic benefits attributed to proactive voluntary environmental initiatives may not be equally available to all organizations (Bansal et al., 2000; Jiang et al., 2003; Labatt et al., 1998; Stratos et al., 2000; Wiser et al., 2001). Although all of these investigations indicated that economic factors were an important motivator for an organization's voluntary adoption of environmental initiatives, none of them found competitive advantage to be the sole motivator for all its participants. This lack of consistency indicates that firm-specific variables (e.g., size, values, stakeholder integration) likely play a role in determining the capability of different firms to adopt voluntary initiatives for an economic advantage and therefore should be reviewed by the thesis. This approach is

supported by Bansal and Roth (2000: 719) who state that in order “to understand ecologically sustainable organizations, we need to further explore the contexts that precipitate these motivations and their interactions.”

The literature discussed in this section thus far builds a theoretical base for the argument that companies that adopt proactive environmental initiatives may simultaneously experience a competitive advantage. The next section looks at what contextual factors may contribute to the development of a firm’s competitive motivation to adopt voluntary environmental initiatives.

2.4.1.2 Contextual factors linked to competitive advantage

The natural resource-based view of the firm provides a useful starting point to discuss contextual factors that influence an organization’s motivation to adopt voluntary environmental initiatives on the basis of competitive advantage. As discussed above, the concept identifies three strategic capabilities that a firm can use to achieve sustainable competitive advantage – pollution prevention, product stewardship, and sustainable development. Each of these capabilities in turn is associated with a key internal resource that is deemed necessary for a firm to foster in order to achieve the associated strategy. Pollution prevention, it is argued, requires a firm to use *continuous improvement*; product stewardship requires *stakeholder integration*; and a strategy of sustainable development needs the firm to have a *shared vision* (Hart, 1995). As a result of the close ties that these key internal resources have to the success of a firm converting its environmental strategy into competitive advantage, the presence of one or all of these key internal resources may be an indication that the firm is predisposed to adopt a voluntary environmental initiative on the grounds of its potential economic gain. A review of the literature shows that this is indeed the case.

An American study shows that prior exposure to continuous improvement was an important factor for the willingness of firms to participate in a government led voluntary initiative to implement an environmental management system (Darnall, 2002) . Darnall (2002) found that 71 percent of the businesses participating in the initiative had existing ISO 9000 capabilities and over 90 percent of the businesses had previously engaged in pollution prevention activities. This may be an indication that an organization pursuing a strategy of pollution prevention, and in turn developing the key resource of continuous improvement, may be predisposed to adopting voluntary environmental initiatives, particularly if the initiative is targeted at the firm’s pollution prevention strategy.

Another interesting finding made by Darnall (2002) is that publicly traded organizations participating in the study indicated greater access to resources prior to their participation in the

program than the privately owned and government organizations. This, the study argues, is evidence “that publicly traded facilities have greater internal capabilities that support VEI participation than do privately owned facilities and government facilities” (2002: 144). Sharma (2000: 692) links the notion of a firm’s internal capabilities to firm size, “the significant effect of organization size on environmental strategy may be due either to the greater capacity or greater slack larger companies have to absorb the risks and unpredictability associated with voluntary environmental strategies...” The size issue is also addressed in a report on voluntary environmental initiatives in Canada by Pollution Probe and Stratos (2000: 25), which after listing competitive advantage, increasing sales, and enhancing public image as drivers to participate in VEIs adds “larger firms are more likely to undertake voluntary corporate actions.” Size, then, appears to play a contextual role in determining whether a firm will adopt a proactive environmental strategy because of the competitive advantage it may create.

Further evidence of a link between a company’s size and a competitive motivation to adopt voluntary environmental initiatives is provided by two separate studies on the use of GE by American firms (Hanson et al., 2002; Wiser et al., 2001). Hanson and Austin (2002) show a strong emphasis on the economic benefits associated with GE, namely, stabilized energy costs, energy hedging, secure on-site supply, public image, and employee morale. Wiser, Fowlie and Holt (2001), on the other hand, found that the economic benefits attributed to GE was a secondary motivator at best. One possible explanation for this discrepancy is that the Hanson and Austin (Hanson et al., 2002) paper was based on a GE initiative by ten major American corporations, while 90 percent of the companies in the substantially larger sample by Wiser et al. (2001) were small and medium enterprises (SME).

One might conclude from the above studies that size does in fact matter when it comes to determining if competitive advantage will motivate a firm to adopt proactive environmental initiatives. As proof that there are no clear answers, however, Henriques and Sadorsky (1996: 393) found in their study of Canada’s largest businesses that organizations with higher sales-to-asset ratios – an indication of operating capacity – were less likely to voluntarily adopt an environmental plan. The authors argue that a firm working close to capacity is “more susceptible to expansion or other changes such as restructuring or reengineering” and as a result may not make the formulation of an environmental plan a high enough priority. The discussion on firm size will be picked up again in the review’s subsequent section on institutional theory.

Stakeholder integration is the second key resource described by Hart’s (1995) natural resource-based view of the firm concept. As discussed above, the natural resource-based view of the firm links stakeholder integration to a firm’s capability to develop a product stewardship

strategy. Given this connection, it is possible that the depth of a firm's stakeholder integration may predispose it to seek voluntary environmental initiatives based on their associated competitive attributes. The empirical studies reviewed, however, do not provide strong evidence for this assertion. Although a study by Sharma and Vredenburg (1998: 735) definitely ties stakeholder integration to the development of a firm's competitive advantage, it appears that stakeholder integration is more the outcome of an evolving proactive strategy than the driver of one. "[I]t was observed that stakeholder integration emerged for the proactive companies not only as a result of product stewardship, but also a result of habitat preservation, resource management, waste reduction, and energy conservation." This finding supports Hart's (1995: 1002) argument that "over time, a product-stewardship strategy will...become a stakeholder-oriented (legitimacy-based) process." Further proof that an integrated stakeholder practice is an indication of legitimacy rather than competitiveness is provided by Bansal and Roth (2000). Their research revealed that companies motivated by competitiveness focused on the narrowest range of stakeholders – customers and investors. Rather than being a contextual factor of a firm motivated by competitive advantage, stakeholder integration appears to contribute to a firm seeking legitimacy from its stakeholders for its actions.

The final strategic capability of the natural resource-based view of the firm requires a shared vision as a key firm-specific resource (Hart, 1995). This requirement is supported by Banerjee (2001: 509) whose empirical research "found that integration of environmental issues is the key to a comprehensive environmental strategy". Sharma (2000) also argues that a proactive environmental strategy requires a greater level of internal integration than one focused on compliance.

If a firm's environmental strategy is an indication of its "shared vision", then can its motivation to adopt a voluntary initiative be predicted by its strategy? The short answer to this question is probably not. The longer answer is that although predicting an organization's motivation to adopt an environmental initiative based on its prevalent environmental strategy may not be possible, determining the likelihood of it adopting a voluntary initiative may be possible. Banerjee (2001) found that companies that afforded greater strategic significance to environmental issues tended to have a wider range of proactive environmental initiatives (e.g. 'green' product development, research and development focused on environmental issues, environmental product evaluations). Additional indicators of the level of strategic significance given to environmental issues include: greater stakeholder integration, the seniority of management responsible for the environmental strategy, and proactive versus reactive initiatives. In terms of predicting the motivation of why a firm would adopt an environmental

initiative the study concludes “that corporate environmentalism, or at least pervasive rationale for it, ultimately follows the economic bottom line...environmental strategy remains internally focused and is evaluated by its financial benefit to the firm rather than an external strategic focus on sustainable development” (Banerjee, 2001: 507).

The final two contextual categories linked to a competitive motivation to adopt voluntary environmental initiatives – “issue salience” and “field cohesion” (Bansal et al., 2000) – cannot be directly tied to the natural resource-based view of the firm. Issue salience is important to a firm seeking to gain competitive advantage because an initiative that addresses a salient issue will garner more value from its dominate stakeholders (i.e. customers and stakeholders) than an issue viewed as having little meaning.

The second significant factor, according to Bansal and Roth’s findings (2000), is field cohesion. Field cohesion is a term used in the institutional theory to denote the “intensity and density of formal and informal network ties between constituents in an organizational field” (Bansal et al., 2000: 730). An organizational field is the network that the firm operates within, including its suppliers, customers, regulatory bodies, and other businesses in the same or similar industry. The research by Bansal and Roth (2000) found that the less cohesive a firm’s field is, the more likely it will be driven by a competitive motive. The argument for this finding is that a firm in a less cohesive field has more incentive to be innovative because its actions will not be quickly replicated by its competitors. Any competitive advantage captured, therefore, will likely benefit it over a longer period of time than a firm in a more cohesive field.

Before leaving the discussion on the contextual factors that influence corporate ecological responsiveness driven by competitive advantage, it is important to point out that pollution prevention, product stewardship, and sustainable development strategies are themselves contextual factors that contribute to a firm’s motivation to adopt subsequent proactive environmental initiatives. Anecdotal evidence (Dunphy, Griffiths, & Benn, 2003) and self-reports by practitioners such as Interface’s Ray Anderson (Anderson, 1998) support the notion that the process of pursuing these strategies provide ongoing organizational learning opportunities to improve corporate ecological responsiveness. It is perhaps not surprising then that a key component of the natural resource-based view of the firm is the interconnectedness between the three strategies (Hart, 1995). One strategy leads to the success of another and sustainable competitive advantage depends on the strength of all three. What is not clear, however, is at what point is a firm initially motivated by competitive advantage no longer primarily driven by the competitive gains of its environmental strategy. Bansal and Roth (2000)

provide some preliminary findings on this issue and suggest that mixed motivations can perhaps lead to “unusually high responsiveness.”

The business and environment literature is rife with examples of companies using voluntary environmental initiatives to gain a competitive advantage. For many organizations, however, their motivation to address environmental issues is still largely driven by external forces. The section that follows on legitimation explores the theory behind this motivation and the contextual factors that may influence its prominence within an organization.

2.4.2 Legitimation

Institutional theory is interested in how a behaviour or concept becomes a broadly accepted norm or rule (Beliveau, Cottrill, & O'Neill, 1994; Jennings & Zandbergen, 1995; Zucker, 1987). Linked closely to this theory is the motivation of legitimation. Bansal and Roth (2000) define legitimation as “the desire of a firm to improve the appropriateness of its actions within an established set of regulations, norms, values, or beliefs.” So whereas a competitive motive is driven by the idea of doing better than one’s competitors, legitimation is motivated by adhering to the status quo.

It can be argued that proactive environmental practices and policies are becoming the norm for at least some business organizations as is evidenced by firms such as Swiss Re, Interface Flooring and Toyota. Such a proposition requires my study to consider whether the institutionalization of some environmental norms may contribute to adoption of environmental initiatives such as GE.

2.4.2.1 Institutional theory and corporate ecological responsiveness

As discussed above, institutional theory is interested in how a behaviour or concept becomes a broadly accepted norm or rule. The widening acceptance of the behaviour or concept eventually forces non-participating organizations to adopt it in order to maintain their legitimacy within existing social networks. Eventually the concept may be so embedded that it becomes a routine or a norm of a formal societal structure. When this happens any attempt to change is perceived as a source of social instability (Beliveau et al., 1994; Jennings et al., 1995; Zucker, 1987).

Jennings and Zandbergen (1995) draw a link between institutional theory and ecologically sustainable organizations. They argue that “institutional theory helps to understand how consensus is built around the meaning of sustainability and how concepts or practices associated with sustainability are developed and diffused among organizations” (Jennings et al.,

1995: 1015). Rather than trying to identify the best definition of sustainability, an institutional approach places a greater emphasis on how definitions of sustainability are constructed, made into norms and eventually “embedded” in organizations. Under this theory, external pressures whether from the state, society, or industry trade bodies are the key motivators for firms to adopt the emerging norm of “sustainability”. Firms that fail to adopt the norm risk losing their legitimacy to conduct business.

Referring back to the earlier discussion on proactive versus reactive environmental responses, institutional theory is generally equated with reactive corporate ecological responsiveness. Sharma (2000: 683) calls an environmental strategy based on legitimation a “strategy of conformance” that “involves complying with regulation and adopting standard industry practices that according to institutional theory, would be the results of pressures from industry associations, environmental NGOs, government regulators, competitor actions, and other industry stakeholders.” Environmental initiatives associated with legitimation include establishing an environmental committee or manager, stakeholder integration including environmental advocates and environmental audits (Bansal et al., 2000). These types of “formal mechanisms” are, according to stakeholder theory, an indication that a firm regards the environment as a “dominant stakeholder” (Mitchell et al., 1997: 876). Dominant stakeholders have both power and legitimacy but lack urgency. Although this class of stakeholder “will ‘matter’ to managers” they “are by no means the full set of stakeholders to whom managers should or do relate” (Mitchell et al., 1997: 876-877). It is only “when such a stakeholder’s claim is urgent, managers have a clear and immediate mandate to attend to and give priority to that stakeholder’s claim” (Mitchell et al., 1997: 878).

Empirical studies on the ecological responsiveness of firms reveal that anticipated government regulation is the most oft cited institutional driver pushing firms to adopt voluntary environmental initiatives (Banerjee, 2001; Bansal et al., 2000; Darnall, 2002; Henriques et al., 1996; Jiang et al., 2003; King et al., 2000; Labatt et al., 1998; Stratos et al., 2000). Other drivers include public pressure (Banerjee, 2001; Henriques et al., 1996; King et al., 2000; Stratos et al., 2000), customer pressure (Henriques et al., 1996; Jiang et al., 2003), industry pressure (Bansal et al., 2000; Jiang et al., 2003; King et al., 2000; Labatt et al., 1998), public image (Jiang et al., 2003; King et al., 2000; Labatt et al., 1998; Stratos et al., 2000; Wiser et al., 2001) and employees (Henriques et al., 1996; Wiser et al., 2001). Although this list is not exhaustive, it is a good indication of the prevalence of legitimation as a motivator for firms to adopt voluntary environmental initiatives. A further indication of its significance are the findings from Bansal and Roth’s (2000) study of corporate ecological responsiveness. The motives assessed by the study

were competitiveness, legitimation, and ecological responsibility. Data from the research led the authors to conclude that 24 of the 53 organizations in the study showed *strong* evidence of being motivated by legitimation, seven by competitiveness, and four by altruism or what the study calls “ecological responsibility”.

Legitimation is clearly an important motivation for many firms determining their corporate ecological responsiveness. The following section discusses a number of contextual factors that may influence a firm’s predisposition to develop a legitimacy-based environmental strategy.

2.4.2.2 Contextual factors linked to legitimation

In a study on corporate environmental strategies, Banerjee (2001: 507) found that “perceptions of the severity of forces such as legislation and public concern varied depending on the firm and industry.” The relative size of a company and the specific industry that it operates in are arguably the two most significant factors that contribute to the development of corporate ecological responsiveness motivated by legitimation. Perhaps the clearest example of this is the chemical industry.

Responsible Care is the chemical industry’s self-regulated environmental initiative. The program was originally adopted by The Canadian Chemical Producers’ Association (CCPA) in 1985. Responsible Care was in response to public pressure for stricter regulations on the chemical industry that followed a series of environmental disasters linked to the industry in the late 1970s and early 1980s. The pressure peaked after the 1984 Union Carbide catastrophe in Bhopal, India (Moffet & Bregha, 1999). The program is a self-regulated initiative designed to ensure that standard environmental and safety practices are adhered to by its participants. Since its original inception, Responsible Care has been adopted by the chemical producer industry in over 40 countries including the United States (CCPA, 2004). A study of the American chemical industry shows that firms most likely to participate in Responsible Care are the industry’s largest companies, have reputations closely associated with the industry and are generally heavier polluters than non-participating firms (King et al., 2000).

The above example demonstrates the important role that a company’s size and industry can play in the development of its environmental strategy. In the case of the Responsible Care Program, a company’s strategy is legitimated by its participation in the program.

Three factors identified by Bansal and Roth (2000) that positively influence an organization’s development of a legitimation based motive are issue salience, field cohesion, and the individual concerns of its employees and managers. The study also found that the “constituents” (i.e., stakeholders) identified by these firms included government, the local

community, customers, employees, and shareholders. This list is considerably longer than the one identified by firms motivated by competitiveness (i.e., customers and shareholders). With such a lengthy list of stakeholders it is perhaps not surprising that issue salience is an important factor. The key for these firms is to appease stakeholders' concerns and government regulators on issues deemed meaningful by complying with regulation and developing standardized processes in order to demonstrate that the issue is being well managed.

Reinforcing the importance of issue salience to firms motivated by legitimation is Jiang and Bansal's (2003) study on the voluntary adoption of ISO 14001 in the Canadian pulp and paper industry. In this case operations with a high task visibility or high environmental opacity were more likely to voluntarily implement ISO 14001 in order to legitimate their operations to their external stakeholders.

Tied closely to the concept of task visibility is company size. As discussed in the previous section, size appears to be a factor for firms motivated by competitive advantage because they have a larger amount of slack resources to develop and implement more innovative environmental strategies. From an institutional perspective size means one thing – visibility. And the more visibility a firm has, the more likely an environmental issue will be associated with it. This in turn means the more likely the company will need to respond to institutional pressures in order to ensure its legitimacy is maintained among its stakeholders (Henriques et al., 1996; Jiang et al., 2003; King et al., 2000).

Field cohesion also appears to play a role in determining whether a firm is motivated by legitimation. In the case of competitive advantage a loosely cohesive organizational field created an incentive for companies to seek proactive environmental strategies as a means of achieving long-term economic gains. For firms situated in a tightly cohesive organizational field the opposite holds true (Bansal et al., 2000).

Field cohesiveness is in part determined by the proximity of firms with one another and their stakeholders and the level of interconnectedness within the organizational field. Proximity includes both physical and social elements. Interconnectedness can be reflected by the number of interactions and shared resource dependencies between firms in the field. Close proximity and substantial interconnectedness indicate an organizational field with a high level of cohesiveness. The actions of companies operating in these circumstances are more closely associated and dependent on one another than firms in less cohesive fields. The cohesiveness creates pressure within the industry to conform to certain practices in order to maintain the image of the industry as a whole and to ensure standardized interactions within the organizational field. In addition to this, the actions of one firm are quickly mimicked by the rest of

the industry because of the high level of interconnectedness. As a result there is little incentive for innovation in order to achieve a competitive advantage because it will quickly be copied by competitors and the advantage lost (Bansal et al., 2000). What this means in terms of a firm's motivation to voluntarily adopt environmental initiatives is that there is little incentive for it to do so unless pressured by its industry peers, therefore, making legitimation the most prevalent driver.

Both issue salience and field cohesion help to explain why industry type is an important determinant of a firm's ecological responsiveness. Multi-industry studies on the adoption of voluntary environmental initiatives support the concept that industry type plays at least a partial role in determining a firm's ecological responsiveness (Henriques et al., 1996; Stratos et al., 2000). Industries commonly associated with adopting a legitimation based approach to ecological responsiveness include oil and gas, forestry, and the chemical industry. One must be careful, however, not to assume that all firms within these types of industries are motivated primarily by legitimation as studies have shown that some variability does occur even within highly visible and tightly cohesive industries (Jiang et al., 2003; King et al., 2000; Sharma et al., 1998).

The final factor found by Bansal and Roth (2000) that contributes to legitimation based corporate ecological responsiveness is the individual concern of the firm's employees and managers. A condition of this finding, however, is that the concern needs to be closely aligned to the views held by the firm's external stakeholders in order for the organization to deem it a legitimate environmental issue that warrants action by the firm. Given this condition, it seems that how a firm defines "who and what really counts" is perhaps more critical to whether a firm driven by legitimation adopts a voluntary environmental initiative than the actual individual concern of its employees and managers.

It is clear that institutional factors can contribute to the adoption of voluntary initiatives (Bansal et al., 2000; Jiang et al., 2003; King et al., 2000). In addition to this, legitimation is the most prevalent of the three motivators discussed in the literature. Its inclusion is therefore crucial for any study addressing the question of what influences business organizations to adopt voluntary environmental initiatives. The final section covers what is the least prevalent motivator in the literature – altruism.

2.4.3 Altruism

The New Webster's Dictionary defines altruism as the "consideration for other people without any thought of self as a principle of conduct" (Webster, 1991: 27). From the perspective

of corporate ecological responsiveness, Bansal and Roth (2000: 728) have defined ecological responsibility as “a motivation that stems from the concern that a firm has for its social obligations and values.” For the purposes of my study I will use this definition to define altruism.

The notion of a business initiative being motivated solely by altruism is a contentious issue because it raises a number of questions about the role and responsibilities of business with regards to its effects on society, the environment, and the economy. As discussed in chapter one, the traditional argument is that “there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game...” (Friedman, 1962: 133).

Corporate social responsibility (CSR), an idea that has been debated since the mid-18th century but which has gained particular significance since the 1960s, is often thought of as a more altruistic approach to business. In a paper originally published in 1978, Fredrick (1994: 151) stated that “the fundamental idea embedded in ‘corporate social responsibility’ is that business corporations have an obligation to work for social betterment.” While this viewpoint of a corporation’s social responsibility certainly appears to be more altruistic than the argument put forth by Friedman (1962), most advocates of CSR are careful to state that actions taken by a firm to benefit society or the natural environment should also be actions that either increase the firm’s competitiveness or its legitimacy (Drucker, 1984; Hopkins, 2003; Sethi, 1987).

Corporate philanthropy, like CSR, is a concept that is commonly thought to be driven by altruism. However, according to L’Etang (1995: 130) corporate philanthropy differs from CSR because “[i]t is not based on any kind of obligation or responsibility but simply upon the desire to do good. Corporate philanthropy usually consists of ad hoc gifts and donations and it [sic] suggested that the godness or moral worth of the intention can only be maintained if companies do not seek any benefit for themselves out of the donation.” Recent empirical studies, however, show that corporate philanthropy based on this rather rigid definition seldom exists (Moir & Taffler, 2004; Saiia, Carroll, & Buchholtz, 2003). Instead, most firms base their corporate giving on strategic plans to improve their competitiveness through marketing or to build legitimacy with stakeholders.

Given the suggestion that firms engaging in activities that are aimed at “bettering” society and/or the natural environment should also simultaneously better the firm, it is perhaps not surprising that empirical evidence supporting the notion that a firm would be motivated to adopt a voluntary initiative that is driven by neither competitiveness nor legitimation is relatively sparse. Several of the firms, however, included in Bansal and Roth’s (2000) study of corporate ecological responsiveness did show strong evidence of an “ecological responsibility” motive. It is

worth noting, though, that this motivational category was the study's smallest grouping. A report by Stratos and Pollution Probe (Stratos et al., 2000) on the drivers of voluntary environmental initiatives in three Canadian industries (wood products, vehicle parts and manufacturing, and primary metals) also showed that some firms were willing to adopt an initiative based on motives other than competitiveness and legitimation.

Perhaps most interesting from the perspective of my research question are the findings from two studies on the voluntary purchasing of GE by businesses (Lewis, 2003; Wiser et al., 2001). Both studies found that altruism was one of the leading motivators driving firms to use GE. The first study by Wiser et al. (2001) was carried out in the United States. It found that altruism, as measured by civic responsibility and organizational values, was the leading motivator. The study concludes by suggesting that "traditional motives are of less importance in understanding current green power purchases" (Wiser et al., 2001: 1096).

The second study that looked into the motives of firms to purchase GE was carried out in Europe. The findings from this research, which was based on the survey response of 1103 participants, revealed that the decision to use GE was closely tied to both corporate image and a sense of responsibility.

These empirical studies lend weight to the possibility that a firm's motivation to adopt a voluntary environmental initiative may be driven by altruism. Of particular importance are the two studies that looked at the motivation of firms to buy GE (Lewis, 2003; Wiser et al., 2001). The next section will discuss what contextual factors may contribute to the development of an altruistic motive.

2.4.3.1 Contextual factors linked to corporate altruism

Bansal and Roth (2000) found that "field cohesion" and "individual choice" were the two contextual factors that contributed to corporate ecological responsiveness that was driven by "ecological responsibility". Ecological responsibility, like competitiveness, was negatively affected by field cohesion. A tightly cohesive organizational field "implied that firms shared the same understanding of acceptable organizational practices. Superior performance was discouraged because it made other field members 'look bad,' and it ratcheted up standards for other field members, raising operating costs" (Bansal et al., 2000: 731). The adoption of a proactive environmental initiative based on the argument that "it's the right thing to do" would likely not be well received in such an institutionally dominated mindset.

Leadership was also found to play a strong role in the development of an altruistic motivation. For this reason individual choice was identified as a key contextual factor.

Ultimately, it is the conscious decisions of individuals within a firm that determine whether a path of social responsibility is followed (Bansal et al., 2000: 731). Unlike competitiveness and legitimation which have market and institutional drivers motivating them externally, the decision to develop corporate ecological responsiveness based on altruism must come from within the firm itself.

A broad definition of who is a corporate stakeholder appears to be another factor that influences firms to be motivated by altruism. Despite Banerjee's findings (2001: 507) that "establishing the legitimacy of green stakeholders from an organizational perspective is a complex task and firms appear to be more sensitive to stakeholders than can have a direct impact on its profitability or growth (customers and regulators)," some organizations are proving that the integration of a broader set of stakeholders is possible (Bansal et al., 2000).

Unfortunately little contextual information can be drawn from the studies on GE by Wiser et al. (2001) and Lewis (2003). As discussed above, the sample population in the former study was disproportionately made up of small and medium enterprises. The results of the study, therefore, may be more a result of firm size than the initiative studied. Data on the latter study are regrettably limited because the majority of the research is withheld for commercial purposes. Caution, therefore, must be taken to not over generalize from these results.

Despite the lack of attention afforded to altruism as a motivator for corporate ecological responsiveness, some firms - according to the literature - are motivated by "doing the right thing".

2.5 Conclusion

This chapter used five main bodies of literature to explore the factors that influence how firms respond to environmental issues. More specifically, I was interested in understanding the willingness of firms to adopt VEIs with properties similar to GE, that is, they are good for the environment but do not necessarily hold a clear benefit for the firm because they cost more than conventional practices or commodities, they do not improve corporate efficiency and they are associated with minimal external pressure.

The literature selected – stakeholder theory, strategic issues management, competitive strategy, institutional theory, and business ethics – was based on previous corporate ecological responsiveness studies (Banerjee, 2001; Bansal et al., 2000; Sharma, 2000; Sharma et al., 1998). A summary of the contextual factors discussed in the literature can be found in Figure 2.2. The factors have been organized into three categories: external factors, organizational factors, and individual factors. External factors encompass all the factors that exist outside of

the firm's industry, ranging from the natural environment to market influences and public perception. Organizational factors are ones that influence how a firm responds to an environmental issue that are derived either from the processes and capabilities of a firm or from the industry in which it operates. Finally, the individual factors address the role that people internal to the firm's decision-making (e.g., owners, directors, managers, and employees) play in developing its ecological responsiveness.

Figure 2.2: Contextual Factors in the Corporate Ecological Responsiveness Literature

External Factors	Organizational Factors	Individual Factors
<ul style="list-style-type: none"> • Threat of government regulation • Public pressure • Customer pressure • Public image • Task visibility • Environmental opacity • Stakeholder integration • Issue certainty • Issue transparency • Issue emotivity • Urgency • Location 	<ul style="list-style-type: none"> • Continuous improvement • Shared corporate vision • Size • Public profile of the firm's industry • Level of pollution associated with a firm's operations • Field proximity • Field interconnectedness • Industry pressure • Employee pressure 	<ul style="list-style-type: none"> • Manager decision-making discretion • Corporate leadership • Individual ecological values • Individual risk propensity

Empirical studies on the motivation of firms to adopt proactive environmental strategies or practices have shown that there are three key motivations that are encouraging beyond-compliance actions. These motivations are: competitiveness (e.g., Banerjee, 2001; Bansal et al., 2000; Sharma, 2000; Stratos et al., 2000), legitimation (e.g., Banerjee, 2001; Bansal et al., 2000; Henriques et al., 1996; Jiang et al., 2003; King et al., 2000; Stratos et al., 2000), and altruism (e.g., Bansal et al., 2000; Holt, Wisner, Fowlie, Mayer, & Innis, 2001). Much of the research to date has been carried out by looking at a broad range of initiatives and practices that collectively make up a firm's corporate ecological strategy (e.g., Banerjee, 2001; Bansal et al., 2000; Henriques et al., 1996; Sharma, 2000). Another strategy-based medium that has been well used to analyze how firms make decisions regarding their environmental performance is

the adoption of environmental management systems (EMS) (e.g., Bansal & Hunter, 2003; Darnall, 2002; Jiang et al., 2003; King et al., 2000; Rains et al., 2005). Although these studies focused on a specific environmental initiative i.e., EMS, the development and implementation of an EMS arguably requires a significant commitment of time and resources and therefore represents a high level of corporate attention. In addition to this, a company's EMS is, among other things, the framework that companies use to make decisions regarding more specific environmental initiatives. While research into these broader strategic environmental responses is important, it does not necessarily explain how firms make decisions regarding which individual initiatives they will adopt as part of their environmental plan.

Research by Sharma and Nguan (1999a), Andersson and Bateman (2000) and Bansal (2003) have started to look at the question of how firms adopt specific environmental initiatives. The study by Sharma and Nguan (1999a) looked at how the risk propensity of managers in the biotechnology industry affected their willingness to adopt biodiversity conservation. While this information is useful in linking risk propensity to a firm's environmental performance, its focus on one factor – risk – is too narrow to answer the question of what *factors* promote and inhibit the voluntary use of GE.

The research by Andersson and Bateman (2000) and Bansal (2003), however, can be more directly applied to my research question because they looked at a number of potential variables that affected the willingness of firms to adopt a range of specific initiatives. In the former study, it was found that both issue urgency and a “strong environmental paradigm” contributed to the likelihood of a “champion” successfully selling an initiative within the firm. In the latter study, it was found that a successful initiative needed to elicit both individual concern from one or more employees and to draw a connection to the organization's values. It is apparent from these studies that both organizational values/environmental paradigm and the role of individuals are important to the successful adoption of an initiative. This would seem to agree with the findings by Sharma (2000) who found that individuals and the integration of a proactive environmental strategy played important roles in influencing how firms responded to environmental issues. These findings also agree with American (Holt et al., 2001) and European (Lewis, 2003) studies on the willingness of firms to adopt GE. These studies found that individual champions and corporate values played an important role in a firm's decision to voluntarily use GE.

The influence of urgency that was identified by Andersson and Bateman (2000) also agrees with Mitchell, Agle et al. (1997) who argue that “urgency” is one of the three stakeholder attributes necessary for a firm to give priority to a person or issue. However, there is no

indication in the previous studies on the voluntary business use of GE that urgency was a factor in the decision to adopt the initiative.

Although the studies by Andersson and Bateman (2000) and Bansal (2003) are useful to understand why different initiatives are adopted or rejected within a firm, they fail to draw a link between the environmental strategies discussed in the corporate environmental responsiveness literature and the selection of specific initiatives. If individual concern, organizational values, and urgency are factors that affect the types of environmental initiatives that are adopted by a firm, then what variables affect how these factors are interpreted by decision-makers within the firm which in turn leads to an initiative being adopted or rejected? And are the factors identified by Andersson and Bateman (2000) and Bansal (2003) sufficient to predict the likelihood of a specific initiative, such as GE, from being either adopted or rejected by a firm? The literature reviewed in this chapter has suggested a wide array of possible factors to answer the former of these two questions. However, because the majority of the research on the contextual factors that influence a firm's environmental responsiveness was carried out on strategic issues that can be linked to either competitive or legitimating motivators, it is difficult to know how well the existing literature applies to the voluntary adoption of GE – a specific initiative that has questionable links to competitiveness and legitimation because it is a premium priced commodity that does not improve the efficiency of the firm, nor is its voluntary adoption a widely accepted or promoted environmental business norm. Further to this, existing studies on the voluntary adoption of GE in the United States and Europe are inconsistent in their evaluation of why firms adopt GE. These studies have cited competitiveness (Hanson et al., 2002), a blend of legitimation and altruism (Lewis, 2003), and altruism (Holt et al., 2001) as drivers of GE. Given this smattering of potential motivators, it is difficult to know which contextual factors may be influencing its voluntary adoption.

In terms of the second question posed above, I am interested in understanding what specifically affects the likelihood of GE being voluntarily adopted by a firm. So while it is useful to know that individual concern, organizational values and urgency may all play a role in influencing whether or not it is adopted, it does not provide the study with the specific information needed to understand what specific individual concern and organizational values are linked to GE and whether or not there is any urgency linked to its use. The issue is even further clouded by the fact that the Andersson and Bateman (2000: 564) and Bansal (2003) studies indicated that financial values were the highest corporate priorities when selecting environmental initiatives. Given GE's premium price and low public profile, its potential financial

benefit to a firm is not immediately obvious, which means that non-financial values may be taking precedence - a scenario that these two studies do not directly address.

In the next chapter, I will discuss the methods used by the study to conduct primary exploratory research on what factors promote and inhibit the voluntary adoption of GE by Canadian-based businesses. Although the existing literature on corporate environmental responsiveness will be used to direct the type of information sought, the research does not intend to test hypotheses developed from the literature. As discussed above, the existing corporate ecological responsiveness literature has not yet addressed the question of what particular concerns and values are promoting the use of specific initiatives with attributes similar to GE. It is also not clear how factors identified in the literature that influence a firm's environmental responsiveness may relate to an initiative such as GE. While existing studies on the adoption of GE have been conducted, these tended to be more in line with market studies that focused on the motivation for and obstacles to adopt the initiative rather than the specific factors that influence firms to either adopt or reject it. The applicability of these findings is limited to my study, therefore, given its more in-depth contextual objectives.

Chapter 3: Research Methods and Design

3.1 Introduction

The objective of my thesis is to conduct exploratory research to help understand what factors promote and inhibit the voluntary adoption of green electricity (GE) by Canadian-based businesses. Palys (2003: 73) explains that exploratory research “aims to gain familiarity with or to achieve new insights into a phenomenon, often in order to formulate a more precise research question or to develop hypotheses”. The phenomenon that this study is interested in is that some firms are voluntarily paying a premium price to use GE - an initiative that neither improves a firm’s efficiency nor one that has a high level of external pressure associated with it - while the majority of other firms in the same marketplace do not.

In chapter two, the corporate ecological responsiveness literature was reviewed to determine what can be learned about the phenomenon through existing theoretical and empirical studies. Although this literature provides a strong foundation to ground my primary research, the level of analysis studied is generally too broad to apply directly to the understanding of what factors influence the adoption of a specific initiative such as GE. Similarly, research on specific initiatives were found to be either too focused on a specific factor (e.g., Sharma et al., 1999a) or too general to explain what specific factors might influence firms to adopt or reject GE (e.g., Andersson et al., 2000; Bansal, 2003). The same can be said for existing studies on the willingness of firms to voluntarily use GE. These tended to be more in line with market studies that focused primarily on the motivation for and obstacles to adopting GE rather than the contextual factors that influence firms decisions to use it (Hanson et al., 2002; Holt et al., 2001; Lewis, 2003). Given the lack of information on what influences firms to adopt specific initiatives with attributes that are similar to GE (i.e., premium priced, no efficiency gain, and low external pressure to adopt), the goal of my research is to construct a set of hypotheses that explain the phenomenon rather than to test a set of pre-established hypotheses. This hypotheses building aspect of my thesis lends itself well to qualitative research methods that use an inductive approach rather than the deductive approach more commonly associated with quantitative research methods (Babbie, 2001; Neuman, 2003; Palys, 2003). Having said this, it is important to point out that although hypotheses based on the literature are not tested directly by the study, the literature was used to guide the topics covered by the study. These topics are discussed in section 3.3.3.

The research for the study was conducted during two sets of interviews. The preliminary set of interviews was held with 12 representatives from 11 different organizations that were either currently selling a GE product in Canada or that promoted it in the past. These interviews were held between June 2004 and October 2004. The second set of interviews was held with 20 Ontario-based companies. Half of these companies had voluntarily adopted GE and the other half had not voluntarily adopted GE. These interviews were held between November 2004 and April 2005. The following sections describe the specific methods used for each set of interviews and the procedures applied to analyze the information collected.

3.1.1 Selection of a Qualitative Research Method

Understanding the decisions made by firms about their social and environmental activities and how these decisions manifest themselves into actions is arguably a complex area of organizational research. Although the corporate environmental and social policies used by many firms can be found in writing (Snider, Hill, & Martin, 2003), the decision-making process that leads to the formation of such policies and how they are subsequently interpreted by managers is frequently carried out with little written documentation. Without detailed archival information to guide the study, conducting exploratory research on this process would require the use of at least one of the following qualitative research methods: observational research, participatory research, ethnographical research, or interactive research (Babbie, 2001; Neuman, 2003; Palys, 2003). The use of observational, participatory, and ethnographical methods, however, was not feasible for my study because the decision to use GE had either already occurred in those firms that had adopted it prior to the study or it was not publicly known which if any firms in Canada were considering GE as a voluntary initiative at the time of the study. There was, therefore, nothing tangible that related to a firm's decision to adopt GE that could be observed directly or which a researcher could participate in. In addition to this limitation, the use of each of these methods requires a considerable time commitment to conduct even a single case study (Babbie, 2001; Palys, 2003). As my study intended to understand the factors that promote and inhibit the voluntary adoption of GE for a number of Canadian businesses, an alternative means to collect this information was required.

Interactive research is the "person-to-person exchange of information" which generally takes place through one of two popular methods – surveys or interviews (Palys, 2003: 149). The difference between the two is that surveys are conducted by having the participant write down their answers to preset questions on a questionnaire and interviews are a verbal exchange of information. Both of these methods were seen as potentially useful means for achieving the

study's objectives because they gain information directly from key informants rather than documentation, they do not require the phenomena being studied to be directly observed, and they are an efficient means of obtaining information from a number of different sources as has been demonstrated in previous research on corporate environmental performance (e.g., Banerjee, 2001; Bansal et al., 2000; Sharma et al., 1999a) and corporate social performance (e.g., Cramer, Jonker, & van der Heijden, 2004; Panapanaan, Linnanen, Karvonen, & Phan, 2003).

Babbie (2001: 238) argues that "(s)urvey research is probably the best method available to the social researcher who is interested in collecting original data for describing a population too large to observe directly." Although it can certainly be argued that the study's objective to collect information on a large population, namely Canadian-based businesses, would be best served by using a survey from which findings can be more readily generalized, it is important to emphasize that the use of a more structured approach prior to the completion of exploratory research on the subject would have been premature. The development and distribution of a survey without the advantage of an exploratory study preceding it could potentially call into question the validity of the survey's findings because it would be unknown how well prior corporate ecological responsiveness research could be applied to a specific initiative such as GE. Without this knowledge, there is little foundation from which a survey's questions can be structured. In other words, without first developing a more precise understanding of what the potential answers could be, it would be difficult to know whether the right questions are being asked, thereby, conceivably calling its validity into question. To this end, Gorden (1987: 11) weighs the merits of conducting research by means of a survey or interview when there is a general deficit of information regarding the topic being studied: "Whether the interview is more valuable than the questionnaire depends upon the degree to which we know exactly what we want to know and what the possible range of answers might be. The exploratory values of the unstructured interview are impossible to attain in a questionnaire where there is no opportunity to formulate new questions or probe for clarifications."

The second possible validity challenge faced by a survey that was conducted prior to the completion of an exploratory study is a potentially low response rate. Although a low response rate is a methodological challenge faced by most surveys, it may have been an even greater challenge in this instance because in order to test the multitude of potential factors that were discussed throughout the literature review, it would have needed to be both lengthy and complex - two factors that run counter to the likelihood of a survey being completed by its intended recipients (Dillman, 2000). Therefore, if the lack of existing information regarding the

factors that influence a firm's willingness to purchase GE was going to call into question one of the survey's greatest strengths, namely its ability to generalize about a population too large to observe directly, it was not prudent from a research perspective to conduct survey research prior to the completion of a thorough exploratory study. Given the position that no such exploratory study currently exists, my research was designed to fill this foundational gap in understanding. A scenario which, according to Gorden (1987), lends itself well to interviewing.

Further support for the applicability of interviewing as an appropriate research method for my study is provided by Dunn (2000: 52) who lists four main reasons why a researcher would use interviewing as a method for collecting information:

1. "to *fill a gap in knowledge* which other methods, such as observation or the use of census data, are unable to bridge efficaciously;
2. to investigate *complex behaviours and motivations*;
3. to collect a *diversity of opinion and experiences...*; and
4. when a method is required that *shows respect for* and *empowers* those people who provide the data." (emphasis in original)

Of the four reasons listed by Dunn (2000), only the fourth may appear to not apply directly to my thesis' requirements for a research method. Given the fact, however, that the respondents most likely to hold the information needed for the study are professionals in management or executive roles the research method needs to be one that respects the level of responsibility and experience that comes with these positions.

Finally, support for the use of qualitative interviews is also provided by Schoenberger (1991: 181), who in her assessment of the usefulness of corporate interviews states that, "While the method does not lend itself to formal hypothesis testing, it can provide fertile ground for the generation of hypotheses about business behaviour." This outcome mirrors my study's stated objective.

3.2 Preliminary Interviews

The first stage of the study's primary data collection was a set of telephone and face-to-face interviews with Canadian organizations that were either marketing GE products to Canadian-based businesses at the time of the study or that had done so in the past. Organizations that met one of these two criteria included electricity retailers, utilities and environmental non-governmental organizations (ENGOS). The purpose of these preliminary interviews was to add additional background information to the study's literature review prior to conducting the primary set of interviews with representatives of Canadian-based businesses.

Rubin and Rubin (1995: 197) contend that extensive background work, “including reading documents or academics studies, undertaking more loosely structured preliminary interviews, and watching events unfold” are important research steps prior to conducting topical interviews. The observations from the preliminary interviews are discussed in section 4.2 of chapter four.

3.2.1 Selecting Participants

Purposive sampling was used to select the study’s initial list of subjects for the preliminary interviews. Purposive sampling is a nonprobabilistic method that intentionally seeks subjects to be included in the study based on their ability to meet specified criteria. This intentional sampling contrasts random sampling techniques preferred by deductive research approaches (Palys, 2003). The specific method of purposive sampling used for the preliminary interviews was intensity sampling (Morse, 1994). Intensity sampling targets individuals who are considered “experiential experts” of a given phenomenon because of their particularly high exposure to it. The selection of “experiential experts” is in keeping with Palys’ (2003: 74) suggestion that “the ideal informant” for an exploratory study “is someone who is either very *familiar with* or very *new* to a situation” (emphasis in original).

Subjects for the preliminary interviews were selected on the following criteria: 1) they are Canadian based; and 2) they were promoting and/or selling GE products or services to Canadian-based businesses at the time of the study or did so prior to it. These subjects were selected for preliminary interviews because it was felt that their experience in marketing GE to Canadian businesses would help to highlight some of the most significant factors that are contributing to the decision by Canadian-based firms to use GE.

Consulting the Environmental Choice Program’s Alternative Source Electricity Program (ECP) was the first step that I took to find subjects that would meet the necessary criteria. The ECP lists companies that are certified generators and/or distributors of GE in Canada. Next I visited the websites of each of the companies listed by the ECP to determine if they were marketing and selling their product directly to businesses in Canada. Companies that did not have websites or whose websites did not specify if they marketed and sold their product to businesses in Canada were contacted via telephone and asked whether or not they were marketing and selling a GE product directly to Canadian-based businesses. This initial search led me to 12 potential candidates based on the ECP website. The candidates who I had not contacted directly in the first round of telephone calls because their websites indicated that they were selling to wholesale customers were then asked to verify by telephone if they marketed and sold GE to businesses. After confirming this information the number of potential candidates

dropped from 12 to eight. The four companies that were removed from my list either only sold GE to residential or government customers or consolidated its business and residential sales and therefore did not differentiate between the two.

All eight of the remaining companies were provided with information about my research and asked to participate. Although a representative from each of the eight companies agreed to an interview, only six were eventually interviewed. The two companies whose representatives I did not interview either had too many scheduling conflicts or did not reply to my multiple requests to arrange a date and time.

Other potential subjects for the preliminary interviews were identified by snowball sampling. Snowball sampling is done by drawing on the connections of other people to see if they can suggest a participant that meets the study's criteria (Palys, 2003). My snowball sampling was done by asking the study's preliminary participants the following question near the conclusion of our interview: "Can you suggest any other GE retailers that I should consider interviewing for the purposes of this study?" This query led to 12 additional organizations being recommended for the study. Of these 12 organizations, six met the study's criteria as determined through direct enquiries with each of the organizations. A representative from all six organizations agreed to participate in the study, but only five were eventually interviewed. Numerous scheduling conflicts prevented one of the company's representatives from being interviewed during the timeframe of the study.

In total, 12 representatives from 11 of the 14 organizations identified by the study as potential candidates participated in the preliminary interviews (one of the organizations had two representatives who were interviewed) (see table 3.1). Eight of the organizations were electricity retailers, generators, or public utilities that sold electricity directly to its customers. Three of the organizations were ENGOs. The first ENGO marketed and sold emission reduction credits or "green tags" to non-residential customers. The credits were generated by a Canadian GE retailer and bought by the ENGO for resale. The second ENGO had established a corporate recognition program aimed at recognizing varying levels of corporate commitment to GE policy and procurement. The final organization was a community-based energy co-operative that generates GE. All of the representatives that I interviewed were actively involved in marketing their organization's GE program.

Table 3.1: List of Preliminary Interview Participants

Primary Service	Ontario	Rest of Canada	Total
Electricity Retailers	2	3	5
Electricity Generators	1	2	3
ENGOS	3	1	4
Total	6	6	12

3.2.2 Preliminary Interview Design and Procedure

Four of the interviews were conducted face-to-face and the remaining eight were held over the telephone. Although face-to-face interviews were preferred because they offer both verbal and physical means of communication, the time and cost of meeting most of the participants in person was too prohibitive because they were too distant from my location (Palys, 2003). The face-to-face interviews were held at the participant's office in order to maximize the ease of participation for the subjects. The length of each interview ranged between 30 minutes to one hour. All interviews were tape-recorded and later transcribed for analysis.

The set of preliminary interviews followed a standardized, semi-scheduled structure (Gorden, 1987). Gorden (1987: 44) categorizes an interview as standardized, "(i)f all of the interviews in a set seek the same information." Semi-scheduled interviews implies that there is some variance in at least one of the following aspects of the interview: "(a) the content of questions related to the central problem, (b) the exact wording of the question, (c) any context to be supplied with each question, and (d) the answer categories, if any, which are to be used (Gorden, 1987: 45)."

The standardized element of the preliminary interviews was the use of nine questions to guide the conversation with each participant (see table 3.2). The nine questions represent the broad information that I intended to learn from each participant. The wording of the questions, however, changed from participant to participant as did the order in which they were asked. In addition to the semi-scheduled delivery of the interview's nine key questions, probes were used when necessary throughout each of the interviews. The wording, delivery and frequency of the probes varied according to the unique flow of each conversation.

As discussed above, the purpose of these preliminary interviews was to add additional background information to the study's literature review prior to conducting the primary set of interviews. Although an extensive literature review had been conducted prior to the interviews, there was still little secondary information related to what specific factors influence firms to

voluntarily use GE. For this reason, it was my intention to impose as few pre-defined categories to this stage of the study as possible to ensure that I did not prematurely limit its findings.

Topic control refers to the level of control the interviewer gives to the study's participants to guide the direction of the conversation (Gorden, 1987). Participants in the preliminary interviews were given a relatively wide amount of topic control in order to see if they were able to introduce any new and relevant categories to the study. I generally tried to let participants continue with tangents of thought, even when they did not at first appear to relate to my standardized set of objectives. In most cases, participants would eventually self-regulate their responses back to the objectives of the study. It was rarely necessary for me to have to resume full control of the interview in order to pull the respondent back towards my broader objectives.

Table 3.2: Standardized Questions Used to Guide the Study's Preliminary Interviews.

-
1. What electricity services and products are currently provided by your company?
 2. What green electricity products and services does your company offer?
 3. Is your company actively pursuing commercial users for green electricity?
 4. Using kilowatt hours as your measure, approximately what percentage of your existing GE sales does the business sector account for?
 5. Drawing from your personal experience, what do you think is motivating companies to buy green electricity?
 6. Drawing from your personal experience, what do you think is inhibiting companies from buying green electricity?
 7. Are you comfortable with sharing general profiles of the types of companies that are currently using green electricity?
 8. Are you aware of any existing market studies regarding business demand for green electricity?
 9. Can you suggest any other green electricity retailers that I should consider interviewing for the purposes of this study?
-

The majority of my control over the interview was done through the use of probes. Gorden (1987: 419) explains that "(p)robing is a way to get the respondent motivated and steered toward giving relevant, complete, and clear responses to meet the objectives of the interview." He then goes on to list seven types of probes that can be used during an interview. The probes listed in order from the least controlling to the most controlling are: 1) silent probe, 2) encouragement, 3) immediate elaboration, 4) immediate clarification, 5) retrospective

elaboration, 6) retrospective clarification, and 7) mutation. Of the seven probes listed, the first four were used most frequently by me during each of the interviews. The silent probe and encouragement are used to passively encourage the respondent to continue rather than ask directly for specific information and are therefore the least controlling in terms of setting the topic. Immediate elaboration and immediate clarification ask the respondent to either elaborate or clarify a statement that they had just made. Since all the interviewer is doing in the case of these two probes is asking the respondent to continue talking about an existing topic rather than suggesting a new one, they are exerting only minimal control. Retrospective elaboration and retrospective clarification, which refer to instances where the interviewer asks the participant a question about something discussed earlier in the interview, were generally used only when there appeared to be an inconsistency with something the participant had said previously or a new point was brought up that tied into an earlier statement. Mutation, which is the introduction of a new topic without any apparent connection to what has already been discussed, was only used when the participant's view points on a particular topic of discussion appeared to be exhausted. At this point I would intercede with one of the nine standardized questions in order to move the interview along.

3.2.3 Data Analysis of the Preliminary Interviews

As noted in section 3.2.2, transcripts were made from the primary interviews. The transcripts were based on tape recordings taken during the interview. These transcripts were coded using a categorising, splitting and splicing method (Kitchin & Tate, 2000: 239). Categorising simply means that the data are organized into formal categories. Each category represents a different code that can be assigned to the data. I began coding by using a series of broad "master categories" that related to the topics addressed during the interviews (e.g., motivation to buy GE, factors that promote GE, factors that inhibit GE). This preliminary coding was followed by developing and assigning subsequent sub-codes that were based on my evolving analysis of the data. Eventually the data assigned to each code were isolated from the original transcripts and analyzed in relation to the other data that were given the same code. Kitchin and Tate (2000) refer to these isolated sets of coded data as "sorted categories". These sorted categories were then "split" or "spliced" according to the data that were contained in each one. "Splitting refers to the task of refining the analysis of the data by subcategorising databits within a sorted category". And "[s]plicing, alternatively concerns the interweaving of related categories" (Kitchin et al., 2000: 245-6).

After the data were satisfactorily split and spliced, they were analyzed in aggregated categories. The reason that the data were not put back into the context of who they were originally identified by was because this would have gone beyond the scope of this stage of the research. It was the objective of the preliminary interviews to understand what motivations and factors were identified by the participants as influencing the decision by Canadian-based businesses to use GE. This objective was obtained by the study without having to do a further analysis of what participants identified what factors.

3.3 Primary Interviews With Business Representatives

The project's second set of interviews was held between November 2004 and April 2005 with representatives from 20 different Ontario businesses. Ten of the companies interviewed had voluntarily adopted GE and 10 of the firms had never voluntarily adopted GE. The objective of these interviews was to learn directly from members of the business community the factors that promote and inhibit their voluntary adoption of GE. The information collected during these interviews is discussed in sections 4.3, 4.4 and 4.5 of chapter four.

3.3.1 Selecting Business Participants

As was the case with the preliminary interviews, purposive sampling was used to select the companies that were to be included in the study's primary set of interviews. For my research two groups of organizations were sought. The first group consisted of companies based in Ontario that were voluntarily using GE either at the time of the study or had done so in the past. These companies will be referred to as "users" for the remainder of the thesis.

The second group were companies in similar industry sectors to the "users", are based in Ontario, but had never voluntarily used GE for any of their Ontario operations. This second group of companies will be referred to as "non-users" for the remainder of the thesis. The non-users essentially acted as a control group for the study because they had not adopted the variable being researched – namely, the voluntary adoption of GE (Babbie, 2001; Palys, 2003). The non-users were selected by "matching" each user firm with a non-user firm. Matching is a method frequently used in experimental research to "intentionally create pretest equivalence" between the control group and the experimental group being studied (Palys, 2003: 270). Although my research method is not experimental, the inclusion of the "control group" was deemed useful to determine what unique factors, if any, are present in firms using GE that are not present in firms that do not use GE.

The “matched-pair” method used by my thesis is similar to one used in a study by Bansal and Hunter (2003) that explored the adoption of ISO 14001 by American firms. In that study, firms were first categorized according to whether or not they had adopted ISO 14001. “Adopter” and “non-adopter” firms were then matched with one another based on their Standard Industrial Classification (SIC), size, and location of head office to determine what factors differentiated the adopter firms from the non-adopter firms. For my study, firms were matched according to their industry sector, size, and environmental and/or social performance.

The first step in identifying potential subjects for the study was to determine what companies met the “user” criteria. This was done first because it was known that there were many more non-user firms than user firms and the industries that the user firms operated in would then be used to draw up a list of potential non-users. Four main public sources of information were used to draw up a list of potential GE users in Ontario. These sources were: Ontario Power Generation’s *Evergreen Energy Green Power* program¹, the Pembina Institute’s *Wind Power* program², Friends of the Earth Canada’s *GE Leaders’ Coalition of Ontario (GELCO)*³, and Select Power’s *Select Wind* program⁴. From these four sources, 17 companies were eventually identified as meeting the study’s criteria for users. An eighteenth company was added based on information volunteered by an outside source.

The next step in selecting potential participants was to identify each company’s industry sector. This was done to determine the study’s potential level of breadth and to allow for non-user matches to be made. The North American Industry Classification System (NAICS) was used to categorize each of the 18 companies into their appropriate industry sectors. In order to find the NAICS codes for each of these companies, Industry Canada’s Strategis database was consulted⁵. The NAICS codes for manufacturing companies not listed with Strategis were taken from *Scott’s Ontario Manufacturers Directory* (Scott, 2004). Of the 18 “user” companies listed as potential participants, the NAICS codes of only three could not be identified by either one of the above mentioned data sources. The codes for the remaining three companies were determined by first visiting each company’s website for a description of its primary manufacturing or service function and then matching this description with Statistics Canada’s NAICS descriptions⁶. In the

¹ Ontario Power Generation, http://www.opgdirect.com/content/secure/serving_needs/greenpower/index.asp

² The Pembina Institute, http://www.pembina.org/wind_power.asp

³ Friends of the Earth Canada, <http://www.foecanada.org/index.php?option=content&task=view&id=42&Itemid=2>

⁴ Select Wind, www.selectpower.ca

⁵ Strategis, www.strategis.gc.ca

⁶ Statistics Canada, <http://www.statcan.ca/english/Subjects/Standard/naics/2002/naics02-menu.htm>

end, the users of GE that met my criteria were categorized into seven major industry groups (see table 3.3). One of the categories, Professional, Scientific and Technical Services (NAICS 541), was further broken down into smaller sectors in order to better reflect the different types of companies that use GE in this grouping.

Table 3.3: List of Green Electricity “Users” by Major Industry Groupings

Major Industry	NAICS	Industry Sector	Number of Users	Percent of Total Users
Construction	231	Construction – Prime Contracting	1	5.56%
Manufacturing	336	Transportation Equipment Manufacturing	2	11.11%
	314	Textile Product Mills	1	5.56%
	321	Wood Product Manufacturing	1	5.56%
	333	Machinery Manufacturing	1	5.56%
Wholesale	416	Building Materials and Supplies Wholesaler	1	5.56%
Retail	452	General Merchandise Stores	1	5.56%
Information	513	Broadcasting and Telecommunications	1	5.56%
Finance	522	Finance	3	16.67%
Professional	541	Professional, Scientific and Technical Services		
		Advertising and Related Services	2	11.11%
		Management Consulting	2	11.11%
		Engineering	2	11.11%
Total			18	100.00%

As mentioned above, the study intended to interview both users and non-users of GE. In an effort to minimize the number of differentiating variables between the users and non-users, the non-users were selected from the same industries as the users. Therefore, for every user that participated in the study, there should also be a non-user participating from the same sector. I mention this to point out that this decision meant that the total number of participants in this phase of the study equalled the number of users participating multiplied by two. If I decided to interview every potential user, the total number of interviews conducted would need to be 36 (18 users and 18 non-users). Although the more companies interviewed by the study would arguably lend some additional validity to its findings, it is important to point out that its exploratory objective does not necessarily require the results to be generalized. Rather, it is more important that my study concentrate on obtaining a sufficient amount of quality data to

allow me to develop hypotheses which may then be tested in subsequent research projects. Having said this, it was decided that rather than attempt to interview every “user” company and risk sacrificing the potential depth of each interview to the study’s overall breadth, the number of users participating in the study was limited to ten companies. As a result of this decision, the number of non-users would also be limited to ten companies.

Purposive sampling was once again used to select which of the ten companies would be asked to participate in the study. The original plan was to include at least one company from each of the seven major industry groups in the sample. For the four industries with only one company using GE - construction, retail, wholesale, and information - the selection was straightforward because there was just one company in each to sample. In the financial industry there were three potential companies to sample, each being quite similar in terms of the services they provide and size. Given these similarities, I decided to include one company from this industry in the sample. The remaining two industries, manufacturing and professional and technical services, were made up of companies from seven distinct sectors. Although the professional, scientific and technical services industry represented over 33 percent of companies buying GE in the sample set and manufacturing represented 28 percent, I decided to include three manufacturing companies (transportation, textiles, and wood product manufacturing) in the sample and only two from professional services (advertising and engineering). I made this selection for two reasons: 1) electricity is a significantly higher proportion of the overall operating cost in manufacturing and, 2) services were already well represented by the retail, wholesale, finance and information industries.

With the ten sectors selected for the sample, I next needed to determine what companies I would ask to participate in the study. For the six sectors with only one company (prime contracting, textiles product mills, wood product manufacturing, the general merchandise stores, building materials and supplies wholesalers, and broadcast and telecommunications), the decision was clear. When more than one company in a sector was identified as a “user”, my preference was given to the one that was currently using the higher volume of GE. The volume of GE purchased, however, could not be determined for the firms in the advertising and the engineering sectors. For these two cases my selection was made simply by calling the first company on my list of potential participants for that industry, a technique similar to quota sampling (Palys, 2003). The potential participants were not listed in any particular order.

After each of the ten companies had been identified, I contacted by telephone each firm to determine if a representative who was involved in the decision to purchase GE would be willing to participate in the study. From my original list of ten companies, eight agreed to

participate. The two that were not willing to participate were from the wood product manufacturing and broadcasting and telecommunications sectors. The exclusion of these two firms also simultaneously eliminated these two sectors from being included in the study because each firm was the only user in its sector.

The omission of the wood product manufacturing and the broadcasting and telecommunications sectors left me with two options. The first was that I could approach companies from the two sectors that were not included in my original sample list (machinery manufacturing and management consulting), thereby maintaining the maximum amount of breadth. The second option was to select a second participant from two of the eight sectors that had already confirmed their willingness to participate. This second option would add some sectoral depth to the study but would sacrifice some of its breadth because eight rather than ten sectors would be included. In the end, I decided to adjust my sample in order to adopt this second option because it provided an opportunity to take a closer look at how potential institutional factors within a specific industry may be influencing the decision by firms to purchase GE. Of the eight confirmed sectors, only four had more than one user and therefore could be considered for this second option (i.e., transportation manufacturing, finance, advertising, and engineering). From these four sectors I decided to seek additional users from the finance and the transportation manufacturing sectors. The transportation sector was selected because of the important role it plays in Ontario's economy. Finance was selected as the second industry because it too plays a major role in the province's economy. In addition to this, there are relatively few major financial firms in Canada. A small sample of this industry, therefore, is arguably quite indicative of the industry as a whole. A representative from a second firm in each of these sectors was contacted and agreed to participate, making them the ninth and tenth user firms included in the sample. Table 3.4 shows how the study's sample of users firms reflects the distribution of firms using GE in Ontario.

The non-user firms, as discussed, were selected from the same industry sectors as the users. In addition to selecting non-users based on their sectors, an effort was made to find firms that were similar in size and also in their social and/or environmental performance. If, for example, the advertising company that purchased GE was medium size and relatively progressive in terms of its social and environmental performance, I then tried to include in the study a non-user from the same industry that was medium size and relatively progressive. The size of the company was determined by the number of its employees and when possible by sales revenue. The exception for making a comparison based on revenue was for privately owned firms for which financial information was not publicly available. Social and/or

environmental performance comparisons were made by evaluating publicly available records such as company websites and when available annual reports and independent rankings such as the Report on Business's (ROB, 2004) annual ranking of Corporate Social Responsibility for Canadian corporations and Corporate Knight's annual ranking of *Canada's Best 50 Corporate Citizens* (Knights, 2004). For companies whose environmental and/or social performance could not be assessed because there was not a source of public information, matching was based on industry and size only. This was the case for only two of the ten matched-pairs.

Table 3.4: List of Green Electricity “User” Firms Sampled

NAICS	Industry Sector	Sample Set	Percent of Total Users	Sample	Percent of Sample
231	Construction – Prime Contracting	1	5.56%	1	10.00%
336	Transportation Equipment Manufacturing	2	11.11%	2	20.00%
314	Textile Product Mills	1	5.56%	1	10.00%
321	Wood Product Manufacturing	1	5.56%		
333	Machinery Manufacturing	1	5.56%		
416	Building Materials and Supplies Wholesaler	1	5.56%	1	10.00%
452	General Merchandise Stores	1	5.56%	1	10.00%
513	Broadcasting and Telecommunications	1	5.56%		
522	Finance	3	16.67%	2	20.00%
541	Professional, Scientific and Technical Services				
	Advertising and Related Services	2	11.11%	1	10.00%
	Management Consulting	2	11.11%		
	Engineering	2	11.11%	1	10.00%
	Total	18	100.00%	10	100.00%

Through the matching process a list of potential participants was drafted and the firms that most closely matched the buyer firms in terms of size and their environmental and/or social performance were contacted first. Quota sampling was used to secure the ten non-user companies. Quota sampling is a nonprobabilistic method that requires a certain number of participants with predefined characteristics to be included in a study. The researcher continues to seek participants until the required number are confirmed (Palys, 2003). Of the ten non-user

firms originally selected to participate in the study, seven declined to participate. When a company expressed that it did not want to participate, I returned to my list of potential non-users and selected the next company from the related industry that most closely matched the buyer company in terms of its size and culture. All seven companies that I contacted for the second round of selection agreed to participate in the study.

The reasons that the non-user companies gave for not wanting to participate in the study included: time constraints, a general policy to not participate in public research projects, and a general indifference towards GE and how it might relate to their business. I also had to deem several companies ineligible for the study after learning more about the company from a representative. Reasons for ineligibility were that their primary facilities were located out of province or they had significant operational differences from the matched user firm. Each of these reasons is interesting in its own right and should be noted as potential obstacles to subsequent research on GE specifically and corporate ecological responsiveness in general. Also, given the fact that seven of the ten non-user firms originally selected were unwilling to participate in the study, it might be fair to argue that the companies that did participate in the study may be more motivated to discuss their environmental performance than those that were not willing to participate. It is important, therefore, to not over generalize the study's findings as an inherent volunteer bias may make it more representative of companies that tend to be more environmentally and socially proactive than the majority of firms found in each of the industries included in the study.

As discussed above, the emphasis of the study was to collect a breadth of data that represents the views of companies across a spectrum of industries rather than an in depth account of any one company or sector. To maximize the breadth of information, the data were collected during a single interview with each company. The interviews ranged from 45 minutes to two hours in length. Although there was no limit on the number of individuals each company selected to participate, 17 of the interviews were held with one representative present. Two of the remaining three interviews were held with two company representatives present and the final interview was held in two parts, the first half was with one representative and the second half was with two representatives.

Both the users and non-users were first contacted via the telephone to see if they were interested in participating in the study. With the smaller to medium size companies the receptionist was first asked who they felt would be the most appropriate person to speak with given the study's objectives. Once I made contact with this person, I informed them of the study, asked if they were the appropriate person to speak with and offered to provide them with

additional information if they were the appropriate person. If they did not feel that they were the best person to speak with, I would ask if they could give me the name of the person in the firm who was best able to provide information for the study.

My approach for recruiting participants from large companies for both users and non-users was different because of the complexity of each organization's corporate structure. In these instances, the corporate or public affairs office was first contacted about the project and asked if they could assist me in contacting a person within the company that could answer questions regarding GE procurement. Once this person was contacted I then asked if they were the appropriate person to talk with about the study, if they were, I then provided them with additional information, and eventually asked if they were willing to participate in the study.

In both approaches the decision to identify the most suitable person to participate in the study was left to the discretion of each company. I deemed this the most appropriate means to proceed because most companies are organized differently from one another. Rather than require each representative included in the study to hold the same position in every firm, the study was better served by requiring each representative to be able to authoritatively discuss the interview's three main topics. The ideal company representative participating in the study could discuss each of the following three broad topic areas: 1) how the company generally makes decisions regarding its social and environmental performance, 2) the company's general approach to electricity use, and 3) the use of GE by the company.

Given the fact that these three categories cover quite a broad range of issues, it was assumed that not every representative interviewed would be able to speak authoritatively about every question asked. In fact, only eight of the 20 interviews were held with representatives who were able to answer every question decisively. These companies were either small or medium in size and the interviewee was in every case but one the firm's President/Owner (6) or its General Manager (1), the one exception being the operations and environment manager (1) for a medium sized firm. The 15 interviewees who could answer most but not all of the questions posed were all with medium or large firms. Representatives interviewed from these firms included managers from the following departments: operations (7), environment (5), corporate social responsibility (1), legal (1) and sales and marketing (1). Given the organizational complexity of most medium and large firms, it should not be surprising that it was difficult to find one person who was able to answer all of the interview's questions. A number of participants commenting on their inability to answer a question said that even the company's Chief Executive Officer could not answer every question because quite often the decision making process to voluntarily adopt an initiative had already occurred by the time it reached the CEO's

office for final approval. Although it would have been desirable to have every participant answer all of the study's questions, the broad background of the different participants ensured that each question was answered by the majority of respondents. The self-selection of the interviewee by each of the firms, rather than study pre-designating who should respond, also helped to ensure that the respondents who were selected had experience and knowledge that was relevant to the objectives of the study.

3.3.2 Primary Interview Design and Procedure

Nineteen of the interviews were held face-to-face at each participant's place of work. The setting was either in the participant's personal office or in a private meeting room. The one interview that was not conducted face-to-face was held by telephone as per the interviewee's request. Face-to-face interviews were used in order to take advantage of both verbal and visual communication techniques, as well as an opportunity to establish a more personal rapport than would likely be developed via a telephone interview (Palys, 2003). The cost and time of travelling to each participant's location was not a significant enough deterrent to opt for telephone interviews because 18 of the companies were within a 100 kilometre radius of my location and the two remaining companies were 300 kilometres away. The one telephone interview that was conducted was done to accommodate the interviewee's schedule and to respect his or her firm's policy to maximize telephone and video conferencing opportunities in an effort to reduce its ecological impacts. Each participant was interviewed once. Nineteen of the interviews were tape recorded and later transcribed. The one participant who requested that he or she not be tape recorded did agree to my taking notes during our discussion and to make himself or herself available subsequent to the interview in case I needed further clarification on any of the points that we discussed.

3.3.2.1 Semi-Scheduled Interviewing

Before discussing the specific interview techniques used, it is important to point out that my study was part of a larger project that is researching the potential influence of the business community on the transformation of Canada's GE market. At the same time that my exploratory research was being conducted in Ontario, similar research was being done in Alberta by researchers from the University of Alberta. In order for the information from both studies to eventually be aggregated it was important for the procedures used in Ontario to be easily replicated in Alberta. Although this second set of interviews still followed a standardized, semi-scheduled structure, the criterion to replicate the procedure in Alberta required that my method

have less variance than the study's preliminary interviews with regard to "(a) the content of questions related to the central problem, (b) the exact wording of the question, (c) any context to be supplied with each question, and (d) the answer categories, if any, which are to be used" (Gorden, 1987: 45).

In addition to meeting the criterion for the method to be easily replicable, this more structured approach is in keeping with the method recommended for interviews with business "elites". Discussing business research methods Hirsh (1995: 76) states that "An interesting consensus across contributors addressing interview formats here is a clear preference for using a semi-structured format or questionnaire...In conducting elite interviews, my best information has come from having a core set of key topics and issues to cover during the course of the interview. Although the order in which they arise is allowed to follow the course of a more general discussion, I make clear there is a core set of questions to be covered and retain license to ask them before the interview is formally ended if we have not already gotten to them more informally." Thomas (1995), who also supports the semi-scheduled versus an unscheduled approach when interviewing businesses elites, argues that it is a useful strategy for "tipping the balance of power" to favour the interviewer. This balance of power is particularly important in this setting because it affords the interviewer more of an ability to keep the interview on his or her agenda as opposed to the agenda of the person being interviewed. Speaking from his personal research experience Thomas (1995: 11) makes the point that, "talk is the stock in trade of corporate executives. That is, they are paid to think and talk and, more pointedly, to talk to a wide variety of audiences...Thus it is quite common to watch an executive mentally 'rewinding the tape' in search of an appropriate phrase or monologue that appears to accord to a particular question".

Given the above arguments by Hirsh (1995) and Thomas (1995), interviewing business elites requires a careful retention of control on the part of the interviewer. Schoenberger (1991), who agrees with this approach, is also careful to point out that the interview should not be so scheduled as to frustrate the participant by unnecessarily limiting his or her ability to answer the questions in the most relevant manner possible, a situation which could also call into question the validity of the study's findings. To help find the balance between retaining topic control and ensuring that there is a sufficient level of flexibility to make the interview both engaging and open to unanticipated observations, Schoenberger (1991) suggests the use of open-ended questions in order to facilitate a "collaborative dialogue" between the interviewer and the respondent. "If the interview takes the form of an interactive dialogue rather than an undeviating journey through a fixed series of question-response pairs, the intellectual engagement of

respondents and, hence, the accuracy and validity of the responses, are likely to be much greater” (Schoenberger, 1991: 183).

3.3.2.2 Topical Interviewing

Rubin and Rubin (1995: 196) call interviews that are interested in exploring “what, when, how, and why something happened”, topical interviews. They contrast topical interviews to cultural interviews where “researchers learn the rules, norms, values, and understanding that are passed from one generation of group members to the next” (Rubin et al., 1995: 168). My study, arguably, has elements that are associated with both topical interviews and cultural interviews. Looking at the study from a topical point-of-view, one sees that it is interested in understanding *what* factors influenced whether a firm decided to adopt GE or not, *how* these factors influenced each firm’s decision to use GE or not, and *why* some firms ultimately decided to use GE while others did not. Looking at my research question from a cultural perspective, however, it is apparent that the *rules, norms, values, and understanding* of decision-makers within business organizations may play a significant role in learning more about the “what, when, how, and why” of the topic at hand.

Despite the argument that my research contains elements of both topical interviews and cultural interviews, when one looks at the suggested methods for each, it becomes apparent that my research lends itself closer to a topical interview. According to Rubin and Rubin (1995: 178) “cultural interviews are only minimally concerned with covering a set of preplanned main questions.” Researchers using topical interviewing, on-the-other-hand, need to “more actively guide the questioning” (Rubin et al., 1995: 197). Given the discussion above on the importance for the interviewer to retain topic control when interviewing business elites, my study followed the methods recommended for topical interviews. Although organizational culture may indeed prove to be a significant factor in a firm’s decision to use GE, it is but one of a number of possible factors that must be considered. The choice of using a topical interviewing technique does not mean that cultural issues cannot be explored during the interview. It may, however, require a “mini-cultural” interview to be conducted within the topical interview when unfamiliar language, ideology or processes are brought up by the participant (Rubin et al., 1995).

Topical interviewing requires thorough background research on the topic being investigated prior to holding the interviews. From this background research the study’s interview questions are then formed. Next, the questions are used by the interviewer to ensure that each interview is kept on track and that the relevant information is obtained (Rubin et al., 1995). This method of carrying out detailed background research and preparing research questions in

advance of the interview agrees with the recommended method for conducting interviews with business elites (Hirsh, 1995; Schoenberger, 1991; Thomas, 1995). The preplanning not only helps to reassure the participant that the interviewer is adequately knowledgeable about the topic being discussed but it also helps to keep the interview's topic control in the hands of the interviewer. An additional benefit of this method is that it is a more efficient means of obtaining information from participants such as business elites whose availability for in-depth interviews is generally quite restricted. Despite the emphasis on preplanning, Rubin and Rubin (1995) are also careful to point out that the formulation of questions should be a flexible process that evolves throughout the interview process to ensure that the project is able to investigate ideas and themes as they emerge.

Conducting an in-depth literature review and study of the Ontario electricity market was the first step of my research method once the thesis statement had been established. The preliminary interviews with electricity retailers and NGOs who have worked in promoting GE were then held in order to add practical information to my understanding of the Canadian GE marketplace with a particular emphasis on commercial users. Rubin and Rubin (1995: 203) argue that, "If a rich background is not available and participant observation is not possible, researchers try to learn enough to formulate focused main questions by conducting preliminary, less structured, interviews." This step was deemed necessary because although the literature on the social and environmental responsibility of business is rich, there was very little public information at the time of the study on the contextual factors that influence the willingness of businesses to use GE.

3.3.2.3 Interview Questions

With my background research complete, I then began to work out the preliminary list of questions that I wanted the study to ask. My literature review and preliminary interviews led me to conclude that the questions should cover three main topic areas in order to properly address the study's primary research question. These topic areas were: 1) the company's general approach to making decisions that affect its social and environmental performance, 2) the company's electricity procurement and usage, and 3) the voluntary use of GE by the company. Determining the different topics or themes of the interview at this stage in my design is in keeping with Kvale's (1996) suggestion that "thematizing" should take place prior to designing the actual interview process. A detailed explanation of each topic area and its research objectives can be found in section 3.3.3.

The process of setting the interview questions was aided by a published report by the National Wind Coordinating Committee (Holt et al., 2001). Included in the appendices of the study were clean copies of two surveys that were completed by 464 non-residential “green power customers” and 65 non-residential “potential green power customers” in the United States. Although a number of the surveys’ questions were not conducive to an interview format, I decided to incorporate where possible a number of its themes into my interview design in order to better facilitate comparisons between the findings of the American study and my study.

My preliminary list of interview questions consisted of 33 standardized questions for the “user” interviews and 32 standardized questions for the “non-user” interviews. By revisiting the interview design after each interview conducted I eventually reduced the number of questions to 31 standardized questions for the “users” and 27 standardized questions for the “non-users”. Twenty-one of the questions on both the user and non-user interview schedules were the same. This method of fine tuning the interview design throughout the interview process is recommended in order to account for unanticipated circumstances and findings that commonly occur once a field study begins (Gorden, 1987; Rubin et al., 1995).

The interview was made up of both open-ended and closed questions. Open-ended questions refer to questions that do not provide the answer or list of potential answers to the respondent. Closed questions are those which ask the respondent to select an answer from preset categories (Gorden, 1987). The interviews with the user firms had a total of five closed questions and 26 open questions. Interviews with non-user firms had a total of five closed questions and 22 open questions. The more frequent use of open-ended questions demonstrates the study’s intention to allow relevant categories to emerge from its findings rather than testing the frequency of preset categories. This inductive approach is consistent with the objectives of semi-scheduled interviewing (Denzin, 1989; Fontana & Frey, 2000; Gorden, 1987). Open-ended questions are also recommended by Schoenberger (1991) for interviews with business elites as a means of maintaining topic control while still encouraging the respondent to engage in a more in-depth exchange of ideas. Figure 3.1 provides an example of a typical open-ended question used in the interview. The full interview schedule for user firms can be found in Appendix A. The full interview schedule for non-user firms can be found in Appendix B.

The use of closed questions was limited to areas of inquiry that were easily quantifiable and factual in nature as opposed to opinion-based or experiential. Figure 3.2 provides an example of a closed question used in the interview.

Response cards were given to the participants for three of the closed questions. Each card required the participant to rank their preference from a number of different options. Gorden

(1987) recommends the use of response cards when there are a number of structured categories that the answer is intended to be drawn from or when the list of potential answers may be difficult to understand. The response cards were also useful to get the interviewees to talk about the related issue and to explain their rationale for their selection. The cards were collected from each participant after we had a sufficient opportunity to discuss their response.

Figure 3.1: Open-Ended Question Used in the Green Electricity “User” Interview

Q 1.3.1 How does your company determine what environmental projects become its priorities? In other words if you have a list of say 10 potential projects, how do you decide which of these projects should get addressed first and which ones can be looked at later?

Figure 3.2: Closed Question Used in the Green Electricity “User” Interview

Q 2.4 I am going to give you several ranges of average monthly electricity use. Can you please tell me which range best reflects your company’s average electricity use in Ontario?

- Less than 10,000 kWh per month
- 10,000 kWh to 20,000 kWh per month
- 20,000 kWh to 100,000 kWh per month
- 100,000 kWh to 1,000,000 kWh per month
- More than 1,000,000 kWh per month

Although the semi-scheduled format of the interview allowed for variation in the order and exact wording of the questions, an interview schedule (see appendix A and appendix B) was used during each interview to help keep the discussion on topic. The schedule was divided into three main sections. Each section represented one of the interview’s three main topic areas. A small fourth section was also included in the schedule that asked two brief questions related to each firm’s corporate profile.

Funnelling and inverted funnelling techniques were used to determine the ordering of the questions in each section (Dunn, 2000; Gorden, 1987; Kahn & Cannell, 1957). “In the funnel sequence each successive question has a narrower scope than the previous one and is either included within or related to the previous question” (Gorden, 1987: 411-412). The inverted

funnel then, perhaps not surprisingly, is where a pattern of narrower questions is followed by broader ones. Whether interview questions should follow a funnelling order, inverted funnelling order or simply stand alone will depend on the objectives of any given set of questions. Of the four most common situations listed by Gorden (1987: 413) where a funnel sequence is recommended, the following two situations applied to the particular objectives of my study's interview schedule:

1. "By asking the broadest questions first, the interview can avoid imposing perspective or frame of reference upon the discussion before obtaining the respondent's perspective...Once the respondent's perspective is discovered, the specific questions can be asked within this framework."
2. "When the objectives of the interview are both to discover unanticipated responses and to measure the frequency of responses to certain anticipated categories, then the discovery function achieved by the broader question should be pursued first."

Likewise, there were two interview situations listed by Gorden (1987: 414) which an inverted funnel sequence is recommended:

1. "When the topic of the interview is one which does not strongly motivate the respondent to speak spontaneously, either because the relevant experiences are not important to him or her or not recent enough to be vivid in the respondent's memory."
2. "If the objective of the interview is to obtain a generalization in the form of a judgment regarding some concrete situation, and if the facts of the situation are unknown to the interviewer but are known to the respondent, then the narrower questions aimed at establishing specific facts should precede the request for an overall judgment."

Section one of the interview guide (see appendix A and appendix B), titled Social and Environmental Decision-Making, provides an example of questions being structured to follow a funnel sequence. The primary objective of this section was to develop an understanding of how each company's decision-making process is carried out for initiatives that may potentially affect its corporate social and/or environmental performance. The first question in the section (Q 1.1; see full text in appendix A) was intentionally broad in nature in order to establish several objectives: 1) To understand the language used within the company to discuss environmental and social performance issues; 2) To learn how the company's decision-making process

functioned in order to align my understanding of the firm's processes with the frame of reference being used by the respondent; and 3) To start to engage the respondent's recall memory in terms of the company's response to its existing initiatives. The next set of questions in the section differentiated between initiatives related to the firm's social performance (Q 1.2, Q 1.2.1 and Q 1.2.2) and initiatives related to the firm's environmental performance (Q 1.3, Q 1.3.1 and Q 1.3.2). Using the information gained in Q 1.1, each of these sets of questions eventually focused on learning from the respondent the unique criteria used by his or her firm to evaluate the attractiveness of different social and environmental initiatives.

An example of questions being ordered in the interview schedule according to the inverted funnel sequence is found in section three of the "users" interview schedule (see appendix A). In this section Questions Q 3.2 to Q 3.2.5 are interested in learning from the respondents the attributes that they value in a GE purchase. Given the likelihood that such a question is not one that most of the study's respondents have been asked before, nor is it one that they may have given a considerable amount of thought to, I felt that their motivation to answer this question may be relatively low if asked before first learning more about their existing GE experience. In addition to this, before establishing each respondent's judgement of GE as a corporate initiative it was thought important to first understand the context in which the decision to use GE was made.

Although most of the questions asked in the interview schedule were part of either a funnel sequence or an inverted funnel sequence, several of the questions were stand alone questions: that is, each was asked without a strategic link to the question(s) that came before or after it. The stand alone questions that were included in the interview schedule were either used as pivot questions (e.g., Q 2.1 and Q 3.1) or to establish quantified data (e.g., Q 2.4, Q 4.1 and Q 4.2).

Question probes were the final tactic used in each of the study's interviews to establish the desired balance between topic control and a "collaborative dialogue". As with the preliminary interviews, all of the seven probe types listed by Gorden (1987) were used during the interview. There was, however, greater use of the three more controlling probes (i.e., retrospective elaboration, retrospective clarification, and mutation) than in the preliminary interviews because of the more complex nature of these interviews and the need for the interviewer to retain a higher degree of control. Figure 3.3 provides an example of the types of probes used for a typical question.

3.3.3 Topic Selection

As discussed above, the interview was structured around three main topics: 1) the company's general approach to making decisions that affect its social and environmental performance, 2) the company's electricity procurement and usage, and 3) the voluntary use of GE by the company. The specific questions asked for each topic were guided by the corporate ecological responsiveness literature and other studies that have looked at the adoption of GE by businesses. The same questions were asked to both the users and non-users of GE, except for in the third topic area where users were asked to talk about their actual experience with using GE and the non-users were asked a series of hypothetical questions. The order of the three topics follow a funnel sequence because the main objective of the interview was to learn from the participants the list of factors that promote and inhibit their firm's voluntary adoption of GE. In order to achieve this relatively narrow objective, it was first necessary to understand the broader context of decisions related to each firm's social and environmental performance and electricity use and procurement. The subsections below discuss each of the three topics in more detail and explain my rationale for including them in the interview.

Figure 3.3: Suggested Probes for Question 3.2.1 of the "User" Interview Schedule

- Q 3.2.1 How did your company's decision to buy green electricity play itself out?
Probe: Did a particular unit or department in your company champion the initiative?
 What units or departments within your company were involved in the decision?
 How long did the decision-making process last?
 Who made the final decision to adopt the initiative?

Examples of possible departments the interviewer can ask the interviewee about in case he/she is stuck:

What kind of role did the _____ play in your company's decision to purchase green electricity?

- Environmental department
 - CEO, owner or director
 - Parent company
 - Marketing or public relations department
 - Facilities/energy/procurement department
 - Finance or accounting department
-

3.3.3.1 Social and Environmental Decision-Making

Social and environmental decision-making was selected as a topic in order to understand the broader context that affects a firm's decision to purchase GE. Empirical studies to date that have researched the willingness of firms to purchase GE have failed to afford much attention to how such a decision relates to businesses' broader environmental and social objectives (e.g., Holt et al., 2001; Wiser et al., 2001).

This first topic area – *social and environmental decision-making* - consisted of seven standardized questions. Each of the questions, other than the first one, differentiated between a firm's decision to adopt social initiatives and its decision to adopt environmental initiatives. The reason for this differentiation is that GE, arguably, has both environmental and social attributes associated with its use. Whether or not decision-makers within firms consider GE to be more of a social initiative than an environmental initiative or vice versa is unclear from existing studies (e.g., Holt et al., 2001; Wiser et al., 2001). It is also unclear whether such a distinction would play a role in how an initiative like GE is evaluated by different firms. The literature, unfortunately, does not shed much light on the relevance that such a distinction may play in a firm's willingness to adopt an initiative because the studies to date either bundle social and environmental initiatives together (e.g., Beliveau et al., 1994; Hemingway & Maclagan, 2004; McWilliams & Siegel, 2001), focus exclusively on what influences a firm's decision to adopt environmental initiatives (Jiang et al., 2003; Sharma et al., 1999a), or look at specific social initiatives such as corporate giving (e.g., Dunn, 2004; Seifert, Morris, & Bartkus, 2003). An underlying question to this section, therefore, was whether or not companies evaluate an initiative differently depending on whether it was considered to be predominately associated with the company's social performance or predominately associated with its environmental performance.

As for the specific questions that were asked in this topic area, several key factors from the corporate ecological responsiveness literature were used to guide the type of information sought. More specifically, the topic area was considered to be successfully completed when the following information had been satisfactorily obtained:

1. corporate values (Andersson et al., 2000; Bansal, 2003);
2. the level of integration of environmental information (Banerjee, 2001; Hart, 1995; Sharma, 2000);
3. stakeholder identification and integration (Banerjee, 2001; Sharma et al., 1998);
4. the criteria used to establish issue salience (Bansal et al., 2000); and

5. the role played by different individuals within the firm in setting the company's environmental and social priorities (Banerjee, 2001; Bansal, 2003; Bansal et al., 2000; Prakash, 2000).

Each of these factors was selected because it was broad enough to allow each interviewee to address it in a manner that was most relevant to his or her firm but still ensured that the key influences discussed in the literature were being addressed by the study.

Although some questions were asked in relation to a specific factor identified by the literature, for example Q 1.3.2 asked specifically about stakeholders, most of the questions in this topic area were intended to draw out information on more than one of the factors identified. For example, question Q 1.3.1 which asked participants to identify how the firm determines what proposed environmental projects become its priorities, was intended to reveal information that related to the firm's corporate values, the integration of environmental information, criteria used to establish issue salience and the role played by different individuals in the decision-making process. Of course, such a question when asked in isolation would likely not illicit all of this information. However, the semi-scheduled interview method allowed for probes and subsequent unscheduled questions to be used for the purpose of expanding the discussion as needed.

The answers provided in this section were later used to compare the standard decision-making process used by each firm with the answers given in the third section on GE. This comparison is useful to determine how well a voluntary GE initiative meets each company's criteria for an adoptable initiative.

3.3.3.2 Electricity Usage and Electricity Decision-Making

The interview's second topic area – electricity usage and electricity decision-making – was guided by eight standardized questions. This section was intended to give the study contextual information concerning each company's electricity related priorities and decision-making. Existing studies on the use of GE by business entities have for the most part tended to look at a company's willingness to use GE in isolation of how it manages its conventional electricity issues and initiatives (e.g., Holt et al., 2001; Wiser et al., 2001). Since the purchase of GE is not one that is made in isolation from a firm's other electricity procurement and use requirements (as per responses from the preliminary interviews), I felt that it was important for the study to gain as much insight as possible about what were some of a company's major electricity requirements. Without such information it would be difficult to assess how well GE meets or at least is perceived to meet each company's standard electricity needs. With this

information in mind, the topic area was considered to be successfully completed when the subtopics were understood:

1. How companies included in the study made decisions regarding electricity procurement.
2. How companies included in the study made decisions regarding their electricity usage.
3. Each company's current electricity use.
4. How companies prioritize electricity-related initiatives that potentially improve environmental and/or social performance.

3.3.3.3 Green Electricity Procurement

This section of the interview covered perceptions of GE, the business case for GE, GE procurement decision-making, and suggestions to improve the firm's willingness to purchase GE. The questions asked in this third major section of the interview – GE procurement – differed somewhat depending on whether the company interviewed was a user or non-user. Users were asked 16 standardized questions, many of which related to their actual experience with using GE. The non-user firms were asked 14 standardized questions. Many of the non-users' questions were similar to the users', except that they were more hypothetical in nature. For example, question 3.7 of the users' interview asked: "How did your company's decision to buy GE play itself out?", meanwhile, question 3.4.5 of the non-users' guide asked, "If your company decided to purchase GE, how do you think the decision would play itself out in your company?"

Up to this point, the interview focused on establishing the business context that a decision to purchase GE takes place in (e.g., environmental and social performance strategies and electricity procurement strategies). This section addressed the direct factors that influence a firm's decision to adopt or reject GE as a voluntary initiative. Information collected from this section was compared to the information collected from the two previous sections to determine how contextual factors influenced a firm's motivation to purchase GE. By the end of this section of the interview, the study should have a clear picture of how the company currently perceives GE as a proposed initiative and what they think could be done to increase the likelihood of it being adopted in the future. This section was successfully completed when information on the following four objectives was collected:

1. How each representative perceived the concept of GE from both a personal perspective and a business perspective;
2. The decision-making process for a GE procurement;
3. The factors that promoted or inhibited the participating firms from voluntarily adopting GE;

4. The participant's preference for government policy related to GE and its development in Ontario.

The first and fourth objectives in this topic area were intended to develop a measure of the individual concern that each participant had for GE. Individual concern was identified by Bansal and Roth (2000) and Bansal (2003) as factors that influence the types of initiatives that are adopted by firms. The second objective provides information that can be used to link the decision-making process for adopting GE with the general environmental and social decision-making processes identified in the first part of the interview. Finally, the third objective was intended to draw information about the perceived pros and cons of GE as a voluntary initiative and to compare these comments with the more general corporate values discussed throughout the interview.

3.3.4 Pretest

The user and non-user interview schedules and procedures were each pretested with a neutral participant prior to the first interview. The user schedule was pretested with a participant who had previous work experience within the auto industry both as the environmental manager for a single firm and the environmental coordinator for an industry association. The test was conducted in two stages. I first conducted a face-to-face interview with the participant using the interview schedule to guide our conversation. The participant was asked to answer the questions from the perspective of a business manager. Following the interview we discussed the interview procedure and flow of specific questions. Changes were then made to the interview schedule based on the pretest results.

The non-user schedule was pretested with an environmental, health and safety manager from an automobile parts manufacturer. The test was conducted as a face-to-face interview only. The interview procedure and flow of specific questions were not discussed after the interview was completed. As was the case with the user schedule pretest, changes were made to the interview schedule following the interview.

3.3.5 Data Analysis of the Primary Interviews

As discussed in section 3.3.2, transcripts were made from 19 of the 20 primary interviews. The transcripts were based on tape recordings taken during the interview. One interview was not recorded at the request of the participant. For this interview, hand written notes were made. The participant was contacted directly for any necessary clarification.

Transcripts were coded using the same categorising and splitting and splicing method that was discussed in section 3.2.3 (Kitchin et al., 2000: 239). After the sorted categories were satisfactorily split and spliced, the disaggregated information was put back into the context of the participating firms. A partially ordered meta-matrix was used to do this. Huberman and Miles (1994: 178) describe meta-matrices as “master charts assembling descriptive data from each of several cases in a standard format...The basic principle is inclusion of all relevant (condensed) data.” The information contained in the study’s meta-matrix was eventually organized into seven main categories: organizational factors, economic factors, industry factors, individual factors, electricity salience, perception of GE, and GE decision-making. The condensed data used in the meta-matrix included codes, exemplary quotations, and summaries of more complex passages or ideas.

At this stage in the analysis summary tables that identified the motivations for adopting GE and the factors that inhibited its use could be drawn up from the partially ordered meta-matrix. This relatively straightforward assessment was possible because the information was for the most part quite explicitly stated by each of the participants. Understanding what factors promote the voluntary adoption of GE, however, was considerably more complex and required a more elaborate analytical method.

Information regarding the factors that promoted the voluntary adoption of GE needed to be condensed further than the partially ordered meta-matrix before the links and connections between possible factors could be analyzed. To do this a predictor-outcome matrix was used. “Predictor-outcome matrices array cases on a main outcome or criterion variable, and provide data for each case on the main antecedent variables that you think may be the most important contributors to the outcome. The basic principle behind the matrix is explanatory, rather than purely descriptive; we want to see whether these antecedent predict or account for the criterion variable” (Miles et al., 1994: 213). The “main outcome” in the case of this study was the decision by firms to voluntarily adopt GE. The “main antecedent variables”, therefore, are the factors that are the most likely to predict whether a firm will voluntarily adopt GE or reject it. Miles and Huberman (1994: 217) recommend that a predictor-outcome matrix is most appropriate when the objective of the study is “to see how several contributing factors function *together* in relation to different levels of a criterion measure” (emphasis in original).

The predictor variables used for this study were based on a preliminary analysis of the information contained in the partially ordered meta-matrix. This method of selecting the variables was consistent with the inductive nature of the study. The analysis showed that organizational factors, individual factors, industry factors and location factors were potentially

playing the most significant roles in influencing the participant firm's decision to use GE. The data for each of these variables are presented in chapter four.

With the predictors selected, the next step was "scaling the outcome and the predictors". At this point in the analysis the method became quasi-quantitative because the information was condensed to the point of symbols that represent different degrees of the variable being analyzed. Scaling the outcome was straightforward because either it was a firm that voluntarily used GE or it was a firm that did not use GE, therefore, there were only two possible degrees to be scaled. An explanation for the scaling used for each of the predictor variables is provided in section 5.3 in chapter 5.

Once the predictor variables were scaled, the final step prior to analyzing the factors in order to determine what influence, if any, they had on the decision of the study's user firms to adopt GE was to build the matrix. This was done in section 5.4.1 of chapter 5 and is followed by a comparative analysis of the matrix in the same section.

3.4 Materials

Materials used during both the preliminary and primary interviews included the interview schedule, tape recorder, pen and note paper. For telephone interviews an adapter was used to permit the tape recorder to record the telephone conversation. Response cards were used for three of the closed questions in the primary interviews. Each response card was written on standard 8 ½ x 11, single-sided, white paper.

All interviews were taped, provided written consent was received from the participant. Brenner (1985: 154) argues that tape recording is essential for intensive interviewing where the interviewer is "continuously busy monitoring whether his/her actions are adequate, in the context of the interview guide and the interview situation, and whether the informant's information is adequate, that is, provides acceptable and complete answers to the questions. The interview must also immediately absorb the accounts and search for inconsistencies; moreover, he/she must think forward, what questions to ask next; in more general terms, what to do next..."

Every interview except for one was tape recorded. These recordings were supplemented with written notes to record key points and probes during each interview. The taped interviews were transcribed into written text with the use of a pedal-operated transcribing machine. Qualitative data software, Atlas.ti 5.0, was used for coding and analyzing the written text.

3.5 Limitations

There were three main limitations to the research method selected for this study. The first is that the study's findings cannot be generalized beyond the firms that participated in the research. The reason for this limitation is that the 20 firms that participated in the study were sampled from a population that could quite easily number in the thousands if not the tens of thousands. Caution should be taken, therefore, to not generalize its results. However, given the exploratory nature of this research, the inability to generalize the results does not challenge its validity as it relates to the study's stated objective.

Another limitation to this study is that the primary information collected during the interviews was provided in most cases by a single firm representative and at most by two representatives. It could be argued, therefore, that the information provided may reflect the viewpoint of the respondent as much as it does the normal viewpoint of the firm. However, this method is not unique to this research. Similar single respondent methods have been conducted in other empirical studies on the factors that influence a firm's decision to adopt voluntary environmental initiatives (e.g., Andersson et al., 2000; Holt et al., 2001; Sharma et al., 1999a). In effort to validate the comments made by participants, the self-reports on organizational values and existing initiatives were verified when possible with public documents such as annual reports, corporate websites, and environmental or sustainability reports.

The study's third limitation is that it relied on the memory of a number of participants to recall historical events that related to their decision to adopt or reject GE. The reliability of how the events were recounted, therefore, may be called into question. In an effort to minimize such errors, historical questions were structured in a funnel sequence in order to help the participant to place the issue within a broader context. Gorden (1987) argues that such a technique is useful to help respondents recall past events more efficiently.

Chapter 4: Primary Research Observations

4.1 Introduction

In this chapter the data collected during the 12 preliminary interviews and 20 primary interviews along with information taken from a number of public sources are presented in a summarized format. This information will then be analyzed in chapter five to determine what factors promoted and inhibited the voluntary adoption of green electricity (GE) by the study's participants.

In chapter two, a review of the corporate ecological responsiveness literature identified a number of factors that may influence a firm's environmental performance. Although the literature did guide some of the broader topics that were discussed with the participants, none of the factors were tested directly by the study to determine whether they influence a firm's decision to voluntarily adopt GE because it was the intention of my research design to draw its findings on inductive rather than deductive analysis. The information presented in this chapter, therefore, was not pre-selected in order to test the validity of hypotheses. Instead, information that is relevant to the study was identified only after the primary research was conducted and is now presented as my observations. Because the relevant variables were drawn from the research in an inductive manner, the different factors identified by the study's participants are not weighted as their relevance was unknown at the time of the interviews. Any attempt to weigh the significance that a firm might give to a particular variable, therefore, would not accurately reflect the exploratory nature of the study. What is important from the viewpoint of my research is to determine what factors promote and inhibit the voluntary adoption of GE by the study's participants, thereby allowing the weighing of these factors to be pursued more accurately by subsequent research.

The chapter's first section - section 4.2 - looks at the information collected during the study's preliminary interviews. This information was collected from approximately 15 hours of interviews with 12 different participants. The data in this section are aggregated because it was unnecessary to link specific information to each of the preliminary participants as they were not the organizations being directly studied by the thesis.

The chapter's next two major sections - section 4.4 and section 4.5 - present and discuss the information collected during the study's primary interviews. This information was collected from approximately 25 hours of interviews with 23 different participants representing 20 different firms. The data in these two sections are disaggregated in order to determine in

chapter five what role, if any, the interplay between different firm specific factors may have played in each firm's decision to voluntarily adopt GE.

An analysis of the information and its possible links to the existing corporate ecological responsiveness literature will be discussed in chapter six.

4.2 Preliminary Green Electricity Interviews

Preliminary interviews were held with 12 participants who had experience with promoting green electricity (GE) to businesses in the Canadian marketplace. As was discussed in section 3.2 of the previous chapter, the purpose of the preliminary interviews was to add additional background information to the study's literature review prior to conducting the primary interviews.

The information in this section is presented in an aggregated format because it is not necessary for the study to attach comments made during the preliminary interviews to specific participants. The purpose of these interviews was to collect background information on the general activities and perceptions of the business community toward GE. It was not intended, therefore, to directly study the electricity retailers or environmental non-government organizations that promote GE.

I have divided the information provided during the preliminary interviews into three main topic areas: business motivation for using GE, contextual factors that promote GE use, and contextual factors that inhibit GE use. Each of these topic areas is discussed below.

4.2.1 Business Motivation for Voluntarily Adopting Green Electricity

There were five main motivations suggested during the preliminary interviews for why businesses in Canada voluntarily use GE: corporate strategic positioning, public relations, gaining market access, electricity hedging, and altruism (see table 4.1). The first two motivations, corporate strategic positioning and public relations, are closely related and may mutually motivate a company to use GE. The participants pointed out, however, that the two can also be mutually exclusive of one another. A firm which is strategically positioning itself as an environmentally-friendly or "sustainable" corporation may connect the voluntary use of GE with its existing initiatives but may not necessarily seek public recognition specifically for its GE purchase. Other firms, however, may use the voluntary use of GE as a way to capture short-term public relations benefits.

One of the participants identified that some firms are motivated to use GE because one or more of the firm's customers have included the use of GE as an environmental procurement

criteria when seeking out potential companies to negotiate contracts with. The firm in this case discussed by the interviewee was a service provider that catered to a large number of European based customers. The participant stated that this company purchased GE in part to gain access to a broader European market.

Table 4.1: Business Motivators for Voluntarily Adopting Green Electricity

1. Corporate strategic positioning
 - Differentiate company from its competitors
 2. Public Relations
 - Corporate Image (e.g., responsible, leader, community oriented)
 - Public Recognition of the firm's environmental commitment, corporate policy, product or service, supporting an emerging initiative
 3. Gain market access
 4. Hedge – smooth out energy prices
 5. Altruism
-

Electricity hedging refers to actions taken by a company to protect it from possible increases in future electricity prices. Participants interviewed during the preliminary interviews said that some companies in Canada are beginning to use GE as a hedge because its long-term price is relatively fixed. The reason that it is fixed is because once a GE facility is constructed, the cost of its generating inputs (e.g., wind, water, solar) are free and are therefore not susceptible to fluctuating commodity prices as is the case with coal and natural gas.

The final motivation identified by the preliminary participants was altruism, that is, some companies are driven to use GE because it is “the right thing to do”. Several interviewees pointed out, however, that the existence of an altruistic motive did not necessarily rule out the possibility of the firm being simultaneously driven by one or more of the other five motivations discussed above.

4.2.2 Factors that Promote the Voluntary Business Use of Green Electricity

In this section, I will look at the contextual factors identified during the preliminary interviews that promote a firm's decision to use GE. Then in the following section, section 4.2.3, I will discuss the contextual factors that the interviewees identified as being prohibitive to this decision. Contextual factors refer to the different variables that influence the actions taken by a firm. In this case I am interested in the contextual factors that influence a firm's decision to

voluntarily use GE. As was done in section 2.5, the factors have been grouped into three categories: external, organizational, and individual.

External factors are the wide range of influences that exist outside of the firm’s industry. Some of these influences include the natural environment, the economy, public pressure and government. Two external influences identified by the interviewees were societal values and indirect government regulation (see table 4.2).

Table 4.2: List of Factors Promoting the Business Use of Green Electricity

External Factors	Organizational Factors	Individual Factors
<ul style="list-style-type: none"> - Societal values <ul style="list-style-type: none"> - pro-environmental - free-market oriented - Indirect government regulations <ul style="list-style-type: none"> - Procurement - Air-quality - Public accountability reporting 	<ul style="list-style-type: none"> - Longer-term planning horizon - Proactive environmental or sustainability policy - Industry <ul style="list-style-type: none"> - “Green” firm in “brown” industry - Product or service connection to environment 	<ul style="list-style-type: none"> - Championed by firm’s leader - Employee buy-in

The participants identified societal values that are more supportive of protective environmental measures and/or a free-market philosophy as positively influencing the willingness of firms to adopt GE. The first of these values is relatively straight-forward to understand because GE is commonly linked to a cleaner environment. According to the interviewees, a “free-market” philosophy promotes the voluntary use of GE because a company is more likely to adopt GE in order to discourage the government from legislating its mandatory use.

Although the majority of the preliminary participants agreed that there is very little government pressure for firms to adopt GE, a number of them did mention that indirect government policies such as government procurement of GE, clean air regulations, and legislated social reporting requirements were causing some companies to look at GE as a more viable initiative. Government procurement of GE in at least one of the provinces was used in part as a tactic to encourage residents and businesses to also step up to the plate and voluntarily use GE for at least a portion of their electricity requirements. More directly, clean air regulations have encouraged some companies to use biomass technology as a means of converting potentially harmful waste into GE generation. Finally, the federally legislated requirement for industries such as banking and insurance to publish annual social accountability

statements was identified by a number of interviewees as influencing some of the affected firms to include GE in their list of social and environmental accomplishments.

Organizational influences include both firm and industry related factors. Three organizational factors were identified during the preliminary interviews as promoting the use of GE by businesses: a long-term planning horizon, a proactive environment or sustainability policy, and the type of industry. Participants indicated that firms with longer planning horizons were generally more willing to absorb the short-term premium cost of GE in order to receive long-term benefits. Similarly, firms with proactive environmental or sustainable policies were more likely to adopt GE as part of their overall corporate environmental strategy. Finally, firms from industries closely associated with a cleaner environment such as organic retailing and firms in industries generally viewed as “brown” or heavy polluting were identified as being at least partially influenced by their industry when considering GE as an initiative. The “green” industry firms were influenced because there is a direct tie-in to the product or service that they provide. Firms from “brown” industries were influenced because they were hoping to promote a cleaner more proactive image than what is commonly associated with their industry.

Individual influences address the role that people internal to the firm play in deciding on the different initiatives that it will adopt. The buy-in of the firm’s employees and its leader were both identified by the interviewees as promoting the likelihood of GE being adopted. Employee buy-in was seen by a number of interviewees as important because some firms buy GE as an initiative to build employee morale. The buy-in of the leader was important because, according to the participants, they were usually the person within the firm who ultimately decided whether or not GE was voluntarily adopted.

4.2.3 Factors that Inhibit the Voluntary Business Use of Green Electricity

Inhibitors are factors that discourage a firm from voluntarily adopting GE. The most significant inhibitor identified by all participants in the preliminary interviews was that GE costs more for a company to buy than conventional electricity (see table 4.3). Many of the respondents commented that after a business signs onto a green electricity contract there is no change in the quality or volume of electricity it receives through the grid, nor is there any guarantee that the electricity being directly used by the company is any greener than it was before agreeing to pay a premium for it. The participants identified that the willingness to voluntarily pay a premium with no associated improvement or change in service runs counter to the core motivations that most firms adhere to, i.e., profit and efficiency.

Table 4.3: List of Factors Inhibiting the Business Use of Green Electricity

External Factors	Organizational Factors	Individual Factors
<ul style="list-style-type: none"> - Premium Price - Government <ul style="list-style-type: none"> - Policy uncertainty (e.g., emissions credits, Kyoto Protocol, electricity market) - Renewable Portfolio Standard – seen as government versus corporate initiative - Public awareness - Economy (strength and structure) 	<ul style="list-style-type: none"> - Short-term planning horizon - Industry <ul style="list-style-type: none"> - Commodity based - Low issue salience (air quality and climate change) 	<ul style="list-style-type: none"> - Limited awareness of GE <ul style="list-style-type: none"> - Attributes - Promotional value - Availability - Trade off between adopting other initiatives

Participants in the preliminary interviews identified the following three external influences that may inhibit a firm’s decision to use GE: government, public awareness and the economy. One of the Government inhibitors frequently discussed during the preliminary interviews was a lack of clear and consistent policies regarding provincial electricity markets and climate change, two areas that the majority of participants saw as impacting GE. Another possible government related inhibitor identified by the interviewees is the Ontario government’s Renewable Portfolio Standard (RPS) which will see the province legislate 10% of its electricity from new renewable sources by 2010. Although many of the participants felt that this was in general a positive government initiative with regards to generating more GE, it was also seen as a deterrent to voluntary business purchases because businesses may feel that creating demand for GE is strictly a government responsibility.

Public awareness of GE was generally seen to be quite low by most participants. This was particularly thought to be the case in the province of Ontario. Without a strong public backing for GE many of the participants questioned the willingness of firms to voluntarily adopt it.

The status and structure of a provincial economy were also seen as factors that can influence a firm’s willingness to use GE. Several participants indicated that GE will only be viewed as a potential business initiative in time and places of strong economic performance because it is not essential to the business. The structure of the economy was also discussed as playing a role in how businesses perceive green electricity. One participant pointed out that in the province of Alberta, where the oil and gas industry is the primary economic driver, green

electricity and “greening” in general can be viewed as a potential threat to the industry’s future well-being.

The participants identified three organizational factors that can inhibit a firm’s willingness to use green electricity: the time duration of its typical planning horizon, how closely its product or service resembles a commodity, and the salience of air quality and climate change issues to the industry. A shorter-term planning horizon was seen to inhibit a firm’s likelihood to use GE because of the emphasis it places on reducing short-term costs. As GE is a premium priced item, these types of firms will be more adverse to its adoption. Similarly, commodities based industries and industries that closely resemble commodities i.e., a generic product or service that competes primarily on price, will also tend to focus more strongly on reducing short-term costs as a means to gain competitive advantage than non-commodity industries. Finally, participants observed that industries not generally associated with climate change and air quality issues have little direct connection to the social and environmental benefits frequently attributed to GE.

Two common individual inhibitors were a lack of awareness about GE as an initiative and the unwillingness of decision-makers to pursue GE over other potential initiatives. The first of these two inhibitors is similar to the lack of public awareness about GE except in this case the individuals are in a position to influence the firm internally. In addition to this obstacle, several participants pointed out that even if a company is aware of GE and its attributes, many people within different firms do not understand how to market a voluntary purchase effectively. A further awareness inhibitor is that most people responsible for procuring electricity do not recognize it as a commodity that provides many options in terms of its price and composition. For this reason, they do not actively shop around and negotiate for electricity as they would other commodities. This lack of a “shopper” mentality among electricity users means that green electricity is simply never considered as a possible option.

The final individual inhibitor identified by the preliminary interviewees is the trade-off that decision-makers may need to make between supporting GE and supporting other initiatives which may address the same or similar issue. According to the participants, GE is not just competing against conventional electricity but it is also competing with alternative environmental initiatives.

4.3 Primary Interviews

Information collected for the study’s user and non-user firms was primarily collected during the face-to-face interviews as was outlined in section 3.3 of the previous chapter. Each

interview touched on three broad topic areas: social and environmental decision-making, electricity usage and decision-making, and green electricity procurement. Following the interviews, transcripts were made from tape-recordings that were taken during each discussion. The transcripts were subsequently coded in order to categorize and eventually analyze the similarities and differences between the different participants.

The information collected during the primary interviews will be discussed in five sections. These sections are: section 4.4.2, motives for adopting GE; section 4.4.3, organizational influences; section 4.4.4, individual connection to and perceptions of GE; section 4.4.5 location, and section 4.4.6, inhibitors of GE. Sections 4.4.3 to 4.4.5 are the factors that promoted the use of GE. Each of these sections is based on my analysis of the “meta-matrix” that was developed from the coded interview transcripts. The analysis indicated that these categories were the most influential in terms of their role in the decision by firms to voluntarily use GE. A fourth indicator, industry, also played a role in the decision of some firms to use GE. This fourth indicator is not discussed directly in this chapter because industry related information is introduced in several of the sections mentioned above. Industry specific factors, however, will be analyzed in chapter five in section 5.3.2

4.4 Users Of Green Electricity

The information in this section was primarily collected from ten interviews with participants from companies that were either using GE at the time of the study or had used it in the past. All of the interviews were held face-to-face.

4.4.1 Corporate Profiles of Firms Using Green Electricity

The corporate profiles of the ten user firms that participated in the study are found in Table 4.4. The firms have been listed according to four annual revenue categories starting with the largest group of companies and ending with the smallest. The revenue categories used are: more than \$1 billion, \$100 million to \$1 billion, \$10 million to \$100 million, and \$2 million to \$10 million (all dollar values in Canadian dollars, unless otherwise stated).

Code names were assigned to each of the firms and will be used for the remainder of the thesis. The “U” at the front of the name denotes that it is a “user” firm or in other words a firm that has voluntarily used GE either at the time of the study or in the past. The letter that follows the name is an abbreviation of the firm’s industry. For example, the “F” used for firm U-F1 indicates that it is in the “finance” industry. Finally, numbers were used in the code names for industries that had more than one user firm participating. For example, there were two user

finance firms that participated in the study, to distinguish between the two firms one of the firms was listed as U-F1 and the second as U-F2. There is no significance given to the ordering of the numbers.

Table 4.4: Profile of Firms Using Green Electricity

Firm	Industry	Ownership	Annual Canadian Revenue	Average Monthly Electricity Consumption in Ontario (kWh/month)	External Environmental/Social Recognition
U-F1	Finance	Public – Cdn	> \$1 billion	> 1 million	- 2 international sustainability indices - 1 national sustainability index
U-F2	Finance	Public – Cdn	> \$1 billion	> 1 million	- In 2005 selected as one of the top 100 global sustainability companies - 2 international sustainability indices - 1 national sustainability index
U-TR1	Transportation Manufacturing	Public - Foreign	Not disclosed	Not disclosed	- In 2005 selected as one of the top 100 global sustainability companies - 2 international sustainability indices
U-R	Retail	Public – Cdn	> \$1 billion	> 1 million	- 1 national sustainability index
U-C	Construction	Private – Cdn	Not disclosed	Not disclosed	
U-E	Engineering	Private – Cdn	\$10 million to 100 million	20,000 to 100,000	
U-T	Textile Product Mills	Private - Foreign	\$10 million to 100 million	100,000 to 1 million	- In 2004 ranked as one of the top global sustainability companies
U-TR2	Transportation Manufacturing	Private - Foreign	\$10 million to 100 million	100,000 to 1 million	
U-W	Building Wholesaler	Private - Cdn	\$10 million to 100 million	100,000 to 1 million	
U-A	Advertising Agency	Private - Cdn	\$2 million to 10 million	< 10,000	

The industry type used to profile each of the companies is taken from the NAICS codes for each of the firms. These codes were described in section 3.3.1 of the previous chapter.

Ownership of the firm refers to whether the firm is publicly or privately owned and whether the firm is a foreign owned or Canadian owned company.

The “average monthly electricity consumption” in Ontario was provided by the participants. Each participant was shown a range of electricity consumption volumes and asked to identify which one reflected its operations.

Finally, the information for external environmental/social recognition was collected from a number of third-party public sources. The recognition reflects recent broad strategic environmental/social performance rather than recognition for specific initiatives.

One piece of information that is not included in Table 4.4 is the percentage of GE used by each firm relative to its total electricity consumption. The reason for this exclusion is that this information is considered proprietary in nature. However, eight of the ten user firms did

voluntarily offer this figure over the course of the interview. The percentage of GE used by each of these firms ranged from one percent to ten percent of each firm's total electricity consumption. One, two, four and five percent of electricity from GE was purchased by one firm each. The remaining four firms each bought ten percent of their electricity from GE sources. This unprompted information has not been disaggregated because of its propriety nature.

4.4.2 Motivation for the Voluntary Use of Green Electricity

An analysis of the interviews with the ten user firms revealed that there were 15 distinct motivations identified for adopting GE. Each of the motivations represented a separate code that was developed when analyzing the interview transcripts. The 15 motivations are listed in Table 4.5. In addition to listing the motivations, I have included an exemplary quotation for each one in order to demonstrate the type of response that was associated with it.

From this list of fifteen motivations, I was able to derive four sorted categories: competitive, external legitimation, internal legitimation, and altruism (see Table 4.6). Kitchin and Tate (2000: 243) have pointed out that the sorting of individual codes into broader categories is an important step that "will improve the efficiency and level of analysis at a later date." The categories used are taken from the three key motivators that were used in chapter two to explain the drivers behind corporate environmental performance. One difference between the categories used in chapter two is that I have differentiated between internal legitimation and external legitimation. External legitimation is motivated by "regulations, norms, values or beliefs" that are *external* to the firm (e.g., general public, customers, industry and shareholders). Internal legitimation is motivated by "regulations, norms, values or beliefs" that are *internal* to the firm (e.g., policies, employees, corporate culture). This distinction is made to indicate the different audiences that the firms in the thesis appealed to. The motivations identified by each of the firms have not been weighed in terms of their relative significance to the decision because it is not the intention of my study to evaluate the importance of specific factors but rather to understand what these factors are in the first place.

A review of Table 4.6 shows that external legitimation, internal legitimation and altruism were all commonly cited motivators by the study's participants. Motivations related to the firm's competitiveness on the other hand were identified by four participants. An in depth analysis of the motivators will be discussed in section 5.2 of the following chapter.

Table 4.5: Motives Experienced by User Firms for Adopting Green Electricity

Motivation	Exemplary Quotation
1. Market opportunity	"Our customer asked us to buy it so they would give us more business...That was the reason."
2. Corporate image	"I think, just, it's public perception of what we've done."
3. Customer relations	"We do a lot of the wind management stuff, we do a lot of renewables...You know, there's a credibility thing when you're committed."
4. Promotion	"So, we are looking at the marketing benefits, you know, will we get those benefits because there is no cost savings component to green power and everything has to be a business decision and this also comes down to a business decision where is the benefit to us, now there's a cost and where the benefit to us is the marketing benefit."
5. Leadership	"So for us in Ontario, it was a thing about being the first and it being a brand new product."
6. ISO 14001 certification	"It was just a part of our environmental initiative at that time." i.e., ISO 14001 certification
7. Competitor influence	"I know [name of competitor] did a 1000 MWh and we wanted, again it could be that we were in friendly competition. We wanted to purchase a bit more..."
8. Consistent with policy	"Our long term goal is to have zero emissions and use 100% renewable electricity."
9. Consistent with values	"So we know it's costing more but at the end of the day, if it fits within our corporate culture of doing things on environment or sustainability in general, we support it."
10. Reinforced emissions initiatives	"I think the number one still is our own emissions reduction...we're measuring today and we're managing it, so we'll lead with that one...Now we are looking at alternative sources. And we're looking at that - whether it be green energy - and as I mentioned...we're trying to get more information on windmills."
11. Reinforced environment initiatives	"It's an opportunity to show environmental performance. Some of my issues, asbestos for example, they don't have a good, let's say public, aspect to them. We don't want to go talking about how we have a great assessment management program...it's kind of boring."
12. Supported GE development	"The way I see it, you could put it as a donation if you want but we also realize that this particular donation has an even better effect because of the fact that it is actually contributing to enhancing more green power development throughout Ontario."
13. Consistent with personal values	"I am doing it because our employees feel it's the right thing to do and I personally think it's the right thing to do."
14. Local initiative	"The other thing is it's a group in [local community] that owns the windmill, so there was a personal connection. That made it very compelling."
15. Community support	"This is another way - that's environmental - to support the community and to have a beneficial impact."

Table 4.6: List of Green Electricity Motivators Identified by User Firms

Motivation	Total	Firms									
		U-F1	U-F2	U-TR1	U-R	U-C	U-E	U-T	U-TR2	U-W	U-A
Competitive:											
Market opportunity	1									X	
Corporate Image	2				X				X		
Customer Relations	2						X			X	
External Legitimation:											
Promotion	4		X		X			X	X		
Leadership	2	X	X								
ISO 14001 certification	1								X		
Competitor Influence	1	X									
Internal Legitimation:											
Consistent with Corporate Values	7	X	X	X	X	X	X	X			
Consistent with Corporate Policy	6	X	X	X	X			X	X		
Reinforced Emissions Initiatives	2			X	X						
Reinforced Environment Initiatives	2	X	X								
Altruism:											
Supported GE Development	7	X		X	X		X	X	X		X
Consistent with Personal Values	4				X		X		X		X
Local Initiative	1										X
Community Support	1		X								

4.4.3 Organizational Influences for User Firms

In the previous section, organizational factors such as policy, values, and existing initiatives were the influences most frequently identified by the user firms as to what motivated them to voluntarily adopt GE. Given this early observation it is fitting to look more closely at organizational influences that may affect a firm's decision to use GE. This section looks at the organizational information that was collected for each of the user firms. In order to understand how different organizational factors may be affecting the participant's decision to adopt GE, I will provide summaries of the corporate policies, decision-making process, decision-making criteria, and the different initiatives of the user firms. The information was mostly gathered during the primary interviews but some sections i.e., corporate policy and corporate initiatives were supplemented with public documents.

4.4.3.1 Corporate Environmental Policy of User Firms

Corporate environmental policies are constructed to help ensure that the decisions made and initiatives implemented by the individuals within a firm consistently reflect the priorities and values of the organization. The policies of the user firms were analyzed by the study to determine the unique priorities and values that each firm placed on its environmental performance. Three of the companies interviewed – U-C, U-A, and UW - did not have any formal environmental policy and therefore could not be assessed.

The table below was constructed after reviewing the formal environmental policies of the seven remaining user firms (see table 4.7). The main points from the different policies are listed in the left hand column. The figure is divided into four different categories: sustaining practices, proactive practices, efficiency practices, and compliance practices. The four categories represent the “phases in the development of corporate sustainability” as outlined by Dunphy et al. (2003: 22-6). Although the phases are intended to explain a firm’s sustainability strategy, I am using the explanation provided by each phase to identify where individual practices would fit into a broader sustainability spectrum. Compliance practices are those that “seek to comply with environmental laws and to minimize the firm’s potential liabilities from actions that might have an adverse impact on the environment.” Efficiency practices focus on “an attempt to reduce costs and increase efficiencies by eliminating waste and by reviewing the procurement, production and distribution process.” Practices related to a proactive strategy seek “competitive leadership through spearheading environmentally friendly practices and processes.” Finally, through sustaining practices, “the organization becomes an active promoter of ecological sustainability values and seeks to influence key participants in the industry and society in general. Environmental best practice is espoused and enacted because it is the right thing to do.”

If we look at the set of environmental policy items listed for each of the companies, U-TR1 and U-T stand out because of their significant number of sustaining practices. Four of the firms, U-E, U-F1, U-F2, and U-TR1, tend to group more in the proactive practices. The final firm’s policy, U-R, is an efficiency weighted policy primarily because it fails to provide sufficient information to gain a broader concept of the firm’s environmental objectives.

Table 4.7: List of Policy Items Included in the Environmental Policies of User Firms

		Firms									
Environmental Policy Item	Total	U-F1	U-F2	U-TR1	U-R	U-C	U-E	U-T	U-TR2	U-W	U-A
Sustaining Practices	Full-Life Cycle Responsibility	3			X			X	X		
	Best Practice	2		X	X						
	Zero-Emissions	2			X			X			
	Zero-Waste	1						X			
	Develop Sustainable Technologies	2			X			X			
Proactive Practices	Renewable Energy Use	1						X			
	Protect and Conserve the Environment	3	X				X		X		
	Sustainable Development Principles	2	X				X				
	Continuous Improvement	5	X	X	X			X	X		
	Environmental Procurement Criteria	5	X	X	X			X	X		
	Corporate Giving	2		X	X						
	Employee & Public Outreach	6	X	X	X			X	X	X	
Efficiency Practices	Environmental Management System	4	X	X	X				X		
	Waste Reduction	6	X	X	X		X	X	X		
	Pollution and Emissions Reduction	3	X			X		X			
	Efficient Energy & Materials Use	7	X	X	X	X	X	X	X		
	Risk Management	2	X	X							
Compliance Practices	Employee Health & Safety	3		X				X	X		
	Government & Industry Compliance	4	X	X	X				X		

4.4.3.2 Corporate Decision-Making Process

Each of the ten user participants were asked a series of questions intended to develop a better understanding of how social and environmental performance decisions were made in their companies. I then compared these more generic decision-making processes to how the decision to use GE was undertaken. This comparison was useful to help determine if the firms included in the study related the decision to use GE more with the processes that typically addressed its environmental performance or with the processes that typically addressed its social performance.

Seven of the ten firms currently using GE related their voluntary use more closely with its environmental performance than its social performance (see table 4.8). Only one of the firms, U-C, related it more directly with issues typically associated with its social performance. Two of the

firms, U-A and U-T, indicated that their processes related to their social performance and environmental performance were too integrated to distinguish one from the other.

Table 4.8: The Type of Initiative User Firms Associated Green Electricity With

Type of initiative GE decision was most closely associated with:	Total	Firms									
		U-F1	U-F2	U-TR1	U-R	U-C	U-E	U-T	U-TR2	U-A	U-W
Environmental initiative	7	X	X	X	X		X		X		X
Social initiative	1					X					
Social and environmental initiative	2							X		X	

Once it was established the type of initiative that the decision to voluntarily use GE was most closely associated with, the next step was to understand how decisions for these types of initiatives were generally made within each of the firms. The participants' responses to this query were then categorized into one of five different decision-making processes: top-down; top-down, bottom-up; bottom-up; centralized, and departmentalized (see table 4.9). The decision process identified for each of the firms in table 4.9 relates to the type of initiative that its GE decision was most closely related, as indicated in table 4.8. For example, U-C associated its decision to use GE most closely with a social initiative. The decision-making process for U-C identified in table 4.9, therefore, is one that depicts how it makes decisions regarding its social initiatives rather than decisions regarding its environmental initiatives. For firm U-E, however, which identified its decision to use GE more closely with an environmental initiative, the decision-making process identified in table 4.9 is one that depicts how it makes decisions regarding environmental initiatives.

In table 4.9, top-down refers to a process where targets, criteria, and the decision to adopt specific initiatives are typically made at the highest level of the firm and then filtered down for implementation. Two of the firms, U-C and U-A, followed a top-down decision-making process. The "top-down, bottom-up" process is one where general targets and criteria for performance are set at a corporate level but the decisions to adopt specific initiatives and the implementation of these initiatives are carried out more by teams of front line employees and middle-management. Three of the firms, U-E, U-T, and U-TR1, followed a top-down, bottom-up process. The bottom-up decision process is one where the ideas for specific initiatives derive primarily from front-line or middle-management employees. However, the final decision to adopt or reject the initiative will ultimately be made at a top-level. Only one of the ten user companies,

U-W, followed this process. The centralized process occurs where the majority of decisions regarding targets, criteria and initiatives are made by a specific department or committee that coordinates the implementation of initiatives throughout the organization. Although the policy guidelines are made at the executive level, the implementation of these policies is generally the responsibility of the centralized body. Three of the firms interviewed for my study, U-F1, U-F2, and U-TR2, used a centralized decisions process. The fifth process identified by the study, departmentalized, refers to a scenario where each department within the organization is generally responsible for setting and pursuing its own priorities and initiatives that address their specific set of circumstances. One of the user firms, U-R, followed this process.

Table 4.9: User Firm Decision-Making Process for Initiatives Similar to Green Electricity

Standard decision process for this type of initiative:	Total	Firms									
		U-F1 (Env)	U-F2 (Env)	U-TR1 (Env)	U-R (Env)	U-C (Social)	U-E (Env)	U-T (Both)	U-TR2 (Env)	U-W (Env)	U-A (Both)
Top-down	2					X					X
Top-down, Bottom-up	3			X			X	X			
Bottom-up	1									X	
Centralized	3	X	X						X		
Departmentalized	1				X						

4.4.3.3 Corporate Decision-Making Criteria

This subsection looks at the typical decision-making criteria used by the user firms when assessing the adoptability of an environmental and/or social initiative. Each of the participants was asked to explain how it prioritized between different environmental and social initiatives. Table 4.10 provides a snapshot of how the participants responded.

Statements such as the ones presented in Table 4.10 were labeled with one of 18 different decision-making codes. An analysis of the coded criteria revealed that there were four main categories of criteria that influenced the participant’s decision-making: competitive criteria, directed criteria, altruistic criteria, and design criteria (see table 4.11).

The first category, working from the top-down, is competitive criteria. The five criteria listed in this category relate to either a financial measure (i.e., payback and cost) or broader corporate strategies (i.e., market opportunity, reputation, and risk aversion). The five criteria found in the second category, directed criteria, are guided or directed by either external pressures (government or industry compliance) or by pre-established internal decisions (i.e., best practice, corporate targets, specific requests made by senior management and corporate

policy). The third category consists of more altruistic criteria. In this case, more subjective measures are employed such as the personal values of the owner, doing the right thing, and determining the level of positive impact the intended initiative is expected to have on the issue that it is addressing. The direct effect of the initiative on the firm's employees is also weighed more heavily in this category. The fourth and final group of decision-making criteria, design, refers to how well a specific initiative is packaged in terms of its originality, credibility, and ease of implementation.

Table 4.10: Examples of the Decision-Making Criteria Used by User Firms

Firm	Exemplary Quotation
U-F1	"We have targets we set at the beginning of the year and we pass it on to appropriate levels of management, make sure that they're followed through each year."
U-F2	"...if it fits within that context of our policy, and that is a reflection of our corporate values, if it fits in with that and if it's consistent with that, it's something that we then look at, certainly. That's not the be all and the end all but it's a starting point."
U-TR1	"[U-TRI] is infamous for monitoring and measuring. So, we set a number and we meet the number or we exceed the number. It's a stretch target too, it's not a given. So, we have to find sufficient examples of things to do that are going to meet those. So, anything that appears on that objective is obviously a top priority."
U-R	"Again, it goes back to a business case. In business cases, they can make marketing sense, it can make value sense...So we aren't siloed down just in the bottom line. It's kind of a combination, okay, what do we get out of this whole deal?"
U-C	"The owners and partners would review it and it would be based on the best decision for the community, not necessarily a financial decision."
U-E	"So, the criteria are fairly simple: does it impact on the environment, reasonably cost effective, can we manage it reasonably simply and...is it going to appeal to a pretty broad-range of my stakeholders by all means."
U-T	"We have a continuous monitoring of our matrix. It's both financial, the operational and also environmental matrix. Everything is there if you go out in the plant. The very first thing that you see is the matrix. Every employee has access to all that information. It's all posted there, including financial information of the entire corporation plus this facility. So, there's ownership out there, so now, we see where the opportunities are and the whole employee base is equal so they all focus on where the priorities in their own specific areas."
U-TR2	Mainly based on capital approvals for the most part. And again, we look at what production has planned and what they're doing and where we can piggy-back some of that stuff. It's kind of a joint effort, if you will, the managers and myself deciding what we are going to do.
U-W	"Probably, mostly we get forced into approaching it. If the government says we have to do something, then we scurry around and do it, pronto. But we do occasionally get pushed by employees on certain issues. So is it one of our leading philosophies? Probably not."
U-A	"No criteria, it's all intuitive."

It is important to point out that each criterion used is not necessarily exclusive of the others identified by a company. To understand how each firm approaches decisions regarding its environmental and/or social performance one must consider the criteria used as a whole. If,

for example, corporate policy, payback, and reputation of an initiative are three criteria used, the fact that the initiative meets an existing policy may not be enough to have it adopted if its expected payback is negative or negligible. At the same time, it is possible that the firm will look favourably on the initiative, even if there is not a clear payback associated with it, if it is thought to have a sufficient positive impact on its reputation. A detailed analysis of the decision-making criteria used by user firms is discussed in section 5.3.1.2 of chapter five.

Table 4.11: User Firm Decision Criteria for Initiatives Similar to Green Electricity

	Decision criteria used for this type of initiative:	Total	Firms									
			U-F1 (Env)	U-F2 (Env)	U-TR1 (Env)	U-R (Env)	U-C (Soc)	U-E (Env)	U-T (Both)	U-TR2 (Env)	U-W (Env)	U-A (Both)
Competitive	Payback	4	X	X		X				X		
	Cost	3	X				X				X	
	Market opportunity	1				X						
	Reputation	2	X	X								
	Risk aversion	3	X	X						X		
Directed	Best-practice	3	X	X			X					
	Addresses corporate targets	3	X		X				X			
	Requested by senior management	1	X									
	Fits corporate policy	3		X		X				X		
	Compliance	3		X		X					X	
Altruistic	Personal values of owner	2					X					X
	"The right thing to do"	1				X						
	Degree of positive impact	1						X				
	Employees involved or affected	2						X			X	
	Employee well-being	1					X					
Design	Uniqueness of initiative	1										X
	Credibility of associated third party	1										X
	Ease of implementation	1						X				

4.4.3.4 Corporate Environmental Initiatives

Corporate environmental initiatives are the final organization related influence that was assessed by the study. The information for this subsection was collected both during the interviews with the participants and when possible by consulting public documents such as annual reports and corporate websites. Each of the initiatives was placed into one of four categories: sustaining practices, proactive practices, efficiency practices, and compliance practices (see table 4.12). The definition for each of these categories was discussed in section 4.4.3.1.

Table 4.12: List of Environmental Initiatives Adopted by User Firms

			Firms									
Environmental Activities		Total	U-F1	U-F2	U-TR1	U-R	U-C	U-E	U-T	U-TR2	U-W	U-A
Sustaining Practices	Advocating a social sustainability mind shift	2			X				X			
	Design for sustainability	2			X				X			
Proactive Practices	Environment Corporate Giving	4	X	X	X	X						
	Offers green products or services	3		X	X				X			
	Public tracking of environmental progress	5	X	X	X	X			X			
	Tracking of GHG emissions	5	X	X	X	X			X			
	Environmental procurement criteria	4	X	X	X				X			
	Information sharing	5	X	X	X	X			X			
	Product redesign to reduce throughputs	2			X				X			
	Process redesign to reduce throughputs	2			X				X			
	Using alternative fuel sources (besides GE)	1				X						
	Employee environmental programs	2						X	X			
Public outreach on environment	5			X	X	X		X			X	
Efficiency Practices	Employee environmental education	6	X	X	X	X			X	X		
	Efficient energy & materials use	10	X	X	X	X	X	X	X	X	X	X
	Pollution prevention/waste minimization	7	X	X	X	X		X	X	X		
	Environmental management systems	5	X	X	X				X	X		
Compliance Practices	Asbestos removal	3	X	X						X		
	Waste control/compliance	2									X	X

A preliminary review of the data shows that the majority of initiatives fall into the proactive and efficiency categories (see table 4.12). Only two of the firms have adopted sustaining initiatives. Although compliance related initiatives were not explicitly identified by all of the firms, it was assumed that all of the firms interviewed responded appropriately to compliance related issues.

4.4.4 Individual Connection to and Perceptions of Green Electricity

In this section, information about individuals within each user firm who had an important influence on its decision to use GE is looked at. The section will first determine who within the firm was responsible for championing and approving GE. It will then assess the level of personal experience and knowledge that the different participants had regarding GE. Finally, it will discuss the personal perception that each participant had about GE.

4.4.4.1 Green Electricity Champions and Decision-Makers

The interviews with the ten user firms showed that although the actual number of actors involved in each firm’s decision to adopt GE varied, two consistent key roles were the “champion” and the “decision-maker”. The champion refers to the person in the company who promoted the voluntary adoption of GE. The decision-maker was the person who approved using company resources to purchase GE.

In five of the ten cases, the champion and the decision-maker were the same person (see table 4.13). That is, the person who had the authority to approve the initiative was the same person who promoted it as a feasible initiative. In instances such as this, the implementation of the initiative is relatively straight forward because the necessary “buy-in” has already occurred at the appropriate level. Of the five “champion/decision-makers”, four were at the top level of the corporate hierarchy (i.e., one owner, two corporate Presidents, and one CEO). The remaining champion/decision-maker was a senior level manager directly responsible for coordinating the company’s environmental performance.

Table 4.13: User Firm Green Electricity Champions and Decision Makers in User Firms

Role	Firm									
	U-F1	U-F2	U -TR1	U-R	U-C	U-E	U-T	U-TR2	U-W	U-A
Champion	CEO	Enviro Managers	Enviro Manager	Energy Manager	Owner	President	Enviro & Tech Manager	Operations Manager	Sales Staff	President
Decision-Maker	CEO	Corporate Head of Business Group	Corporate Officers	Senior VP	Owner	President	Enviro & Tech Manager	CEO & VP	President	President

Looking at the five companies that had distinct champions and decision-makers, three of the champions were the persons directly responsible for both energy use and environmental performance within their respective firms (i.e., Facility Manager, Operations Manager, and the Energy and Environment Manager). The champions at the fourth firm in this grouping were the regional sales staff at one of the wholesaler’s retail outlets. And the champions for the fifth firm were the environmental managers. The decision-makers at these five firms were all corporate executives.

4.4.4.2 Personal Green Electricity Experience of User Firm Participants

Although not directly prompted to provide a self report on their level of personal experience with GE technology, the majority of participants gave a testimony of their interest and/or experience with GE. I ranked each of these testimonies into one of three categories: high, medium, and low (see table 4.14). It is important to note that the person being interviewed was not necessarily the champion or decision-maker. This was the case with U-C, U-F1, and U-F2. For firms U-A, U-E, U-T the person who was both the champion and decision-maker was interviewed. For firms U-TR1, U-TR2, and U-R the champion was interviewed. And for firm U-W the decision-maker was interviewed.

Table 4.14: User Firm Personal Green Electricity Technology Experience

Personal GE Experience	Total	Firms									
		U-F1	U-F2	U -TR1	U-R	U-C	U-E	U-T	U-TR2	U-W	U-A
High	4			X	X		X				X
Medium	3				X			X	X		
Low	4	X	X			X				X	

A participant was given a low experience ranking if his or her personal GE experience was through first-hand observation of a third party facility such as a wind farm. Four of the participants met this definition. A medium ranking indicates that the participant had assessed the possibility of generating GE either for a residence, a client, or the company. Three participants met this criterion. Finally, a participant was considered to have high GE experience if they had actually installed GE generation either for a residence, a client, or the company. Four firms had a high level of experience with GE. Although the person interviewed for U-R had not installed on-site GE, according to the interviewee, the Senior VP who acted as the decision-maker for the initiative used solar panels to generate power at his or her cottage. While this ranking does not distinguish whether the experience was positive or negative, the user participants with medium to high personal GE experience generally provided this information to illustrate their commitment to GE. Higher levels of experience, therefore, were perceived more positively because they illustrated a more active commitment to and interest in GE.

In addition to their first-hand experience with GE, participants were also ranked according to their general knowledge of the province’s GE market and/or GE technology. Three different ranks were used to indicate the level of the participant’s knowledge (see table 4.15).

Very evident implied that the participant showed a strong knowledge of the GE market and/or GE technology. Six participants demonstrated this. A participant's knowledge of GE was ranked as evident if they showed a general understanding of the GE market and/or technology but did not demonstrate an understanding of specific details. Two of the participants demonstrated this. Finally, a participant who did not demonstrate an understanding of the Ontario GE market and/or GE technology was ranked as "not evident". This was the case for two of the participants.

Table 4.15: User Firm Personal Knowledge of Ontario's Green Electricity Market

Personal GE Knowledge	Total	Firms									
		U-F1	U-F2	U - TR1	U-R	U-C	U-E	U-T	U- TR2	U-W	U-A
Very evident	6		X	X	X		X	X	X		
Somewhat evident	2	X									X
Not evident	2					X				X	

4.4.4.3 Personal Perceptions of Green Electricity by User Firm Participants

Accurately capturing the perceptions of an individual is difficult to do under the best of circumstances. Given the fact that my interview with each participant took place during a single one-hour time period, I am careful to not over state the accuracy of how I observed each person's perception of green electricity. The table below shows how each participant generally perceived the concept of GE development in Ontario (see table 4.16). From this I can note that eight of the ten user participants were very supportive of GE and two were generally supportive but had some reservations.

4.4.5 Location Issues

Three of the user participants indicated during their interviews that the location of the GE generation facility or the GE retailer played a role in their decision to adopt GE. Exemplary quotations from participants that indicated that location affected their decision to voluntarily adopt the initiative are provided below (see table 4.17).

The remaining seven user firms interviewed did not stipulate a preference for locally generated electricity or that they were particularly influenced by the involvement of a local developer. Four of the user firms with additional Canadian locations outside of Ontario, however, did indicate that they had to consider "supporting" the GE programs in the other provinces that they operated in. Two of the firms, U-F2 and U-R, have actually stopped buying GE in Ontario and have started buying it in British Columbia. Two other firms with locations

outside of Ontario, U-E and U-F1, indicated that although they will continue to purchase GE from the Ontario market, they may eventually decide to buy it from other provinces that they operate in. At the time of the study, none of the user firms interviewed bought GE in more than one province.

Table 4.16: Personal Perception of Green Electricity by User Participants

Firm	General Perception	Exemplary Quotation	Additional Comments
U-F1	+	"I think it's great"	
U-F2	+	"I think that it is a clear hands-down winner from a sustainability perspective right."	
U-TR1	+ / -	re: energy efficiency - "...we can make better inroads there than we can trying to affect green power."	Very supportive of a decentralized GE system provided that there are sufficient natural resources available.
U-R	+	"It is the right thing and we want to kind of show that we are going to put our part into it."	
U-C	+	"I think it's going to be a generational benefit."	
U-E	+	"I am doing it because our employees feel it's the right thing to do and I personally think it's the right thing to do."	
U-T	+	"Our long term goal is to have zero emissions and use 100% renewable electricity..."	
U-TR2	+	"I think it's such a great idea, and I want to see it fly in the province like crazy."	
U-W	+ / -	"Expensive."	Generally supportive but has concerns with cost and efficiency
U-A	+	"It's the right thing."	

- + Positive perception of GE development in Ontario
- + / - Mixed perception of GE development in Ontario
- Negative perception of GE development in Ontario

Table 4.17: User Firm Location Related Issues

Firm	Exemplary Quotation
U-TR1	“If we’re not in an area that can support green power, then maybe that’s not something that we really want to support.”
U-T	“So that you have that touch and feel. There are advantages to it, being local. We can take our customers to the site and there are a couple of various other elements built into it that...then it becomes important that we have it locally. They know this facility we have, we get power from it, although electrons from that don't flow here, they are pooled.”
U-A	“The other thing is it’s a group in [local city] that owns the windmill, so there was a personal connection. That made it very compelling.”

4.4.6 Inhibitors to Voluntarily Adopting Green Electricity by User Firms

Inhibitors of green electricity are those aspects of the existing Ontario GE market or GE technology that weigh against a firm’s decision to voluntarily use it. Before looking at the specific inhibitors identified by the ten user firms, it is useful to first look at where each of the firm’s stood at the time of the study in terms of its likelihood to renew its commitment to voluntarily use GE in Ontario (see table 4.18).

Of the ten firms interviewed, two had already stopped using GE prior to the study, U-T and U-TR1. One firm, U-TR2, indicated that it will not renew its GE commitment once its current contract had expired because it was too difficult to continue to justify the cost. One of the companies, U-W, stated that its commitment to renew would depend on the ability of its current GE retailer to sell more of its energy efficient products. Two of the firms, U-F2 and U-R, indicated that they are still committed to using GE but that they wanted to purchase it from a British Columbia (BC) retailer. The decisions by these two firms to begin purchasing GE in BC were unrelated. Finally, four of the companies, U-C, U-A, U-E, and U-F1, stated that they will continue to buy GE in Ontario.

As indicated in section 4.4.4.3, the majority of the participants interviewed from the ten user firms were very receptive to GE. Despite this support there were a number of inhibitors identified by the interviewees that would either make the future use of GE by the firm unlikely or prevented it from increasing the volume of GE consumed, or were identified as barriers when they assessed GE in the past (see table 4.19).

Perhaps not surprisingly, eight of the ten user firms identified the premium price of GE as an inhibitor. In fact seven of the firms listed price as the single factor preventing them from using more of it. Closely linked to the cost of using GE was the fact that a GE purchase may

deplete the resources available within the firm to adopt other environmental or social initiatives. One of the firms, U-F1, identified this trade-off as an inhibitor, particularly if the premium paid for GE should increase. For the two companies that stated that they will continue to voluntarily use GE but in British Columbia rather than Ontario, a more stable electricity market, lower price premium, the need to support other markets, and greater public awareness of GE in British Columbia were given as reasons for shifting their commitment to another province.

Table 4.18: User Firm Likelihood of Renewing Existing Green Electricity Commitments

Likelihood of Renewing GE Commitment	Total	Firms									
		U-F1	U-F2	U-TR1	U-R	U-C	U-E	U-T	U-TR2	U-W	U-A
Will continue to buy GE in Ontario	4	X				X	X				X
Will buy GE in another province	2		X		X						
Unsure if it will continue to buy GE	1									X	
Will not continue to buy GE	1								X		
No longer buying GE at time of the study	2			X				X			

Table 4.19: Factors listed by User Firms that Inhibit the Use of Green Electricity

Direct GE Inhibitors	Total	Firms									
		U-F1	U-F2	U-TR1	U-R	U-C	U-E	U-T	U-TR2	U-W	U-A
1. Premium price	8	X	X		X	X	X		X	X	X
2. Depletes resources for other initiatives	1	X									
3. Market instability	1				X						
4. Lack of public awareness	1		X								
5. GE supplier credibility	1							X			
6. Lack of a local GE source	1							X			
7. Lack of transparency	1			X							
8. Lack of influence on generator	1			X							
9. Do not receive green electrons	1			X							

The only two firms that did not list price as an inhibitor were U-T and U-TR1. For these firms how the GE was generated and distributed was more important. Firm U-T, which at the time of the study was no longer voluntarily using GE, stated that it would resume using GE when it found a reliable generator that was both generating locally and operating according to sustainable principles - criteria that its previous GE retailer did not meet. It presently has a long-term agreement with a local GE cooperative to begin purchasing GE from it once it is

operational. Firm U-TR1, like U-T, had ceased using GE at the time of the study. Its primary concern with its previous GE contract was that it did not directly receive the green electricity electrons. This was identified as an important criterion because the company's purchasing philosophy required it to buy from local suppliers whenever possible and to directly receive the products and services that it paid for. Until the company can find a local supplier who was able to distribute its GE directly to its facilities it will not voluntarily use GE. Although firm U-TR1 had made several attempts to work with potential local suppliers, it had thus far been unsuccessful. This criterion indicates a shift in the firm's approach to GE because in the past it has made sizeable grid supplied GE purchases at a number of its North American facilities.

4.5 Non-Users Of Green Electricity

The information in this section was primarily collected from interviews with 13 different participants representing ten different firms that had never voluntarily adopted GE. All of the interviews were held face-to-face except for one which was conducted by telephone.

All of the categories and definitions that are used in this section are the same as the ones used in section 4.4 unless otherwise indicated.

4.5.1 Corporate Profiles of Firms Not Using Green Electricity

The corporate profiles of the ten non-user firms that participated in the study are found in Table 4.20. The firms have been listed according to four annual revenue categories starting with the largest group of companies and ending with the smallest. The revenue categories used are: more than \$1 billion, \$100 million to \$1 billion, \$10 million to \$100 million, and \$500,000 to \$2.

The code names given to the ten non-user firms are based on the same premise as the user firms as was discussed in section 4.4.1. The only difference is that instead of using "U" at the start of the name as was done with the user firms, "NU" is used to denote that the firm is a "non-user" of GE. All of the other categories used in the non-user profiles are the same that were used and explained in section 4.4.1.

4.5.2 Perceived Benefits of Green Electricity by Non-User Participants

Each of the participants from the ten non-user firms were asked what, if any, potential benefits they perceived to be connected with the voluntary adoption of GE. Eight of the firms identified possible benefits. The benefits have been classified into the same categories that were used in section 4.4.2.

Table 4.20: Profile of Firms Not Using Green Electricity

Firm	Industry	Ownership	Annual Canadian Revenue	Average Monthly Electricity Consumption in Ontario (KWH/month)	External Environmental/Social Recognition
NU-F1	Finance	Public - Cdn	> \$1 billion	> 1 million	- 1 international sustainability index - 1 national sustainability index
NU-F2	Finance	Public - Cdn	> \$1 billion	> 1 million	- 1 international sustainability index - 1 national sustainability index
NU-TR1	Transportation Manufacturing	Public - Foreign	> \$1 billion	> 1 million	- 1 international sustainability index
NU-R	Retail	Public - Cdn	> \$1 billion	> 1 million	
NU-TR2	Transportation Manufacturing	Private - Cdn	\$100 million to 1 billion	> 1 million	
NU-W	Building Wholesaler	Private - Cdn	\$100 million to 1 billion	20,000 to 100,000	
NU-C	Construction	Private - Cdn	\$10 million to 100 million	< 10,000	
NU-E	Engineering	Private - International	\$10 million to 100 million	20,000 to 100,000	
NU-T	Textile Product Mills	Private - Cdn	\$10 million to 100 million	100,000 to 1 million	
NU-A	Advertising Agency	Private - Cdn	\$200,000 to 2 million	< 10,000	

Benefits related to altruistic motivations were identified most frequently by the non-user firms (see table 4.21). The next most cited benefits were related to potential external and internal legitimation gains. Price stability was mentioned by one of the non-user participants as a competitive GE benefit. The interviewee was quick to add, however, that the existing price disparity between conventional and green electricity was currently too great to use GE as a hedge against volatile prices. I categorized this benefit as a competitive motivation because under the right circumstances a firm may be motivated to use GE as a means to gain a long-term energy advantage over its competitors.

Two of the firms, NU-F2 and NU-R, did not provide answers to this question because they felt that the voluntary adoption of GE was not something that they were likely to pursue at this time. The participants from NU-F2 said that if the use of GE became part of their corporate policy, then it was an initiative that could be pursued but until that happened or until the cost of GE was more competitive with conventional electricity, it would not be given serious consideration. The participants from NU-R, meanwhile, felt that the definition of green electricity was too exclusive because it did not include electricity conservation and efficiency initiatives.

Table 4.21: List of Green Electricity Benefits Identified by Non-User Participants

Benefits	Total	Firms									
		NU-F1	NU-F2	NU-TR1	NU-R	NU-C	NU-E	NU-T	NU-TR2	NU-W	NU-A
Competitive:											
Price stability	1								X		
Corporate image	2	X					X				
External Legitimation:											
Promotion	2					X		X			
Perceived as a unique initiative	1										X
Internal Legitimation:											
Consistent with values or policy	2						X				
Reinforces CSR initiatives	1	X									
Reinforces environmental initiatives	1			X							
Employee morale	3						X		X	X	
Altruism:											
Environmental benefits	7	X					X	X	X	X	X
Energy independence	2						X		X		
Community support	1										X
Cost internalization	1						X				

4.5.3 Organizational Influences of Non-User Firms

This section looks at the organizational information that was collected for each of the non-user firms in order to understand how different organizational influences may be affecting the participant’s decision to adopt GE. As was done in section 4.4.3 for the user firms, I will provide summarise of the corporate policies, decision-making process, decision-making criteria, and the different initiatives of the non-user firms. The information was mostly gathered during the primary interviews but some sections i.e., corporate policy and corporate initiatives were supplemented with public documents.

Although organizational information was collected for environmental performance and social performance related decision-making processes, decision-making criteria, and initiatives, I am presenting information that was most closely associated with environmental performance. The justification for this decision is that all of the non-user participants identified GE more readily as an environmental issue rather than a social issue. Respondents generally associated social issues more directly with human activities and well-being and environmental issues more directly with the well-being of the natural environment. Given these observations, I assumed that

the non-user firms, if faced with the decision to adopt GE would more likely view it as decision related to their environmental performance rather than their social performance. This decision is also in keeping with the information provided by nine of the ten user participants who either associated GE with their firm's environmental performance or did not differentiate between environmental performance and social performance.

4.5.3.1 Corporate Environmental Policy of Non-User Firms

Six of the ten non-user firms that participated in the study had environmental policies. As with the user firms, it was the smaller to medium sized companies that tended to not have a policy.

Individual practices listed in each firm's policy were placed into one of three categories: proactive practices, efficiency practices, and compliance practices. These categories and their definitions are the same that were used for the user firms in section 4.4.3.1. One category that is not included in Table 4.22 but was included in Table 4.7, which listed the environmental practices listed by user firms, is "sustaining practices". Although all of the non-users with environmental policies have indicated a commitment in their policies to going beyond standard practices, none of them have clearly stated a commitment to specific sustainable practices.

Most of the practices listed by the non-user firms fall into the proactive practices and efficiency practices categories (see table 4.22). One of the firms, NU-E, listed only proactive practices. According to the NU-E participant, its global policy is intentionally broad because how it is interpreted and implemented within the company will necessarily vary according to the prevalent issues of each of the different countries that it operates in.

4.5.3.2 Corporate Environmental Decision-Making Process

A top-down or departmentalized decision-making process is used by seven of the ten non-user firms for making decisions that relate to their environmental performance (see table 4.23). The top-down style of decision-making is present in all but one of the five medium-sized firms. The exception is NU-E which is part of a large international consulting group. The three firms that approach environmental decisions in a more departmentalized manner are all large corporations. Two of these three firms, NU-F1 and NU-R, pointed out during their interviews that they are in the early stages of making the environmental decision-making process more centrally coordinated. Two firms, NU-TR1 and NU-E, use a top-down, bottom-up process. Both of these firms are influenced by corporate decisions but much of the selection and implementation of specific initiatives is the responsibility of its semi-autonomous locations. The

bottom-up process was followed by one company, NU-A. This firm felt that its small size (ten employees) allows its employees to share its ideas readily with the firm's owners.

Table 4.22: List of Policy Items Included in the Environmental Policies of Non-User Firms

		Firms										
Environmental Policy Item		Total	NU-F1	NU-F2	NU -TR1	NU-R	NU-C	NU-E	NU-T	NU-TR2	NU-W	NU-A
Proactive Practices	Protect and Conserve the Environment	3	X	X	X							
	Sustainable Development Principles	2	X					X				
	Continuous Improvement	1			X							
	Environmental Procurement Criteria	3	X	X	X							
	Corporate Giving	1		X								
	Employee & Public Outreach	4	X	X	X	X						
Efficiency Practices	Environmental Management System	1			X							
	Waste Reduction	5	X	X	X	X				X		
	Pollution and Emissions Reduction	2			X					X		
	Efficient Energy & Materials Use	3	X	X	X							
	Risk Management	2	X	X								
Compliance Practices	Employee Health & Safety	1				X						
	Government & Industry Compliance	3	X	X	X							

Table 4.23: Non-User Firm Decision-Making Process for Environmental Initiatives

		Firms									
Standard decision process for environmental initiatives:	Total	NU-F1	NU-F2	NU -TR1	NU-R	NU-C	NU-E	NU-T	NU-TR2	NU-W	NU-A
Top-down	4					X		X	X	X	
Top-down, Bottom-up	2			X			X				
Bottom-up	1										X
Centralized	0										
Departmentalized	3	X	X		X						

4.5.3.3 Corporate Decision-Making Criteria

This subsection looks at the typical decision-making criteria used by the non-user firms when assessing the adoptability of an environmental initiative. Each of the participants was

asked to explain how it prioritized between different environmental initiatives. Table 4.24 provides a snapshot of how the participants responded.

Table 4.24: Examples of the Decision-Making Criteria Used by User Firms

Firm	Exemplary Quotation
NU-F1	“We have identified the most significant direct and indirect environmental impacts and use a number of criteria to decide what type of initiatives to undertake. These criteria range from cost-savings, risk management, enhanced reputation to demands by stakeholders such as employees. Interestingly, there has been little pressure from customers so far. For direct environmental impacts, there is a major challenge in trying to centralize information and set up environmental indicators to measure things like energy consumption and waste production across the hundreds of branches and departments across Canada. Our CSR Advisory Committee will be discussing this topic and coming up with a business case and recommendations on how to proceed.”
NU-F2	" So there's a fairly, I wouldn't say it's close but I would say a fairly constant sort of measuring going on comparing our position to the other financial institutions that are our direct competitors. So, we would look at that and in terms of being at the vanguard of some things, I think that's a policy decision that's made by our board committee and by our risk committee to say: "Do they want us to be at the leading edge of this particular thing? Do they want us to be in the middle of the pack? Do they want us to be above the middle of the pack?" I think in environmental initiatives, we want to be seen sort of at the middle or above the middle, but not necessarily at the leading edge..."
NU-TR1	“They recognize that...we're obviously a company that is really concerned about the natural environment and the impact to the environment and you can't go by your traditional business model for producing cars when it comes to the environment.”
NU-R	“Bottom line, money. You know, really when you look at it, the reality is that everybody wants to be environmentally friendly and responsible, but dollars and cents talk a lot...”
NU-C	“And then in terms of the environment, I see the environment really is driven for me more by what are the business opportunities”
NU-E	“Early in each year, we have a meeting where we brainstorm on what we want to do for the year... we also have a ranking system when someone, an entity, or an individual asks us for support for a local initiative so that we have a way of doing an objective quantification. Does it meet these certain criteria? How does it score?”
NU-T	“Anything that is cost saving - number one. Number two, anything that's going to protect the environment. And of course number three is safety, safety for the people that work within the facility.”
NU-TR2	“Well in today's atmosphere - bottom line. And the automotive... I'm not telling you anything you don't know probably... the automotive industry in Canada is...we're being beat-up, badly.”
NU-W	So as far as decisions go like, our owners and ourselves in management, we just try to make what we think is a good decision. We don't have any corporate guide-lines type like that unfortunately. We haven't thought we've ever needed them.
NU-A	“I would have to honestly say that we don't think about it a whole lot.”

As was indicated in section 4.4.3.3, statements such as the ones presented above were labeled with decision-making codes and then placed into one of four main categories of criteria that influenced the participant's decision-making: competitive criteria, directed criteria, altruistic criteria, and design criteria (see table 4.25).

All of the non-user firms indicated that competitive and directed criteria play an important role when assessing potential environmental initiatives. In addition to these criteria, four firms identified altruistic criteria and one firm said that it needed to take into account the ease of implementation when evaluating different initiatives. A detailed analysis of the decision-making criteria used by non-user firms is discussed in section 5.3.1.3 of chapter five.

Table 4.25: Non-User Firm Decision Criteria for Environmental Initiatives

	Decision criteria used for environmental initiatives:	Total	Firms									
			NU-F1	NU-F2	NU-TR1	NU-R	NU-C	NU-E	NU-T	NU-TR2	NU-W	NU-A
Competitive	Payback	7	X	X		X		X	X	X	X	
	Cost	4	X						X	X		X
	Market opportunity	3				X				X	X	
	Reputation	4	X	X		X				X		
	Risk aversion	3	X	X		X						
	Government incentives	1				X						
Directed	Addresses corporate targets	2			X			X				
	Fits corporate policy	1		X								
	Industry influences	4	X	X	X				X			
	"Fire Fighting"	1				X						
	Compliance	6	X	X		X			X	X	X	
Altruistic	Employee well-being	1							X			
	Employees involved or affected	2						X				X
	Degree of positive impact	2	X									X
	Community relationship building	1						X				
Design	Ease of implementation	1						X				

4.5.3.4 Corporate Environmental Initiatives

The information for this subsection was collected both during the interviews with the participants and when possible by consulting public documents such as annual reports and corporate websites. Each of the initiatives was placed into one of four previously discussed categories: sustaining practices, proactive practices, efficiency practices, and compliance practices.

The majority of the initiatives adopted by the non-user firms are either proactive practices or sustaining practices (see table 4.26). Only one of the firms, U-TR1, has adopted sustaining initiatives. The initiatives of four of the firms, NU-R, NU-TR2, NU-W, and NU-A, are all efficiency practices and/or compliance practices.

Table 4.26: List of Environmental Initiatives Adopted by Non-User Firms

Environmental Activities		Total	Firms									
			NU-F1	NU-F2	NU-TR1	NU-R	NU-C	NU-E	NU-T	NU-TR2	NU-W	NU-A
Sustaining Practices	Advocating a social sustainability mind shift											
	Design for sustainability	1			X							
Proactive Practices	Environment Corporate Giving	2	X	X								
	Offers green products or services	5	X	X	X		X		X			
	Public tracking of environmental progress	1			X							
	Public Tracking of GHG emissions	1			X							
	Environmental procurement criteria	3	X	X	X							
	Information sharing	3	X	X	X							
	Product redesign to reduce throughputs	1			X							
	Process redesign to reduce throughputs	1			X			X				
	Using alternative fuel sources (besides GE)	1		X								
	Employee environmental programs	2	X					X				
Public outreach on environment	2			X		X						
Efficiency Practices	Employee environmental education	4	X	X	X					X		
	Efficient energy & materials use	9	X	X	X	X		X	X	X	X	X
	Pollution prevention/waste minimization	7	X	X	X	X		X	X	X		
	Environmental management systems	2			X					X		
Compliance Practices	Asbestos removal	2		X		X						
	Waste control/compliance	5				X	X		X		X	X
	Pollution control/compliance	1				X						

4.5.4 Individual Connection to and Perceptions of Green Electricity

In this section information about each of the non-user participants is looked at. Although some of these participants had had direct experience with making a decision regarding their firm's voluntary use of GE, not every participant had been involved in such a decision either because their firm had not considered it in the past or the participant was not in his or her current position at the time that the initiative was reviewed. Regardless of the level of past involvement that each non-user participant had with GE, his or her personal experiences and

opinions regarding GE are important to consider as they would be able to influence such a decision if made at the time of the study.

The section will first access the level of personal experience and knowledge that the different non-user participants had regarding GE. Then it will discuss the personal perception that each participant had about GE.

4.5.4.1 Personal Green Electricity Experience by Non-User Firm Participants

As was the case with the user company interviews, the majority of non-user participants also provided a testimony of their interest and/or experience with GE during the course of the interview. The three categories used to rank the experience of the interviewees are: high, medium, and low. The definitions for these categories are the same ones that were used in section 4.4.4.2.

Seven of the ten non-user participants had low GE experience (see table 4.27). The participant from NU-TR1 indicated during the interview that his or her firm had assessed a number of different on-site and off-site GE options but none had been feasible from an efficiency standpoint. Despite this lack of success, the participant indicated that the firm was still interested in exploring GE possibilities. Participants from NU-F2 and NU-C both had high levels of GE experience. The former participant had on-site solar GE installed at one of the firm's facilities. The latter participant sold on-site GE as a value added feature of its core construction product.

Table 4.27: Non-User Personal Green Electricity Technology Experience

Personal GE Experience	Total	Firms									
		NU-F1	NU-F2	NU -TR1	NU-R	NU-C	NU-E	NU-T	NU-TR2	NU-W	NU-A
High	2		X			X					
Medium	1			X							
Low	7	X			X		X	X	X	X	X

The non-user participants were also ranked according to their general knowledge of the province's GE market and/or GE technology (see table 4.28). The three different ranks used to indicate the level of each participant's knowledge are: very evident, somewhat evident and not evident. The personal knowledge of three of the participants was not evident. Likewise, there

were three participants whose personal GE knowledge was somewhat evident. Finally, for four of the participants their knowledge of Ontario's GE market was very evident.

Table 4.28: Non-User Personal Knowledge of Ontario's Green Electricity Market

Personal GE Knowledge	Total	Firms									
		NU-F1	NU-F2	NU-TR1	NU-R	NU-C	NU-E	NU-T	NU-TR2	NU-W	NU-A
Very evident	4				X	X	X		X		
Somewhat evident	3		X	X							X
Not evident	3	X						X		X	

4.5.4.2 Personal Perceptions of Green Electricity by Non-user Firm Participants

As a concept, most of the participants interviewed from non-user firms were generally positive about the development of GE generation in the province of Ontario. As indicated in the following list of exemplary quotations, however, several of the interviewees pointed out personal misgivings about GE as a business initiative (see table 4.29). From the table below I can note that seven of the ten non-user participants were very supportive of GE, two were generally supportive but had some reservations, and one was not supportive of developing GE in Ontario because he or she felt that the province lacked the natural resources needed to generate it efficiently.

4.5.5 Location Issues

The location of the GE generator was indicated by two of the ten non-user firms as an issue that would influence their decision to use GE. Exemplary quotations from the two firms that either indicated a preference for locally sourced GE or that it affected their decision to voluntarily adopt it are provided below (see table 4.30). No other non-user firms stated that location would be an issue that they would need to consider.

Although the main criterion indicated by the exemplary quotation for NU-TR1 is the direct transmission of GE to its facilities, the participant acknowledge during the interview that this requirement would likely restrict it to either on-site or locally generated GE, provided that the transmission distance from the generator to the firm's facility was reasonable.

Table 4.29: Personal Perception of Green Electricity by Non-User Participants

Firm	General Perception	Exemplary Quotation	Additional Comments
NU-F1	+	"I mean for society in general you're going to reduce the level of greenhouse gases in the atmosphere and help fight against the effects of climate change."	
NU-F2	+ / -	"I mean, I think it's a great initiative. I think the financial formula isn't quite there to support the initiative."	Generally supportive but had concerns with cost and efficiency
NU-TR1	+	"We've looked at green energy. We've asked: is it viable to put wind turbines on-site? No it's not, not with the wind that we get. We've looked at historical weather data. We've looked at solar fuel cells. Geothermal heating. I mentioned the grass roof obviously. Co-generation. I think that there's not too much green energy that we haven't looked at and we're going to continue to look at it."	
NU-R	-	"And you're not really buying green energy, you know, it's sort of grey. So, you know, it's sort of kind of a PR thing in my perspective anyways. It's smoke and mirrors."	Felt that Ontario does not have the natural resources needed for GE. It is better to focus on energy conservation and clean rather than green energy.
NU-C	+	"I think it's a government-driven thing."	
NU-E	+	"Big picture, it's great."	
NU-T	+	"At this point in time I know very little about it, or hardly anything about it. But, anything that is green does spark my interest of course"	
NU-TR2	+ / -	Energy Manager - "The government isn't doing nearly enough to push this." President - "Clean coal technology makes more sense because it will be less disruptive and minimize cost increases."	Energy manager very supportive. President had concerns with the cost and reliability of GE.
NU-W	+	I've been over in Europe and I've seen lots and lots of wind power, wind applications. I thought, you know, I didn't see anything wrong with it. I thought it was a great idea and everything."	
NU-A	+	"I think it's fun. I would love to see more of it happening."	

- + Positive perception of GE development in Ontario
- + / - Mixed perception of GE development in Ontario
- Negative perception of GE development in Ontario

Table 4.30: Location Related Issues for Non-User Firms

Firm	Exemplary Quotation
NU-TR1	“Our first question was: would it be direct transmission? So that we would actually know that we’re getting green power.”
NU-E	I mean that the assumption is that they all have....that they’ve all gone through an EA [environmental assessment] of some kind...Based on that assumption, then I would see no difference in preference other than potentially a preference for locally sourced. Just because of the potential for less line loss in the distribution.

4.5.6 Perceived Inhibitors of Adopting Green Electricity by Non-User Participants

The participants from the non-user firms were asked what factors prevented them from voluntarily adopting GE. Fifteen inhibitors were listed (see table 4.31). As discussed in section 4.4.6, inhibitors of GE are those aspects of the existing Ontario GE market or GE technology that weigh against a firm’s decision to voluntarily use GE.

Table 4.31: Factors Identified by Non-User Firms that Inhibit the Use of Green Electricity

Direct GE Inhibitors	Total	Firms									
		NU-F1	NU-F2	NU -TR1	NU-R	NU-C	NU-E	NU-T	NU-TR2	NU-W	NU-A
1. Premium price	9	X	X	X	X	X		X	X	X	X
2. No direct link to core business	4	X	X			X					X
3. Depletes resources for other initiatives	4	X	X		X		X				
4. Lack of availability	4					X		X		X	X
5. Promotional value is minimal	4	X			X	X					X
6. Similar to a subsidy or giving to charity	2			X	X						
7. Lack of transparency	2			X	X						
8. Reliability of GE	2			X					X		
9. Reputational risk with investors	1		X								
10. Greenwashing	1				X						
11. Environmental impacts of installing new GE	1				X						
12. Do not receive green electrons	1			X							
13. Competitors not directly supporting GE	1			X							
14. Added administrative hassle	1										X
15. Should be implemented by government	1					X					

The most frequently cited inhibitor was the premium price of GE. In fact a number of the non-user participants stated that if it were not for the extra cost of GE, they would be quite willing to adopt it for at least a portion of their electricity requirements.

The four other most commonly indicated inhibitors were that GE had no direct link to the firm's business, it depletes resources for other initiatives, it was unavailable as an initiative, and that the potential promotional value of the initiative was minimal. A detailed discussion of all the inhibitors can be found in section 5.5 in chapter five.

Chapter 5: Primary Research Findings

5.1 Introduction

In this chapter I will discuss the findings from my primary research that asked the question, what factors promote and inhibit the voluntary use of green electricity (GE) by Canadian-based businesses? These findings are mainly drawn from the observations made in the previous chapter with the addition of some supplemental primary information that was collected during the interviews.

The chapter will first look at the motivations of the user firms for voluntarily adopting GE, as well as the benefits that the non-user firms have associated with its use (section 5.2). This information is presented first because it is important to understand why the participants used GE before unravelling the factors that have promoted and inhibited its use. This will be followed by a two-part analysis of the factors that influenced the study's participants to use GE which will be conducted by comparing the information collected from the user and non-user firms. The first part of the analysis will summarize the observations made in chapter four (section 5.3). The second part will then use a predicator-outcome matrix to compare the information for both the user and non-user firms in order to draw out the key factors that influenced their decision (section 5.4). After establishing the factors that promoted the adoption of GE, the chapter will finally turn its attention to those factors that inhibited its use by the study's participants (section 5.5).

5.2 Motivations for the Voluntary Use of Green Electricity

In chapter four the motivations for the voluntary use of GE by user firms were presented in section 4.4.2. A copy of the summary of these motivations originally found in Table 4.6 has been included in this chapter in order to help facilitate a further analysis of these motivations (see table 5.1). The fifteen motivations identified by the participants were placed into one of four main categories: competitive, external legitimation, internal legitimation, and altruism. Additional information about the selection of these categories is provided in section 4.4.2.

Legitimizing drivers were identified by eight of the ten user firms as at least one motivation in their decision to adopt GE. For three of the ten user firms – U-R, U-E, and U-TR2 – the adoption of GE was motivated by a mix of competitiveness, legitimation, and altruism. Four of the ten companies – U-F1, U-F2, U-TR1, and U-T – adopted it for a blend of external

and/or internal legitimation and altruism. One firm – U-C – indicated only internal legitimation as its driver.

The only firm that was competitively motivated to use GE was U-W. Although U-W was also motivated by a desire to maintain its legitimacy with its potential retail customer, this link only existed in light of its intent to open a new market opportunity for itself. The only other firm that was not motivated by either internal or external legitimation was U-A which identified its motives as altruistic. The otherwise blending of legitimating and altruistic drivers partially agrees with the findings from an American study that looked at the “non-residential demand for green power” (Holt et al., 2001). It is also consistent with a European survey on the business demand for GE (Lewis, 2003).

Table 5.1: Summary of User Firm Motivations for the Voluntary Use of Green Electricity

Motivation	Total	Firms										
		U-F1	U-F2	U-TR1	U-R	U-C	U-E	U-T	U-TR2	U-W	U-A	
Competitive:												
Market opportunity	1										X	
Corporate Image	2				X				X			
Customer Relations	2						X			X		
External Legitimation:												
Promotion	4		X		X			X	X			
Leadership	2	X	X									
ISO 14001 certification	1								X			
Competitor Influence	1	X										
Internal Legitimation:												
Consistent with Corporate Values	7	X	X	X	X	X	X	X				
Consistent with Corporate Policy	6	X	X	X	X			X	X			
Reinforced Emissions Initiatives	2			X	X							
Reinforced Environment Initiatives	2	X	X									
Altruism:												
Supported GE Development	7	X		X	X		X	X	X			X
Consistent with Personal Values	4				X		X		X			X
Local Initiative	1											X
Community Support	1		X									

At first the findings by Holt et al. (2001), which indicate that altruism is the dominant motivator in a firm’s decision to voluntarily use GE, appear to contradict the more blended motivations found here. One reason for this apparent difference is that the American study

grouped its motivations into two main categories: competitive and altruistic; rather than the three used by my study: competitiveness, legitimation, and altruism (external legitimation and internal legitimation both represent legitimation). So rather than label the most frequently cited reason for adopting GE in both studies, namely “corporate values”, as a legitimating motivation, the American study identified it as an altruistic motivation. Although the exclusion of the third category – legitimation - does not mean that the findings of the two studies are in disagreement with one another, it does mean that the findings by Holt et al (2001) appear to place a greater emphasis on altruism than is actually the case.

In addition to the difference in results that is caused by labelling “corporate values” as an altruistic motivation, rather than as a legitimation-based motivation, another important difference between the two studies is that only 10.9 percent of the user firms that were sampled by Holt et al (2001) had annual revenues greater than USD 10 million. Although my sample was much smaller, eight of the ten user firms interviewed had annual revenues that well exceeded USD 10 million. The American survey (Holt et al., 2001: 4) found that the larger firms (i.e., annual revenues greater than USD 10 million) that participated in the study, in addition to being motivated by altruism, were also looking for “tangible private benefits” (e.g., public image and catering to greens), a finding that agrees with the competitive and external legitimation values that a number of the participants in this study identified with their use of GE.

Similarly, my findings agree with a European study on the business demand for GE that found that “green electricity is not purchased in isolation from factors such as fairness, equality, sustainability and social responsibility. Nor is it purchased for its own sake. Rather, it is purchased for what it represents and in order to achieve or retain a certain consonance within the cognitions and actions of the business” (Lewis, 2003). In other words, the desire to do the right thing (i.e., “fairness, equality, sustainability, and social responsibility”) generally needed to complement a firm’s existing policies, values and initiatives in order for the firm to make a GE purchase.

My findings, therefore, support the notion that GE is not predominantly adopted for strictly competitive gains. This suggests that the traditional “business case” for GE that is often put forward by its supporters (e.g., CARE, 2003; Hanson et al., 2002) did not resonate with the study’s participants. The traditional business case includes such benefits as stabilized energy costs, a hedge against future environmental regulations, and using on-site generation to help absorb part of the company’s peak demand for electricity (i.e., peak-shaving). The only company in my study that was motivated purely by competitive drivers, U-W, had a much more straight forward reason for using GE - market access – which according to the participant was

the sole reason that it purchased GE: “Our customer asked us to buy it so they would give us more business...That was the reason.” For the other three firms that identified competitive motivators – U-R, U-E, and U-TR2 – the actual competitive gains in their case were far less clear. As the participant from U-TR2 put it, “I certainly didn’t get any phone calls...or emails saying ‘congratulations; good move; what a great idea; you know, more companies should be more forward thinking.’ It was a great way to, you know, get it out there and support the program [GE in the province] and push it.”

The mix of motivations described by the study’s participants is also consistent with observations made by prior empirical research into voluntary environmental initiatives. These studies found that more than one motivation was often evident when firms adopted voluntary environmental initiatives (Bansal et al., 2000; Labatt et al., 1998; Stratos et al., 2000).

The motivations listed in Table 5.1 also agree with four of the five motivations that were identified by GE retailers and environmental non-government organizations that participated in the study’s preliminary interviews. The motivations listed in Table 4.1 of the previous chapter included: corporate strategic positioning, public relations, market access, electricity hedging, and altruism. Corporate strategic positioning is an internal legitimation motivation because the adoption of GE is normalized by a broader set of corporate initiatives. “Public relations”, meanwhile, relates to external legitimization because the firm is seeking external recognition for its decision to adopt GE, a decision which does not necessarily need to be consistent with the firm’s existing policies and practices. Market access and electricity hedging are both competitive motivations because they may improve the long-term competitiveness of the firm. Finally, altruism represents the socially responsible reasons for adopting GE that were identified in the preliminary interviews.

From the list of motivations identified, the one motivation that was not mentioned by the ten firms using GE was electricity hedging. Hedging is a strategy to smooth out future electricity prices. While several of the firms interviewed did use hedging strategies, none of them related their decision to use GE to this strategy. The simple reason is that the gap in price between GE and conventional electricity is simply too wide in Ontario to consider it as a hedging tool. The price gap will be discussed in more detail in section 5.5.

A number of the preliminary participants also indicated that many companies had more than one reason for using GE, an observation that is verified by my study.

This section has thus far only looked at the motivation of the user firms for using GE. Omitted from the discussion has been any mention of the non-user firms and the GE benefits that were identified by them in section 4.5.2 of the previous chapter. This information has not

been discussed up to this point because I want to be careful to not over emphasize these benefits as none was ultimately strong enough to ensure the voluntary adoption of GE by the non-user firms. Although it is important for the purpose of this study to understand how businesses currently not using GE perceive it, it is also important to balance this understanding with information that is based on actual decisions versus information that is based on speculation. Given this note of caution, there are two points that I feel should be made regarding the perceived benefits of adopting GE that were identified by the non-user firms. The first point is that as was the case with the user firms, the most frequently cited benefits identified by the non-user firms related to external legitimation, internal legitimation and altruism (see table 4.21 in chapter 4). Only three of the firms identified potential competitive benefits - price stability and corporate image. However, price stability was well prefaced with a statement that indicated that the price gap between conventional electricity and GE would need to be reduced substantially before this would be a potential motivation to adopt the initiative. These similarities between the perceived benefits of GE by the non-user participants and the actual motivations identified by the user participants indicate that the user firms are aware of the reasons why a firm would adopt GE.

The second point that I would like to discuss is that there are relatively few benefits listed by the non-user firms when compared to the motivations listed by the user firms in Table 5.1. Part of this difference can be explained by the fact that two of the participants from the non-user firms felt that GE was not an initiative that their firms would likely be willing to pursue at this time and did not wish to speculate on the benefits that the hypothetical adoption of GE might provide their firms. A good portion of the remaining difference can be explained by the fact that given the current premium price of GE, seven of the eight non-user participants that did respond to this question simply could not justify adopting it as an initiative and therefore had admittedly not given the initiative much subsequent consideration.

What is interesting to consider when comparing the motivations of the user firms with the perceived GE benefits identified by the non-user firms is that although both sets of firms were faced with the obstacle of a premium priced commodity and although both sets of matched firms were selected based on the similarities of their industries, size, and environmental and/or social performance, for some reason, the user firms were influenced to adopt GE while the non-users were influenced to not adopt it. The remainder of this chapter will explore the factors that explain what these different set of influences were. In order to do this I will analyze the context in which these decisions were reached. Context in this sense are all the variables that affect organizational decision-making and their subsequent motivations and actions. In other words,

context are the factors that influence a particular kind of corporate response. It is the objective of this chapter to build a framework that helps to explain the contextual factors that have influenced some firms to adopt GE and others to reject it.

5.3 Factors that May Promote the Voluntary Use of Green Electricity

This section combines the observations for the user and non-user firms that were presented separately in chapter four. The purpose of this section is to summarize the relevant information in a manner that will allow it to be analyzed as a whole in the subsequent section - section 5.4. This analysis will draw out the contextual factors that were present with the user firms but were not present with the non-user firms and in turn influenced the user firms' decisions to voluntarily adopt GE and the non-user firms' decisions to reject it. The objective of this analysis, therefore, is not to understand the motivation of the firms regarding GE, but to understand what factors influenced their motivation and ultimately their decision to adopt or reject it.

The four subsections included in this section - organizational factors, industry factors, individual factors, and location factors - are based on my analysis of the "meta-matrix" that was developed from the coded interview transcripts which revealed that these four categories were the most important in terms of how they influenced the decision by participant firms to voluntarily use GE.

5.3.1 Organizational Factors

Legitimizing motivations such as policies and existing initiatives (e.g., environmental initiatives and emissions initiatives) were listed most frequently by user firms as the reason for adopting GE (see table 5.1). This connection between the use of GE with corporate policies, initiatives and communications, suggests that organizational factors that relate to a firm's environmental and/or social strategy may be influencing how it makes decisions regarding GE. Corporate strategy is defined by Johnson and Scholes (1999: 10) as "the direction and scope of an organisation over the longer term: which achieves advantage for the organisation through its configuration of resources within a changing environment, to meet the needs of markets and to fulfil stakeholder expectations." In order to understand how different corporate and/or environmental social strategies affected the participant's decision to adopt GE, I will compare the corporate policies, decision-making process, decision-making criteria, and the different initiatives of the user and non-user firms in the following section. The consolidated information

will then be analyzed in section 5.4 to determine what aspects, if any, of the user firms' environmental and/or social strategies have influenced their decisions to use GE.

5.3.1.1 Corporate Policy

In order to compare the environmental policies of user and non-user firms I aggregated each firm's environmental policy items according to the four main policy categories used in Table 4.7 and Table 4.22. The results are presented in Table 5.2. The policy categories are explained in section 4.4.3.1 of the previous chapter.

This aggregated comparison of user and non-user corporate environmental policies reveals two key findings. The first is that the number of total practices listed by users is more than twice that listed by non-users. This is partially explained by the fact that four of the non-user firms did not have corporate policies related to the environment as compared to three user firms with no policy. Although, as acknowledged earlier, the number of items listed in a policy may not be directly related to the extent of its environmental strategy, the policies of the user firms did generally tend to provide a greater number of specific details.

Table 5.2: Aggregated List of User and Non-User Firm Environmental Policies

Policy Items	User Firms Totals		Non-User Firms Totals	
	Number of Policy Items	Percentage of Total Policy Items	Number of Policy Items	Percentage of Total Policy Items
Sustaining Practices	10	15.9%	0	0.0%
Proactive Practices	24	38.1%	14	45.2%
Efficiency Practices	22	34.9%	13	41.9%
Compliance Practices	7	11.1%	4	12.9%
Total Number of Items	63	100.0%	31	100.0%

The second finding is that the user firms have listed a greater number of practices for each of the four categories. The most significant difference in this respect is that four of the user firms have listed sustaining practices in their policies but none of the non-users has done so. For each of the remaining three practices, user firms had approximately 1.8 times more initiatives included in their environmental policies than the non-user firms. With the ratio being slightly lower for compliance practices (i.e., 1.7 times more).

When the number of policy items for each firm in Table 4.7 and Table 4.22 is calculated for each of the four policy categories and then divided by the firm's total number of policy items, as was done in Table 5.3 and Table 5.4, the capability of using corporate environmental policy to distinguish the user firms from non-user firms becomes less clear. In Table 5.3 and Table 5.4,

I have used the percentage of total policy items for each practice to rank each firm's policy into one of four categories: sustaining, strong proactive, proactive and strong efficiency. When this was done for the user firms, two were ranked as sustaining, one as strong proactive, and four were ranked as strong efficiency. Three of the firms were not ranked because they did not have corporate environmental policies. A similar ranking of the non-user firms finds that one firm is strong proactive, and five are strong efficiency. Four were not ranked because they did not have environmental policies.

Table 5.3: Environmental Policy Ranking of User Firms

Policy Items	Total	Firms									
		U-F1	U-F2	U-TR1	U-R	U-C	U-E	U-T	U-TR2	U-W	U-A
Sustaining Practices	15.9%		9.1%	33.3%				33.3%	10.0%		
Proactive Practices	38.1%	45.5%	36.4%	33.3%			60.0%	33.3%	40.0%		
Efficiency Practices	34.9%	45.5%	36.4%	25.0%	100.0%		40.0%	25.0%	30.0%		
Compliance Practices	11.1%	9.1%	18.2%	8.3%				8.3%	20.0%		
Policy Ranking		E+	E+	S	E+	N/A	P+	S	E+	N/A	N/A

- S = Sustaining Minimum 26% of policy items listed as sustaining and minimum of 51% of policy items are proactive or sustaining.
- P+ = Strong Proactive Minimum of 51% of policy items are proactive or sustaining
- P = Proactive Minimum 26% of policy items are proactive or sustaining and minimum of 51% of policy items are efficiency, proactive, or sustaining.
- E+ = Strong Efficiency Minimum of 51% of policy items are efficiency, proactive or sustaining.
- N/A = Not Applicable No environmental policy

Table 5.4: Environmental Policy Ranking of Non-User Firms

Policy Items	Total ⁷	Firms									
		NU-F1	NU-F2	NU-TR1	NU-R	NU-C	NU-E	NU-T	NU-TR2	NU-W	NU-A
Sustaining Practices	0.0%										
Proactive Practices	45.2%	50.0%	50.0%	44.4%	33.3%		100.0%				
Efficiency Practices	41.9%	37.5%	37.5%	44.4%	33.3%				100.0%		
Compliance Practices	12.9%	12.5%	12.5%	11.1%	33.3%						
Policy Ranking		E+	E+	E+	E+	N/A+	P+	N/A	E+	N/A	N/A

- S = Sustaining Minimum 26% of policy items listed as sustaining and minimum of 51% of policy items are proactive or sustaining.
- P+ = Strong Proactive Minimum of 51% of policy items are proactive or sustaining
- P = Proactive Minimum 26% of policy items are proactive or sustaining and minimum of 51% of policy items are efficiency, proactive, or sustaining.
- E+ = Strong Efficiency Minimum of 51% of policy items are efficiency, proactive or sustaining.
- N/A = Not Applicable No environmental policy

⁷ Numbers may not add to 100, because of rounding.

Only two user firms distinguish themselves from their match-paired firms in terms of their policies: U-T and U-TR1. The remaining user firms are, in terms of their ranking, identical to their matched non-user firms. Yet even within the firms that end up being classified as the same, U-F2 and U-TR2 distinguish themselves from their matched-pair firms by each including a sustaining practice in their environmental policy. The inclusion of a single sustaining practice may indicate a greater willingness to adopt GE.

5.3.1.2 Corporate Decision-Making Process

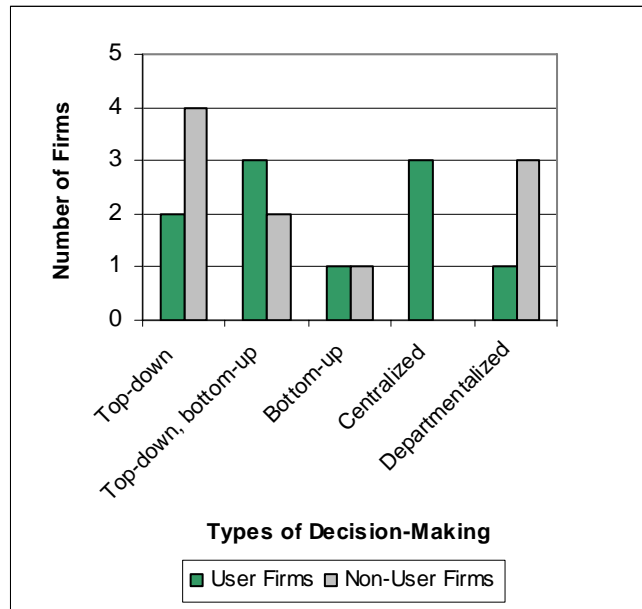
The next organizational factor that I will look at is the decision-making process that the user and non-user firms typically follow when making decisions regarding their environmental and/or social performance. For the user firms I will use the decision-making process that each company most closely associated with its GE purchase. For example, if the participant indicated that the use of GE was more closely associated with its environmental performance than its social performance, then the decision-making process that I will include is the one typically used for making decisions associated with its environmental performance. Seven of the ten user firms associated their GE purchase most closely with environmental decision-making, one with social decision-making, and two use the same process for both environmental and social decisions. Information regarding the type of process that each user firm's GE decision was mostly closely associated with is found in table 4.9.

As was discussed in section 4.5.3.2, for the non-user firms I am using the decision-making process that they most closely associated with their environmental performance because all of the non-user participants identified GE more readily as an environmental issue rather than a social issue. This decision is also in keeping with nine of the ten user firms who either associated GE with their environmental performance or did not differentiate between environmental performance and social performance. Information regarding the process that each non-user firm uses for environmental decision-making is found in Table 4.23.

Figure 5.1 shows that the two most common decision-making processes that were associated with the decision to use GE by user firms was either a "top-down, bottom-up" approach or a centralized approach. This contrasts with the non-user firms whose environmental decision-making process was most commonly associated with either a top-down process or a departmentalized process. Bottom-up was one of the least used processes for both groups of firms. The two firms that used this method were small and medium in size and generally did not feel that the nature of their businesses lent itself to causing significant direct environmental impacts. It was generally felt that if an employee wanted to pursue a cost-

effective and relatively straightforward environmental initiative than the company would support it.

Figure 5.1: Decision-Making Process for Initiatives Similar to Green Electricity



The “top-down, bottom-up” and centralized environmental decision-making processes suggest a more integrated approach to corporate environmental responsiveness than do the other three processes. Hart (1995) argued that a “shared vision” is a key element to developing a sustainable strategy. Empirical evidence for this argument was provided by Sharma (2000) and Banerjee (2001) who demonstrated a connection between the integration of environmental decision-making and a more proactive environmental performance. Given the high number of user firms using a “top-down, bottom-up” or a centralized decision-making process, it is possible that how environmental decisions are made in a firm may play a role in its decision to adopt GE. It is interesting to note that three of the four firms currently using the departmentalized approach (one user firm and two non-user firms) indicated during the interviews that they were in the process of increasing the centrality of their environmental decision-making process. This measure was generally seen by the three participants as a way to improve the coordination, efficiency and effectiveness of each firm’s environmental performance.

In section 5.4.1 the individual decision-making process used by each of the user firms will be compared with the decision-making process of their matched-pair non-user firms. This

information was not included in this section as it would have only restated what was presented in sections 4.4.3.2 and 4.5.3.2 of the previous chapter.

5.3.1.3 Corporate Decision-Making Criteria

In the previous chapter, Table 4.11 and Table 4.25 listed the criteria generally used by each of the user and non-user firms for making decisions regarding their environmental performance. The one exception being that the criteria listed for U-C in Table 4.11 relate to its social performance because its decision to use GE was most closely identified with its existing social initiatives. The tables grouped the criteria into four categories: competitive, directed, altruistic, and design. An explanation for each of these categories is provided in section 4.4.3.3 of the previous chapter.

An aggregated look at the two groups' criteria shows that the non-user firms listed competitive criteria noticeably more readily than the user firms (see table 5.5). This finding lends itself well to the argument that companies that do not place as strong an emphasis on competitive criteria with regards to their environmental decision-making are more likely to adopt GE. However, upon further investigation, the issue is not as straight forward as this and must be disaggregated in order to develop a better understanding of the nuances that exist between different firms.

Table 5.5: Aggregated List of Decision Criteria for Initiatives Similar to Green Electricity

Criteria Category	User Firms Totals		Non-User Firms Totals	
	Number of Criteria	Percentage of Total Criteria	Number of Criteria	Percentage of Total Criteria
Competitive	13	36.1%	22	51.2%
Directed	13	36.1%	14	32.6%
Altruistic	7	19.4%	6	14.0%
Design	3	8.3%	1	2.3%
Total	36	100.0%	43	100.0%

When, for each firm, the number of criteria for each of the four categories is divided by the firm's total number of criteria, it becomes apparent that only five of the non-user firms, NU-R, NU-C, NU-T, NU-W, and NU-A, are noticeably more apt to favour competitive criteria in their decision-making than are their respective matched user firms, U-R, U-C, U-T, U-W, and U-A (see table 5.6 and 5.7). Four of the non-user firms, NU-F1, NU-F2, NU-TR1 and NU-E, appear to have little or no difference in their use of competitive criteria when compared to their matched pairs, U-F1, U-F2, U-TR1 and U-E. One of the non-user firms, NU-TR2, indicated a somewhat

higher tendency to use competitive criteria than its matched-pair, U-TR2, but the non-user firm still placed a greater emphasis on competitive criteria. What then, if anything, distinguishes the criteria used by user firms from that used by the non-user firms? To answer this question, it is necessary to look once again at the individual criteria for each of the firms (Table 4.11 and Table 4.25).

Table 5.6: User Firm Criteria Categories for Initiatives Similar to Green Electricity

Criteria Category	Total	Firms									
		U-F1	U-F2	U-TR1	U-R	U-C	U-E	U-T	U-TR2	U-W	U-A
Competitive	36.1%	57.1%	50.0%		25.0%	25.0%	25.0%		66.7%	33.3%	
Directed	36.1%	42.9%	50.0%	100.0%	50.0%	25.0%		100.0%	33.3%	33.3%	
Altruistic	19.4%				25.0%	50.0%	50.0%			33.3%	33.3%
Design	8.3%						25.0%				66.7%

Table 5.7: Non-User Firm Criteria Categories for Initiatives Similar to Green Electricity

Criteria Category	Total	Firms									
		NU-F1	NU-F2	NU-TR1	NU-R	NU-C	NU-E	NU-T	NU-TR2	NU-W	NU-A
Competitive	51.2%	57.1%	50.0%		60.0%	66.7%	25.0%	40.0%	80.0%	66.7%	33.3%
Directed	32.6%	28.6%	50.0%	100.0%	40.0%		25.0%	40.0%	20.0%	33.3%	
Altruistic	14.0%	14.3%					50.0%	20.0%			66.7%
Design	2.3%					33.3%					

Table 5.8 and Table 5.9 are reproduced from Table 4.11 and Table 4.25 from the previous chapter. The criteria rankings found at the bottom of Table 5.8 and Table 5.9 have been added in this chapter. Definitions for each of the three ranks used, proactive, efficiency, and altruistic can be found at the bottom of each table.

As was noted above, an explanation for each of the four categories used in Table 5.8 and Table 5.9 is provided in section 4.4.3.3 of the previous chapter. “Directed”, the second category, however, needs some additional explanation in order to differentiate between reactive and proactive criteria. Directed criteria refer to criteria that are used to guide the types of decision adopted by the firm. These can be either external criteria such as government regulation, unanticipated events, and industry norms or internal criteria such as corporate policies, requests by management, pre-established goals and the decision to adopt best practices. These criteria can in turn be looked at in terms of whether they promote reactive or

proactive environmental responses. Reactive practices, according to Sharma (2000: 683), are motivated by a perceived need “to fulfill environmental regulations or conform to standard practices”. The three “external” criteria (i.e., industry influences, fire fighting, and compliance) are generally more reactive than the “internal” criteria (i.e., best practice, addresses corporate targets, requested by senior management, and fits corporate policy) because the firm is responding to a driver that is initiated outside of the firm. A proactive response, on the other hand, “represents a consistent pattern of company actions taken to reduce the environmental impact of operations, not to fulfill environmental regulations or to conform to standard practices” (Sharma, 2000: 683).

As was indicated in Table 5.5, the non-user firms as a group were more likely to state that they used competitive criteria when determining whether or not to adopt an environmentally related initiative than were the user firms. A line-by-line look at the competitive criteria used reveals that the biggest difference between the user and non-user firms is that seven of the non-user firms indicated that a voluntary initiative should generally have a clear financial payback in order to be pursued, compared to only a few of the user firms (see table 5.8 and table 5.9). Cost, market opportunity, reputation and government incentives were also more frequently indicated by non-user firms than user firms as key criteria although the difference in the number of responses only ranged between one and two.

Of the four internal criteria discussed above, at least three can be argued to be proactive, assuming that they are not required by legislation, because it is the firm itself that initiates the action. Corporate policy, depending on whether it is simply a policy to comply with government regulations and industry norms or to exceed them, can be either reactive or proactive. For this reason I view policy as neutral because it simply reflects the predetermined decision by a firm to be formally reactive or proactive. Using the criterion, “fits corporate policy”, to divide the proactive internal criteria from the reactive external criteria reveals that five of the user firms have indicated the use of proactive criteria compared to two non-user firms. The opposite holds true for the reactive criteria which was indicated by six non-user firms and two user firms. Although one of the user firms, U-F2, listed both proactive and reactive directed criteria, their use of the best practice criterion indicates more proactive decision-making than its matched pairs NU-F1 and NU-F2.

The division of firms into proactive and reactive groupings should not be done in isolation of the other three categories included in Table 5.8 and Table 5.9, namely competitive, altruism and design. Indeed, all of the firms interviewed for the study indicated a strong willingness to adopt voluntarily initiatives with clear economic benefits to the firm. Despite this

similarity between both user and non-user firms, the separation of directed criteria into proactive and reactive groupings reveal a greater tendency by some user firms to voluntarily adopt practices that may not have a clear economic benefit to the firm or are not driven by external forces provided that it is a best practice, addresses a pre-established corporate target or is requested by senior management – as indicated by the highlighted boxes in Table 5.8 and Table 5.9.

Table 5.8: Decision Criteria Ranking of User Firms

	Decision criteria used for this type of initiative:	Total	Firms									
			U-F1 (Env)	U-F2 (Env)	U-TR1 (Env)	U-R (Env)	U-C (Soc)	U-E (Env)	U-T (Both)	U-TR2 (Env)	U-W (Env)	U-A (Both)
Competitive	Payback	4	X	X		X				X		
	Cost	3	X				X				X	
	Market opportunity	1				X						
	Reputation	2	X	X								
	Risk aversion	3	X	X						X		
	Government incentives	0										
Directed	Best-practice	3	X	X			X					
	Addresses corporate targets	3	X		X				X			
	Requested by senior management	1	X									
	Fits corporate policy	3		X		X				X		
	Industry influences	0										
	"Fire Fighting"	0										
	Compliance	3		X		X					X	
Altruistic	Personal values of owner	2					X					X
	"The right thing to do"	1				X						
	Degree of positive impact	1						X				
	Employees involved or affected	2						X			X	
	Employee well-being	1					X					
Design	Uniqueness of initiative	1										X
	Credibility of associated third party	1										X
	Ease of implementation	1						X				
Criteria ranking			P	P	P	E	P	A	P	E	E	A

P = Proactive

Firms that have identified at least one of the following criteria as part of their decision-making process for the types of initiatives most closely associated with the voluntary use of GE: best practice, addresses corporate targets, and requested by senior management.

E = Efficiency

Firms that have identified predominately competitive criteria as part of their decision-making process for the types of initiatives most closely associated with the voluntary use of GE and did not identify any of the three proactive drivers: best practice, addresses corporate targets, or requested by senior management.

A = Altruistic

Firms that have identified predominately altruistic and design criteria as part of their decision-making process for the types of initiatives most closely associated with the voluntary use of GE and did not identify any of the three proactive drivers: best practice, addresses corporate targets, or requested by senior management.

In order to differentiate the criteria being used by the firms that participated in the study, each company has been given one of three possible criteria rankings: proactive, efficiency, or altruistic. An explanation of each ranking is provided at the bottom of Table 5.8 and Table 5.9.

Table 5.9: Decision Criteria Ranking of Non-User Firms

	Decision criteria used for environmental initiatives:	Total	Firms									
			NU-F1	NU-F2	NU-TR1	NU-R	NU-C	NU-E	NU-T	NU-TR2	NU-W	NU-A
Competitive	Payback	7	X	X		X		X	X	X	X	
	Cost	4	X					X	X			X
	Market opportunity	3				X			X	X		
	Reputation	4	X	X		X			X			
	Risk aversion	3	X	X		X						
	Government incentives	1				X						
Directed	Best Practice	0										
	Addresses corporate targets	1			X			X				
	Requested by senior management	0										
	Fits corporate policy	1		X								
	Industry influences	3	X	X	X			X				
	"Fire Fighting"	1				X						
	Compliance	6	X	X		X		X	X	X		
Altruistic	Employee well-being	1						X				
	Employees involved or affected	2					X				X	
	Degree of positive impact	2	X									X
	Community relationship building	1					X					
Design	Ease of implementation	1					X					
Criteria Ranking			E	E	P	E	E	P	E	E	E	A

- P = Proactive
Firms that have identified at least one of the following criteria as part of their environmental performance decision-making process: best practice, addresses corporate targets, and requested by senior management.
- E = Efficiency
Firms that have identified predominately competitive criteria as part of their environmental performance decision-making process and did not identify any of the three proactive drivers: best practice, addresses corporate targets, or requested by senior management.
- A = Altruistic
Firms that have identified predominately altruistic and design criteria as part of their environmental performance decision-making process and did not identify any of the three proactive drivers: best practice, addresses corporate targets, or requested by senior management.

As was the case with the “top-down, bottom-up” and centralized decision-making processes that were assessed in the previous section, the inclusion of proactive decision-

making criteria may indicate a more integrated approach to environmental decision-making, which Sharma (2000) and Banerjee (2001) have argued leads to improved environmental performance. If this is the case, then this may in turn help to explain why some firms have decided to use GE while others have not. It cannot be the only factor, however, because not every user firm indicated that it used proactive criteria, nor did every non-user firm use reactive criteria.

5.3.1.4 Corporate Initiatives

This section has looked thus far at the corporate environmental policies, corporate decision-making processes, and corporate decision-making criteria of the user and non-user firms that participated in the study. In this final section on organizational factors, I will look at the actual initiatives that each of the firms have adopted. The information used in the analysis was obtained during the interviews and from publicly available sources.

By adding the total number of user and non-user initiatives listed in Table 4.12 and Table 4.26, we see that the total number of user firm initiatives is about 37 percent higher than the total number listed by non-user firms (see table 5.10). When looked at according to the four categories established in section 4.4.3.4, the proactive and sustaining initiatives make up over 56 percent of the total number of user initiatives but only 44.5 percent of initiatives adopted by non-users. This indicates that firms that adopt more sustaining and proactive initiatives may be more influenced to adopt GE as it is not a practice that is required for compliance purposes nor does it improve a firm’s efficiency.

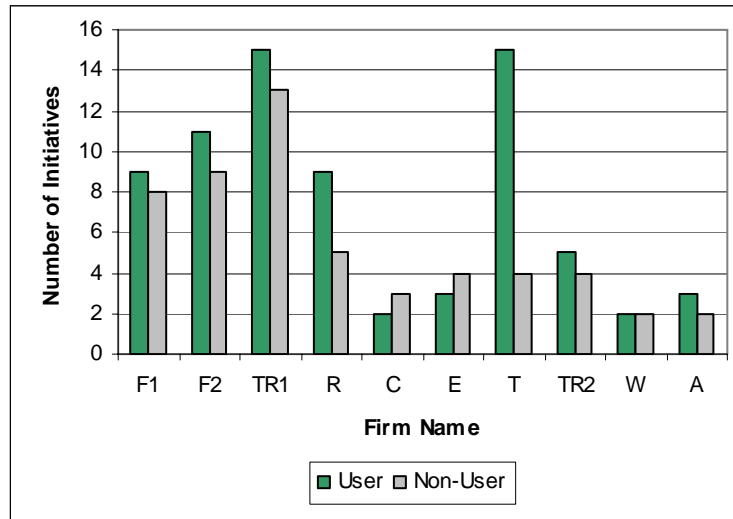
Table 5.10: Aggregated List of Environmental Initiatives

Initiative Category	User Firms Totals		Non-User Firms Totals	
	Number of Initiatives	Percentage of Total Initiatives	Number of Initiatives	Percentage of Total Initiatives
Sustaining	4	5.4%	1	1.9%
Proactive	38	51.4%	23	42.6%
Efficiency	28	37.8%	22	40.7%
Compliance	4	5.4%	8	14.8%
Total	74	100.0%	54	100.0%

As was the case with decision-making criteria, the picture becomes less clear when the information is broken down to the firm level. When for each firm, the total number of initiatives is taken from Table 4.12 and Table 4.26 and compared against its respective matched-pair as was done in Figure 5.2, it is evident that only two of the user firms, U-R and U-T, have noticeably

more initiatives than their matched non-user firms, NU-R and NU-T. The remaining eight pairs of firms only differ by a maximum of two initiatives.

Figure 5.2: Total Initiatives by Firm



An analysis of the firms based on their relative share of the four different categories of initiatives also sheds little light on whether the initiatives adopted by the participant companies influences their decision to use GE. When for each firm, the number of initiatives for each of the four categories is divided by the firm’s total number of initiatives, only three of the user firms, U-R, U-T, and U-A, have a greater percentage of proactive initiatives than their non-user matches, NU-R, NU-T, and NU-A (see table 5.11 and table 5.12). Two of these three firms, U-R and U-T, have already been shown in Figure 5.2 to have differentiated themselves from their respective matched firms. One of the non-user firms, NU-C, has actually adopted a slightly higher percentage of proactive initiatives than its user matched firm, U-C. The remaining six user firms, U-F1, U-F2, U-TR1, U-E, U-TR2, and U-W, appear to have little if any difference from their non-user matches in terms of the distribution of their environmental initiatives. Once again a look at the specific initiatives adopted by each firm is required to develop a better understanding of where possible differences may exist between the user and non-user firms.

A review of the initiatives in Table 4.12 and Table 4.26 from the previous chapter, shows that there are two proactive initiatives that are particularly important to draw attention to in order to make an additional distinction between the types of initiatives adopted by the two groups of firms. The two initiatives are publicly accessible environmental metrics and public tracking of the firm’s greenhouse gas emissions (see table 5.13 and table 5.14). Five of the user firms, U-F1,

U-F2, U-TR1, U-R, and U-T, were publicly reporting this information at the same time that the study was conducted. Only one non-user firm, NU-TR1, publicly reported this information at the time of the study.

Table 5.11: Environmental Initiatives Ranking of User Firms

Environmental Initiatives	Total	Firms									
		U-F1	U-F2	U-TR1	U-R	U-C	U-E	U-T	U-TR2	U-W	U-A
Sustaining Practices	5.4%			13.3%				13.3%			
Proactive Practices	51.4%	55.6%	54.5%	60.0%	66.7%	50.0%	33.3%	60.0%			33.3%
Efficiency Practices	37.8%	44.4%	36.4%	26.7%	33.3%	50.0%	66.7%	26.7%	80.0%	50.0%	33.3%
Compliance Practices	5.4%		9.1%						20.0%	50.0%	33.3%
Initiative Ranking		P+	P+	P+	P	P	P	P+	E+	E	P

- S = Sustaining Minimum 26% of initiatives are sustainable and minimum of 51% of policy items are proactive or sustaining.
- P+ = Strong Proactive Minimum of 51% of initiatives are proactive or sustaining.
- P = Proactive Minimum 26% of initiatives are proactive and minimum of 51% of policy items are efficiency, proactive, or sustaining.
- E+ = Strong Efficiency Minimum of 51% of initiatives are efficiency, proactive, or sustaining.
- E = Efficiency Minimum of 26% of initiatives are efficiency and minimum of 51% of policy items are efficiency, proactive or sustaining.

Table 5.12: Environmental Initiatives Ranking of Non-User Firms

Environmental Initiatives	Total	Firms									
		NU-F1	NU-F2	NU-TR1	NU-R	NU-C	NU-E	NU-T	NU-TR2	NU-W	NU-A
Sustaining Practices	1.9%			7.7%							
Proactive Practices	42.6%	62.5%	55.6%	61.5%		66.7%	50.0%	25.0%			
Efficiency Practices	40.7%	37.5%	33.3%	30.8%	40.0%		50.0%	50.0%	100.0%	50.0%	50.0%
Compliance Practices	14.8%		11.1%		60.0%	33.3%		25.0%		50.0%	50.0%
Initiative Ranking		P+	P+	P+	E	P+	P	E+	E+	E	E

- S = Sustaining Minimum 26% of initiatives are sustainable and minimum of 51% of policy items are proactive or sustaining.
- P+ = Strong Proactive Minimum of 51% of initiatives are proactive or sustaining.
- P = Proactive Minimum 26% of initiatives are proactive and minimum of 51% of policy items are efficiency, proactive, or sustaining.
- E+ = Strong Efficiency Minimum of 51% of initiatives are efficiency, proactive, or sustaining.
- E = Efficiency Minimum of 26% of initiatives are efficiency and minimum of 51% of policy items are efficiency, proactive or sustaining.

The measurement and external publication of these environmental indicators may increase the level of importance that each of the six firms attached to their environmental

performance and also gives them a stronger sense of public accountability for their actions. This also draws a potential link between a firm’s electricity choices and its environmental performance because conventional electricity generation, particularly by thermal sources, have harmful effects on the natural environment. By measuring and disclosing this information the firms simultaneously increased the level of certainty surrounding the environmental impact of their operations and were in turn more compelled to respond to it. This agrees with Bansal and Roth’s (2000) argument that an increase in the certainty by which an environmental issue can be measured will also increase the salience of the issue within the firm. The fact that these firms have also volunteered to publicly disclose this information also increased the level of its salience because each firm’s environmental performance can be scrutinized by a greater number of its stakeholders.

Table 5.13: User Firms with Public Environmental and Greenhouse Gas Metrics

Environmental Activities	Total	User Firms									
		U-F1	U-F2	U-TR1	U-R	U-C	U-E	U-T	U-TR2	U-W	U-A
Publicly accessible environmental metrics	5	X	X	X	X			X			
Public tracking of greenhouse gases	5	X	X	X	X			X			

Table 5.14: Non-User Firms with Public Environmental and Greenhouse Gas Metrics

Environmental Activities	Total	Non-User Firms									
		NU-F1	NU-F2	NU-TR1	NU-R	NU-C	NU-E	NU-T	NU-TR2	NU-W	NU-A
Public environmental performance metrics	1			X							
Public tracking of greenhouse gases	1			X							

5.3.2 Industry Factors

The second set of factors that appear to be promoting the voluntary use of GE by the study’s participants is industry related. Four user-firms, U-F1, U-E, U-TR2, and U-W, identified three distinct industry related motives, as listed in Table 5.1 (i.e., customer relations, ISO 14001, competitor influence). In addition to these four user firms, one non-user firm, NU-TR1, indicated that it analyzed its industry’s support of GE when assessing whether to adopt it. The first industry driver, customer relations existed because at least some of the products or services associated with the firm’s industry type are used by GE retailers or generators. This made the user firms both customers and potential suppliers to the GE industry. The second two industry

drivers, ISO 14001 certification and competitor influences, were a result of the close proximity and interconnectedness of firms within the finance and transportation industries.

U-W identified customer relations and market opportunity as the only two factors that motivated them to use GE. The participant from this firm indicated that their “voluntary” GE purchase ensured that their products would be carried by an energy efficiency business operated by a local GE retailer. If the firm had not been in an industry linked to the GE retailer, then the likelihood of its voluntary purchase would have been diminished. Although NU-W is in the same industry as U-W, an offer to buy GE in exchange for a location to sell its energy efficient products by a GE retailer, as was the case with U-W, was never made to it.

The second firm with a direct link to the GE industry was U-E. Although both U-E and its matched-pair firm, NU-E, are both in an industry that can offer services to GE generators, only U-E had clients in the GE industry. This industry connection contributed to the firm’s decision to adopt GE.

U-TR2 is in the automobile parts manufacturing industry. Several years prior to the study, the country’s major auto manufacturers required that all of their suppliers become ISO 14001 certified. As part of this process, an applicant must indicate its environmental performance plan for the subsequent three years and identify steps that will improve its current level of performance. The participant from this firm indicated that it was the firm’s ISO 14001 certification that allowed him or her the opportunity to put a voluntary GE purchase on the company’s environmental agenda as a potential initiative. The firm’s matched-pair company, NU-TR1, is also ISO 14001 certified but did not indicate that GE was ever considered as a potential initiative for the company to adopt. This inconsistency between how the two firms applied their ISO 14001 certification to the use of GE suggests that the broad industry initiative may have provided a medium through which a voluntary GE purchase could be legitimately addressed, but is not enough in itself to promote the use of GE.

The final industry factor, competitor influences, was identified by U-F1 as having contributed to its decision to use GE. Of the eight industry groups represented in the study, the finance industry is arguably the most closely connected to other firms in its industry both in terms of its geographic presence (all of Canada’s major institutions in this industry sector are headquartered in Toronto) and its sharing of information through a number of its industry’s environmental associations. Although the two non-user finance companies that participated in the study indicated that industry influences do play a role in their environmental decision-making (see table 4.25), this influence did not extend to GE. In the case of U-F1, it appears that its

environmental decision-making criterion of best practice in addition to its industry's cohesiveness may have worked together to influence its decision to adopt GE.

NU-TR1 also indicated in its interview that when it was approached to voluntarily use GE, it analyzed whether its competitors had adopted the initiative. The fact that none of its competitors at the time of its decision were using GE played a role in its decision to not adopt the initiative. Similarly, U-TR1, which was no longer using GE at the time of the study, stated that their current position regarding GE was consistent with the Canadian Automotive Partnership Council's (CAPC) position. CAPC's (CAPC, 2004: 22) position regarding sustainability and electricity, as outlined in the document *A Call For Action: A Canadian Auto Strategy*, is that the provincial government needs to "ensure [that] conversion to lower-emission sources of electricity generation does not jeopardize electricity supply". In addition to this, it recommends that the focus needs to be on the certainty of the province's electricity supply and government support for "energy efficient and low-emissions technology in plant investments." Nowhere in the CAPC document is direct support for GE discussed.

Bansal and Roth (2000) argue that the cohesiveness of a firm's "field" can affect how it responds to environmental issues. Cohesiveness is determined by the proximity and interconnectedness of the field. The companies from the finance and automobile manufacturing industries that participated in the study are considered to have a high level of cohesion because they are both physically and socially in close proximity to the other major firms within their field. Participants in each of these sectors indicated that their decision to use or reject GE was partially influenced by other firms within their sector. No other sectors that participated in the study indicated that this was something which was taken into consideration.

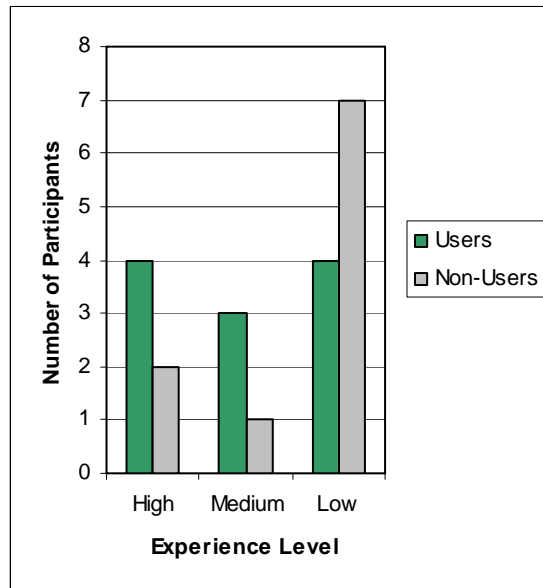
The interconnectedness of the automobile industry also led to U-TR2's ISO 14001 certification. Although the auto parts industry is somewhat less cohesive than the automobile manufacturing industry because of the larger number of firms operating in a variety of sub-sectors, field cohesiveness did appear to play a role in its adoption of GE because the industry-wide initiative prompted its GE decision.

5.3.3 Individual Factors

In section 4.4.4 and section 4.4.5 of the previous chapter, Table 4.14 and Table 4.27 recorded the personal experience level that the different participants had with green electricity technology. A comparison of the two tables shows that the user firm participants have a noticeably higher level of direct GE experience than the non-user participants (see figure 5.3). In fact, the number of non-user participants who had low personal GE experience - seven - is the

same number of user firms with either medium or high experience. It should be noted, however, that the user firms have one additional person listed than the non-user firms because a participant indicated that the person in the firm who made the decision to use GE uses solar power at his or her cottage. Although I did not interview this person, I felt that the information was pertinent and therefore decided to include it in Table 4.14.

Figure 5.3: Personal Green Electricity Experience



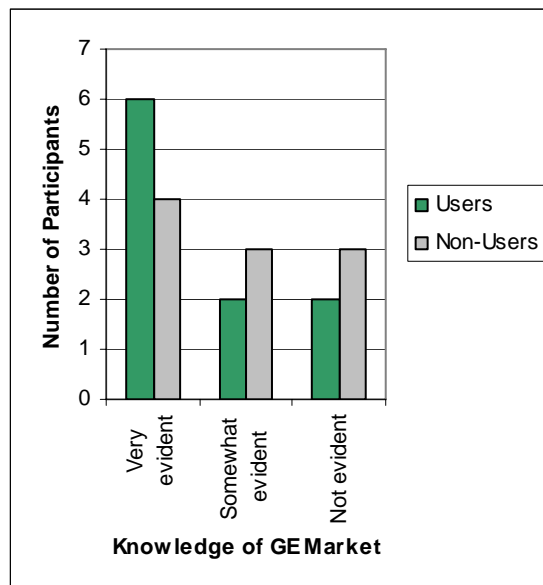
I also ranked the participants on their knowledge of the Ontario GE market. This information was originally presented in Table 4.15 and Table 4.28 and took into consideration the participants' understanding of GE policy, generation, and distribution in the province. Although the user firms did show a somewhat higher knowledge of the GE market, the disparity between the user and non-user participants was not as great as it was for their level of personal experience (see figure 5.4).

Perception was the final individual factor included in the previous chapter. In Table 4.16 and Table 4.29, a number of exemplary quotations were used to reflect the general perception that each participant had of GE. These quotations, in addition to other issues raised by the participants during the interviews, were then used to reflect how each of the participants generally perceived GE in terms of its development in Ontario. As was indicated in these tables, most of the participants perceived the development of GE in the province as a positive step.

It worth noting that representatives from only 4 of the 20 firms that participated in the study – U-TR1, U-A, NU-TR2, and NU-R - identified at least one of nuclear, large hydro and/or waste incineration as “greener” sources of electricity. These firms generally identified these sources of electricity as efficient and reliable means to generate electricity with low emissions. Only one of these firms, U-A, had a very supportive perception of GE.

For the other firms in the study, a number of participants indicated that although nuclear and large hydro were for the time being necessary sources of electricity for Ontario, in the long-run they were viewed as second best options to GE. Several of these representatives made a distinction between electricity from “renewable” sources and electricity from “green” sources. This sentiment is reflected in the statement that was made by the representative from U-TR2: “[R]enewable could be something like nuclear power...In my opinion, I don’t see that as green because there’s definitely a lot of waste involved there. It’s not exactly environmentally friendly.” For others, such as the representative from NU-T, it was simply a matter of having a negative personal connotation of the energy source, particularly in the case of nuclear and waste incineration: “I don’t know, but when someone uses the word ‘nuclear’, it’s not a very clean word in my mind.”

Figure 5.4: Knowledge of the Green Electricity Market



Given the almost shared personal support for GE as a concept among most of the user and non-user participants, it appears that personal support alone for the initiative may be insufficient to promote its adoption.

5.3.4 Location Factors

The location of the GE generation facility or the GE retailer was the fourth major factor that participants identified as influencing their decision to use GE. Section 4.4.5 and 4.5.5 of the previous chapter discussed the GE location preferences for user and non-user firms and how these preferences influenced their decision. Table 5.15 and Table 5.16 provide a summary of the location preferences for the study's user and non-user firms.

Table 5.15: Location Ranking for User Firms

Level of Consideration Given to Location	Total	Firms									
		U-F1	U-F2	U-TR1	U-R	U-C	U-E	U-T	U-TR2	U-W	U-A
Strong local consideration	3			X				X			X
Moderate local consideration	0										
Provincial consideration	4	X	X		X		X				
No location considerations	2								X	X	
Unknown location considerations	1					X					
Location consideration		✓	✓	✓+	✓		✓	✓+			✓+

✓+ = Very evident

✓ = Somewhat evident

For two of the participants, U-TR1 and U-T, the fact that there was no locally sourced GE generation available to them was a significant factor in their decision to halt their voluntary GE purchases. As noted in section 5.3.1, both of these companies consistently ranked the highest in terms of their corporate policies, decision-making criteria, and environmental initiatives. An important component of their corporate sustainability policies, however, is that they receive as much of their inputs as possible from suppliers who were, among other things, local and environmentally responsible. Although firm U-T was not using GE at the time of the interview, it was partnered with a local GE cooperative and had an agreement to purchase its electricity once the cooperative's wind generator was operational.

U-TR1's criteria for locally sourced GE were more stringent than the criteria used by U-T because in addition to having a contract with a local GE supplier, it also wanted to receive the electrons directly from the GE supplier rather than from the provincial electricity grid. Although the participant from U-TR1 indicated that they were only open to proposals from GE suppliers willing to supply the firm directly, he or she admitted that this requirement diminishes the likelihood of U-TR1 using GE in the foreseeable future.

The location influence that affected U-A's decision to use GE was that the company that developed the GE was locally based. The actual source that U-A purchased its GE from was generated a couple of hundred kilometres from U-A's location.

For NU-E, locally sourced GE is preferred because it would help to maximize efficiency (see table 5.16). A review of the firm's environmental criteria from section 4.5.3.3 of the previous chapter also shows that it looked favourably upon the potential for building relationships within the community when making decisions regarding voluntary environmental initiatives.

Table 5.16: Location Ranking of Non-User Firms

Level of Consideration Given to Location	Total	Firms									
		NU-F1	NU-F2	NU-TR1	NU-R	NU-C	NU-E	NU-T	NU-TR2	NU-W	NU-A
Strong local consideration	0										
Moderate local consideration	2			X			X				
Provincial consideration	0										
No location considerations	1										X
Unknown location considerations	7	X	X		X	X		X	X	X	
Location consideration				✓			✓				

✓+ = Very evident

✓ = Somewhat evident

NU-TR1, like U-TR1, preferred to receive the electrons directly rather than purchase GE from the provincial grid. The participant interviewed recognized that this preference limited their GE options to either on-site or local sources.

The four user firms that identified provincial considerations as influencing their decision to use GE all have additional Canadian locations outside of Ontario. The participants from these firms stated that over time it was important to demonstrate their GE commitment to their stakeholders in other parts of the country by buying it from other provinces. Although more than one of these participants indicated that they would eventually like to purchase GE simultaneously from a number of provinces, at the time of the study, the two firms that had moved their GE purchase from Ontario to British Columbia ceased to buy it in Ontario.

The fact that location was discussed by seven of the ten user firms as something that was considered when purchasing GE indicates that its use has spatial attributes associated with it. Where a green electron is generated, therefore, may be as much of an issue for some firms as any of the other factors identified by this study.

5.4 Factors that Promoted the Voluntary Use of Green Electricity

This section will discuss the factors that have positively influenced the decision by the study's user firms to adopt GE. This will be done by first comparing the data that were analyzed in section 5.3 for the user and non-user firms. This will be followed by a summary list of the factors based on the comparative analysis and supplemented where necessary with additional information that was not included in section 5.3.

It is the objective of this section to develop the list of contextual factors that have positively influenced the decision by the study's user firms to adopt GE. Since the non-user firms had not been influenced to use GE, either at the time study or prior to it, it is speculative to contend what factors may influence their decision to adopt GE. For this reason, the information that relates to the non-user firms will be used in this section for comparative purposes only. The final list of factors that will be developed in this section, therefore, will represent the factors that influenced the user firms to adopt GE.

5.4.1 Comparative Analysis of User and Non-User Firms

In order to develop a better understanding of which of the contextual factors identified in section 5.3 played a role in the decision by user firms to adopt GE, it is helpful to compare the potential factors discussed for user firms with their match-paired non-user firms. To do this I have grouped the firms according to their industry classification. This leaves nine industry groups, one with four firms and the remaining eight groups with two firms each (see table 5.17). Each of these groups will be discussed in turn, beginning with the financial group and concluding with the advertising agency group. Although the majority of information discussed will be drawn from Table 5.17, supplemental information will also be used when necessary in order to provide additional depth to the analysis.

Table 5.17 represents a summary of the factors introduced in chapter four and analyzed in section 5.3 of the current chapter. The majority of the information used in this table is directly transferred from the tables presented in chapter four and section 5.3. Of the eleven contextual factors used in Table 5.17, the information for the following seven was taken directly from existing tables: Policy – Table 5.3 and Table 5.4, Decision Criteria – Table 5.8 and Table 5.9, Initiatives – Table 5.11 and Table 5.12, Personal Experience – Table 4.14 and Table 4.27, Market Knowledge – Table 4.15 and Table 4.27, Personal Perception of GE – Table 4.16 and Table 4.29, Location – Table 5.15 and Table 5.16. The remaining four factors, decision process, environmental metrics, GHG metrics, and industry, were discussed in previous sections but

were not ranked or assigned symbols prior to Table 5.17. The information used to assess each of these factors for Table 5.17 was taken from the following tables or sections: Decision Process – Table 4.9 and Table 4.23, Environmental Metrics – Table 5.13 and Table 5.14, GHG Metrics – Table 5.13 and Table 5.14, Industry – section 5.3.2.

A look at the financial group reveals that four organizational factors distinguish the user firms from the non-user firms: decision-process, decision-criteria, environmental metrics and greenhouse gas metrics. Although all four firms had strong efficiency policies and strong proactive initiatives, U-F1 and U-F2 appear to have placed a greater emphasis on their environmental performance than the two non-user firms. This is evident through their “best practice” environmental decision-making criteria and the public disclosure of both environmental and greenhouse gas indicators. Both user firms indicated during their interviews that their decision to use GE was driven by their corporate environmental policies and culture. Perhaps more telling than the policies in this case is the fact that structurally the two user firms have centralized their environmental decision-making processes, allowing for a more integrated environmental strategy.

The four transportation manufacturing companies are examined in two separate groups. The first group, automobile manufacturing, includes U-TR1 and NU-TR1. These two companies both manufacture end use automobiles and then sell their finished products to consumers. The second group, auto parts manufacturing, includes U-TR2 and NU-TR2. The products of these two companies are sold either to other auto parts manufacturers or are sold directly to the automobile manufacturers. They do not sell directly to the end consumer.

The organizational factors for the two automobile manufacturers are almost identical except that U-TR1 has a sustaining policy and NU-TR2 has a strong efficiency policy. However, their decision-making process, decision-criteria, initiatives and public reporting of environmental and greenhouse gases are relatively similar. Prior to the study, however, U-TR1’s North American operations had demonstrated a commitment to GE by voluntarily purchasing it at a number of its North American facilities. This indicates that the Ontario facility purchase was consistent with existing corporate initiatives to use GE. The same broader corporate use of GE was not evident with NU-TR1. Another area of distinction between the two companies is that the participant for U-TR1 had greater personal experience with GE and his or her knowledge of the existing GE market was more evident than the participant from NU-TR1. This would indicate that individual factors also played a role in U-TR1’s decision to adopt GE.

Table 5.17: Comparative Table of Potential Contextual Factors

Firms	Organizational Factors						Individual Factors				Location
	Policy	Decision Process	Decision Criteria	Initiatives	Environmental Metrics	GHG Metrics	Industry	Personal Experience	Market Knowledge	Perception of GE	
Finance											
U-F1	E+	⊙	P	P+	✓+	✓+	✓	L	✓	+	✓
U-F2	E+	⊙	P	P+	✓+	✓+		L	✓+	+	✓
NU-F1	E+	□□	E	P+				L		+	
NU-F2	E+	□□	E	P+				H	✓	+/-	
Automobile Manufacturing											
U-TR1	S	↓↑	P	P+	✓+	✓+	✓	H	✓+	+/-	✓+
NU-TR1	E+	↓↑	P	P+	✓+	✓+	✓	M	✓	+	✓
Automobile Parts Manufacturing											
U-TR2	E+	⊙	E	E+			✓	M	✓+	+	
NU-TR2	E+	↓	E	E+				L	✓+	+/-	
Retail											
U-R	E+	□□	E	P	✓+	✓+		H/M	✓+	+	✓
NU-R	E+	□□	E	E				L	✓+	-	
Construction											
U-C	N/A	↓	P	P				L		+	
NU-C	N/A	↓	E	P+				H	✓+	+	
Engineering											
U-E	P+	↓↑	A	P			✓	H	✓+	+	✓
NU-E	P+	↓↑	A	P				L	✓+	+	✓
Textiles											
U-T	S	↓↑	P	P+	✓+	✓+		M	✓+	+	✓+
NU-T	N/A	↓	E	E+				L		+	
Wholesale											
U-W	N/A	↑	E	E			✓+	L		+/-	
NU-W	N/A	↓	E	E				L		+	
Advertising Agencies											
U-A	N/A	↓	A	P				H	✓	+	✓+
NU-A	N/A	↑	A	E				L	✓	+	

S = Sustaining P+ = Strong Proactive P = Proactive E+ = Strong efficiency
 E = Efficiency A = Altruistic N/A = Not Applicable
 ⊙ = Centralized □□ = Departmentalized ↓↑ = Top-down, bottom-up ↓ = Top-down
 ↑ = Bottom-up
 ✓+ = Very evident ✓ = Somewhat evident
 H = High M = Medium L = Low
 + = Positive +/- = Mixed - = Negative

U-TR2 and NU-TR2, like the two automobile manufacturers, shared very similar organizational factors. Although U-TR2 indicated that an industry wide requirement for ISO 14001 certification initiated its analysis of GE as a potential initiative and that its decision to adopt it was made because it could benefit from positive public relations associated with GE, without the strong support of GE by the firm's operations manager it seems unlikely that it would have been brought up for consideration. Despite this strong personal support, the participant indicated that because the firm does not expect to continue to receive significant public recognition for its GE purchase that it will likely not renew its commitment.

In the retail sector, both organizational factors and individual factors played a strong role in the voluntary adoption of GE by U-R. A comparison of the first three environmental factors - policy, decision process, and decision-criteria - reveal little difference between U-R and its matched pair, NU-R. A look at each firm's environmental initiatives, however, shows that U-R has an active program to reduce its GHG emissions and is publicly tracking the results of this program. The personal experience level of GE and support for it are also considerably stronger in U-R than NU-R. In the case of UR, the GE champion who had strongly supported the concept was able to justify the purchase of GE to the decision-maker because it blended well with the firm's existing emissions initiatives. According to the participant, the internal pitch was made somewhat smoother by the fact that the decision-maker also had a high level of prior GE experience.

If one were to look only at the factors listed in Table 5.17 for the two firms in the construction industry, U-C and NU-C, it might seem that NU-C was the firm that had voluntarily adopted GE. It had strong proactive initiatives and the participant had a high level of personal experience with GE, understood the market, and was supportive of GE development. What really differentiated the non-user firm from U-C in terms of the decision to use GE was that NU-C approached the decision to use GE as an environmental performance issue and U-C saw it more as a social performance issue. For U-C this meant that the decision criteria were driven by both proactive criteria (e.g., best practice), and altruism, (e.g., "doing the right thing"). NU-C, on the other hand, was clear in pointing out that any environmental initiatives that it took on needed to demonstrate a direct business benefit which, according to the participant, GE did not do. The same competitive criteria did not exist for initiatives that NU-C linked to its social performance.

The two engineering firms that participated in the study, U-E and NU-E, were quite similar in respect to their organizational factors. Both firms had strong proactive environmental policies, used top-down, bottom-up decision-making, used predominately altruistic criteria to

make decisions regarding the environment and had adopted proactive initiatives. Where the firms did differ, however, was that U-E had direct business and personal ties to the GE industry. This connection brought in an element of legitimacy for U-E's purchase because it was seen as a means to gain some additional credibility with existing and potential GE clients. Another important differentiator between the two firms is that although both had designated budgets for voluntary initiatives, U-E had separate environmental and social responsibility budgets but NU-E had one budget for both social and environmental initiatives. This latter arrangement meant that any decision made by NU-E to use resources on GE would reduce the funds available for supporting more community oriented functions such as a minor league sports team, a trade-off not encountered by U-E.

In the textile industry, U-T is recognized as a world leader for its sustainability policies and initiatives. Among its policies is the elimination of waste and emissions. GE is supported within the corporation as one means of achieving this end. The organizational support for this decision is therefore pretty clear cut. The one stumbling block that U-T has come up against with its voluntary use of GE in Ontario is that it has thus far been unable to purchase GE from a local supplier that also demonstrates a strong commitment to sustainability. In the past it had purchased GE from a large non-local electricity retailer but it has ceased this arrangement because it did not meet all of U-T's required criteria. NU-T is primarily focused on environmental initiatives that will lead to improvements in its operating efficiencies. Although the participant was in favour of GE development within the province, he or she indicated that the firm would need to see some kind of financial advantage in order to voluntarily adopt it.

The strongest factor that distinguished U-W from NU-W is that the former operates in the same region as a GE retailer that essentially offered U-W retail space for its energy efficient products if it bought GE from the retailer. This arrangement provides an example of how a tangible business case can motivate a firm to use GE.

In the final industry group - advertising agencies - what really differentiated U-A from NU-A was the strong personal support that U-A's GE champion and decision-maker had for GE. Although the participant from NU-A supported the concept of GE, U-A's decision-maker had direct personal experience with GE. In addition to this, there was also a local link to the windmill that generated the firm's GE, a situation that according to the participant added credibility to the initiative.

This section has discussed the key factors that influenced the voluntary use of GE for each of the user firms by comparing each of these firms with their match-paired non-user firm.

In the next section these factors will be consolidated in order to illustrate what collectively promoted its use amongst the study's participants.

5.4.2 A Summary of the Factors that Promote Green Electricity

It is evident from the comparative analysis in section 5.4.1 that each of the user firms followed a unique path to reach its decision to voluntarily adopt GE. A factor that played almost no role in the decision of one firm may have been a key consideration for another firm. In short, there does not appear to be a definitive set of factors that one can point to and say with absolute certainty that a firm that exhibits these factors will voluntarily adopt GE. This individualized decision-making process was also observed in a European study on the business demand for green electricity (Lewis, 2003).

What the analysis does reveal, however, is that for the user firms included in the study there are a number of common external, organizational, and internal factors that do appear to have positively influenced their decision to use GE and which differentiated each of them from their matched-pair non-user firm(s) (see table 5.18). Not every factor that is listed in Table 5.18 is representative of every user-firm but each factor listed did influence at least one of the ten user-firms included in the study. All, except for one firm, were influenced by more than one factor. U-W, which was influenced solely by a direct business connection to its GE retailer, was the exception. In this case, a relatively straight-forward financial decision made the issue considerably less complicated for the firm's decision-maker.

Although the role that most of the factors played in each firm's decision to use GE has already been discussed in section 5.4.1, there are three factors that require further explanation: the GE retailer's promotional resources, top-level champion and/or support, and employee connection to environment or sustainability. The ability of the GE retailer to promote the voluntary purchase was mentioned by one firm as strongly influencing its decision to buy GE. It indicated that had the retailer been unable to provide the desired promotional benefits associated with the transaction, then the likelihood of the firm buying GE in the Ontario marketplace would have been reduced.

In the four instances where the GE champion was the firm's top-level decision-maker, the decision to use GE was relatively straightforward compared to the six firms where the initiative was driven by middle management. Even when the GE champion was not the firm's top-level decision-maker, top-level approval was still required before the initiative could be adopted in three of the six firms where the middle-manager acted as the champion. For this

reason I have included top-level champion and/or support as one of the factors affecting the decision to use GE.

Table 5.18: Contextual Factors Promoting the Business Use of Green Electricity

External Factors	Organizational Factors	Internal Factors
<ul style="list-style-type: none"> - Location of green electricity generation - Local initiative - Promotional resources of the green electricity retailer - Climate change 	<ul style="list-style-type: none"> - Proactive or sustaining environmental policies and initiatives <ul style="list-style-type: none"> - “best practice” - public environmental metrics - public greenhouse gas metrics - inclusion of non-financial decision-making criteria - previous corporate support for green electricity - Direct business connection to GE industry or retailer - Industry cohesion 	<ul style="list-style-type: none"> - Champion and/or decision-maker has personal experience with green electricity - Top-level champion and/or support - Personal values of champion and/or decision-maker in line with green electricity attributes - Employee connection to environment and/or sustainability

The final factor that I have included in Table 5.18 but was not discussed previously is that firms may also be influenced to use GE if they attract a substantial number of employees with a personal connection to the environment or sustainability. This point was indicated by both of the engineering firms that participated in the study, U-E and NU-E. Although U-E’s decision to use GE was not solely based on the values of its employees, the participant pointed out in the interview that adopting proactive environmental initiatives such as GE was one way the firm can differentiate itself from its competitors and both attract and retain “young idealists”.

A comparison of Table 5.18 with the factors identified in the preliminary interviews as shown in Table 4.2 indicates that although the two lists do share some similarities a number of factors discussed in the preliminary interviews were not identified by the businesses that participated. Likewise, there are a number of additional factors that the study has found but were not identified in the preliminary interviews. Most noticeably absent from Table 5.18 and the factors listed by preliminary participants are “societal values” and the observation that some companies in traditionally “brown” industries buy GE to demonstrate their commitment to being “greener”. “Societal values” could not be studied because information was collected in only one jurisdiction which shares a common electricity system. As for firms from “brown” industries buying GE, the sample did not include companies from industries generally thought of as brown (e.g., steel, forestry, chemical, and oil and gas). Although some may argue that the automobile

industry could be considered “brown”, there was no indication from these participants that their decision was influenced by their industry’s image.

In chapter six, the factors identified in this section will be discussed in relation to the broader corporate ecological responsiveness literature. Hypotheses that explain the factors that influence a firm’s decision to voluntarily adopt GE will also be developed in the subsequent chapter.

5.5 Factors that Inhibit the Voluntary Use of Green Electricity

A review of Table 4.19 and Table 4.31 from the previous chapter shows that the list of inhibitors identified by the study’s participants is long and varied. When combined together, the two tables list 20 inhibitors. These 20 inhibitors, however, can be grouped into six categories: cost, concerns with GE as a commodity, concerns with the existing GE process, government influences, efficiency-based environmental strategy and a soft business case (see table 5.19). Each of these inhibitors is discussed below. The first four categories include inhibitors that are external to the firm and the fifth is related to the firm’s organizational values and perceptions of GE as a potential business initiative.

The premium price of GE was most frequently identified by the study’s participants (8 users and 9 non-users) as inhibiting their firms’ voluntary use of it. Although there is no public report available on the price of green electricity for businesses in Ontario, several of the participants from user firms indicated that they paid a premium of 3.5 cents per KWh. Between April 2003 and May 2004, the average wholesale price of conventional electricity in the province was 5.07 cents per KWh (IMO, 2004: 9). This means that when the GE premium is added to the cost of conventional electricity, there is almost a 70 percent increase to the average commodity wholesale price. To put into perspective the affect that a premium would have on his or her business which spends \$150,000 a month on electricity, one of the non-user participants explained what a ten percent premium would look like to their financial bottom line: “At \$150,000 a month for electricity if there’s a ten percent premium, there’s another \$15,000 dollars a month. Multiply that by 12 months, you’ve got way over \$100,000 in a tight market.”

The next set of inhibitors, GE as a commodity, relates to the physical and technical attributes of GE. When looking at GE as a potential commodity, one must ask oneself what is it replacing? In Ontario, it appears that the answer for the time being is coal generated electricity. The use of GE as a more mainstream source of electricity raised two concerns with participants. The first concern was with the reliability of GE as peak demand source of electricity. The two non-user firms that pointed this out were both manufacturers that rely heavily on consistent and

high-quality electricity for their operations. Another issue raised regarding electricity generated from green sources is the potential for localized environmental damage connected with building an infrastructure to generate and distribute large scale GE. In other words there is a concern that GE generation may be counter productive from an environmental perspective when all of the ecological costs are taken into account.

Table 5.19: Summary of Green Electricity Inhibitors

External Factors	Organizational Factors
Cost (17 firms) Green Electricity Commodity - Reliability of supply (2 firms) - Environmental impacts of installing new green electricity (1 firm) - Do not receive green electrons directly (2 firms) - Lack of local green electricity resources (1 firm) Green Electricity Process - Lack of transparency (3 firms) - Lack of availability (4 firms) - Supplier credibility (1 firm) - Lack of influence on generator (1 firm) Government - Should be implemented by government (1 firm) - Market instability (1 firm)	Efficiency-based environmental strategy (10 firms) Lack of a Business Case - No link to core business (4 firms) - Depletes resources for other initiatives (5 firms) - Similar to subsidizing or giving to charity (2 firms) - Competitors not using green electricity (1 firm) - Low public awareness (1 firm) - Minimal promotional value (4 firms) - Reputational risks (1 firm) - Greenwashing (1 firm) - Added administrative hassle (1 firm)

The other two commodity issues raised by participants related to the proximity of GE generation relative to the firms. For the two firms in the transportation manufacturing industry, U-TR1 and NU-TR1, there was a strong preference for directly receiving green electrons as opposed to having the green electrons fed into the provincial grid. Although these firms were willing to pay a premium for GE, they wanted to make sure that they were getting the product that they had paid to receive. This preference inhibits the likelihood of using GE because unless there are available resources either on-site or very near site to generate GE, the financial, environmental and social costs of distributing GE directly to the firm's facility are high. Although a third firm, U-T, did indicate that it was not opposed to buying GE from a GE retailer whose green electrons were distributed through the provincial grid, it did indicate that it still required GE to be produced regionally. At the time of the study, the firm was waiting for a regional GE provider to start generating before it would resume its voluntary use of it.

The next set of inhibitors, GE processes, all relate to issues associated with the process by which GE is generated, distributed, and sold in Ontario. One obvious problem is the fact that

in many regions of the province GE is not provided and therefore not promoted by a majority of local utilities. Several of the small and medium non-user firms that participated from these regions were not aware that GE could be purchased in the province. Although the province's major electricity generator has offered green electricity packages to its customers, these customers tend to be a very small number of firms that use a large volume of electricity, leaving the majority of small and medium firms with no clear option to adopt GE.

Even when a retailer does manage to reach the attention of a potential buyer there is a concern, as indicated by several participants, about the lack of transparency about how the GE is generated, who it is generated by, and where is it being generated from. There are also concerns with how the premium for GE is being used by the retailer and the general lack of communication between the firm buying the GE and the firm generating it. In other words, there are a number of information gaps with the province's existing GE process that make the voluntary adoption of a premium-priced commodity seem more like of a leap of faith than a business solution that will improve a firm's environmental performance.

The next group of inhibitors as indicated by the study's participants relates to the influence of government in the Canadian GE marketplace. One issue relates to existing government policies and the second relates to perceived government policy. Instability in both the pricing and structure of the Ontario GE market was one reason identified by a user firm for switching its voluntary GE purchase from the Ontario marketplace to the British Columbia marketplace. This user felt that its purchase should be made in a location where government support for GE was both stable and consistent – two things that he or she was not yet confident had occurred in Ontario. Another government related factor that is inhibiting at least one firm from voluntarily adopting GE is the sense that demand for GE in Ontario should be developed by the government and not by private enterprise. Although only one of the participants identified this as a reason that inhibited their use of GE, a number of the participants were careful to point out that it is the responsibility of government – not business - to subsidize public goods that are not supported by the marketplace. How this translates into the broader business community is unknown but it does seem to indicate that a desire to let GE be a government issue may inhibit its voluntary use by businesses.

The final two sets of GE inhibitors identified by the study's participants are organizational influences. The first organizational inhibitor - an efficiency-based environmental strategy – means that the firm is predisposed to limiting environmental initiatives to actions that will either reduce its costs or improve its efficiency. As GE has neither of these two attributes, it should not be surprising that such a strategy would inhibit its adoption.

The second organizational factor - the lack of a business case – is closely connected to the efficiency-based strategy. This group of inhibitors was predominately identified by the non-user firms. The three most frequently mentioned issues identified with this group were that GE had no direct link to its core products or services, took resources away from other initiatives and that the promotional value of voluntarily adopting GE was minimal at best. A couple of firms even saw GE as potentially harmful to their image because investors may view it as an irresponsible use of corporate resources or because it may be seen by the general public as a form of “greenwashing”. In this same vein, a couple of participants likened the voluntary use of GE to giving to charity or subsidizing a commodity.

Of the inhibitors discussed above the ones that receive the most attention in the existing studies by Holt et al. (2001) and Lewis (2003) are the ones that relate to cost (e.g., premium price), GE as a commodity (e.g., reliability of supply), the GE process (e.g., lack of awareness, transparency, credibility of GE generators and retailers) and the GE business case (e.g., trade-off with other initiatives). In addition to these the European study also listed the following as inhibitors: internal decision-making processes (e.g., the involvement of multiple decision-makers), the complexity added to the decision-making process by the mixed messages regarding the sustainability of green electricity and the need for retailers to customize their sales pitch thereby reducing the efficiency by which potential buyers can be approached.

What I feel that the two previous studies on the business demand for GE have failed to explicitly state, and which was indicated by a number of different participants in my study, is that for many firms GE simply does not currently present a convincing business case. Perhaps this was not discussed in the other studies because the market and cultural circumstances in the United States and Europe have made GE a more readily acceptable initiative by businesses. In my study, however, it is the lack of a perceived business case that is its most significant inhibitor after its premium price. For most of the study’s participants, GE as a commodity and the GE process, other than its lack of availability, were simply not issues. Admittedly the attitude that GE development is a government issue also acts against its voluntary adoption by businesses.

A number of the inhibitors identified by the 20 firms that participated in the study support the inhibiting factors identified in the preliminary interviews and which are summarized in Table 4.3 of the previous chapter. Several of the inhibitors from the preliminary list, however, were either not prevalent issues in my study or they could not be verified by my research method. These are the strength and structure of the economy, short-term planning horizon, and industry related issues (i.e., commodity based and low issue salience). The strength and structure of the economy could not be verified by this study because it would require either a longitudinal

research method that tracked economic performance and GE purchasing over a set period of time or a sample that included more than one jurisdiction.

Differences in the planning horizon between the matched firms was only evident for one of the firms in the study, significant distinctions between the planning horizons of the other match-paired firms were not evident.

Although industry cohesion was identified as a factor that promoted the use of GE in two of the industries sampled for the study, a broader sample of industries would need to be conducted to determine if commodity-based industries are less likely to use GE. In addition to this, issue salience appears to be more of a firm based issue with regard to GE than an industry-based issue. Only one set of firms included in the study is from an industry that is frequently linked to high emissions or electricity use, the automotive manufacturing industry. Both firms in this case were monitoring their GHG emissions and volatile organic compounds (VOCs) but what inhibited them from using GE was that they felt that they could improve their environmental performance more by focusing on conservation measures. Trade-off not issue salience, therefore, was the inhibitor in this case.

The list of factors inhibiting the voluntary use of GE by the study's participants is both long and formidable, particularly when one considers that the majority of the inhibitors are external to the firm and therefore beyond their direct influence. Despite these inhibitors, it is apparent from this study that given the right set of factors some firms may be more likely to be influenced to voluntarily adopt GE.

5.6 Conclusion

It is evident from the findings presented in this chapter that a firm's decision to voluntarily adopt GE is neither a simple nor homogenous process. For most of the ten user firms that participated in the study the motivation to use GE was a mix of altruism and a further legitimization of the company's broader environmental performance objectives. The exceptions were one firm that was motivated purely for competitive reasons and a second that used it because it aligned with the owner's personal set of values.

By comparing each of the ten user firms with at least one other firm in its industry, the chapter revealed a number of exceptional influences that promoted the voluntary adoption of GE. Of the factors identified in the Table 5.18 as promoting GE, proactive decision-making criteria such as "best practice", public tracking of environmental metrics and other non-financial decision-making criteria, in addition to individual values stand out as particularly important because of their influence on a number of firms regardless of their industry and size.

The chapter also found that the majority of factors that inhibited the study's participants were external to the firm - namely, cost, the properties and processes associated with GE, and government influences. Although most of the participants from the non-user firms were in favour of GE as a concept, the financial cost of voluntarily paying a premium to use it simply outweighed its potential benefits to the firm.

Chapter 6: Discussion and Conclusion

6.1 Introduction

In keeping with the thesis's exploratory nature, the findings from the study and their relation to the corporate ecological responsiveness literature will be used in this chapter to develop hypotheses that explain the factors that promote the voluntary adoption of green electricity (GE) by Canadian-based businesses. These hypotheses will then be built into a model that describes the most common decision-making scenario that led the study's user firms to adopt GE. This will be followed by a discussion of key factors that were identified by the literature but did not appear to influence the decision by firms to use GE. Next, the broader implications of the study on public policy, the corporate ecological responsiveness literature and future research will be addressed. Finally, the chapter will conclude with a brief summary of the thesis.

Specific hypotheses that explain the factors that inhibit firms from voluntarily adopting GE will not be discussed in this chapter. The reason for this exclusion is because, as discussed in section 5.5 of the previous chapter, the majority of the inhibitors identified by the study were related to external systemic issues (e.g., premium price, distribution, and government) that were equally present for both the user and non-user firms. What is interesting from the perspective of this study is what factors are influencing the way that firms respond to and interpret these inhibitors.

6.2 External Factors

6.2.1 Location

The location of GE generation was identified by three of the user firms and two of the non-user firms as influencing their decision to adopt the initiative. In each case, GE that was regionally generated or led by a local organization was preferred to a remote source. In the case of the two user firms, U-TR1 and U-T, they are waiting for local sources of GE to become available before they will recommit to it.

In the literature, the close geographic proximity of an environmental issue to a firm's operations was identified by Andersson and Bateman (2000) as positively influencing the perception of a successful initiative. However, this correlation was not particularly strong as there was only faint evidence that the proximity of an issue led managers in the study to commit

company resources to the initiative. The spatial benefits of a GE purchase are also more closely related to where it is generated rather than where it is consumed. Unless a firm that is voluntarily using GE is displacing locally generated conventional electricity, it is unlikely that it will receive any local environmental benefits from its purchase. In the case of GE, therefore, the importance of location may have as much to do with the external optics of the initiative as it does with the actual environmental issue itself. This observation is reflected in the following comment made by the participant from U-T: “There are advantages to it being local. We can take our customers to the site...”

Another explanation that firms gave for the importance of location was that they want what they paid for. This was the case for both U-TR1 and NU-TR1. With GE, the only way to ensure that this is the case is for companies to have it distributed via power lines directly from the generator to their facilities. The cost and physical impacts of electricity distribution limits such direct use of GE to a very local proximity. The local supply of GE is also dependent on the availability of adequate resources in the vicinity such as wind, solar and biomass. Without adequate resources, the cost per kilowatt hour of electricity generated will rise substantially, making the business case for GE less appealing.

Efficiency was also cited by two of the participants – U-TR1 and U-E – as reasons why locally sourced GE is preferred. In the case of U-TR1, locally sourced GE meant that they could work more closely with the company supplying the power to ensure that it was continually improving its processes. For U-E, locally sourced GE meant that there would be less energy loss during the transmission of the commodity.

The final location attribute discussed was that there was a preference stated by three firms – U-T, U-A and NU-E - for working with GE companies that were locally based. This agreed with each company’s efforts to focus its environmental and social initiatives within its respective community.

The above discussion demonstrates that the attributes associated with location can vary from one company to the next. However, what is consistent with each of these attributes is that location is a factor that can both promote GE and inhibit its use. If it is generated close to a facility that is deciding whether or not to adopt it, then its proximity may positively influence the decision. However, if it is not close to the facility, then the willingness of a firm to pay a premium for GE may be reduced. This relationship is expressed in Hypothesis 1:

Hypothesis 1: Firms will be positively influenced to adopt green electricity when it is generated in close proximity to its facilities.

6.3 Organizational Factors

6.3.1 Industry

Industry cohesion was found to affect the decision of several firms within the study to adopt GE. Bansal and Roth (2000) argue that the cohesiveness of a firm's "field" can affect how it responds to environmental issues. The companies from the finance and automobile manufacturing industries that participated in the study are considered to have a high level of cohesion because they are both physically and socially in close proximity to the other major firms within their field. Participants in each of these sectors indicated that their decision to use or reject GE was partially influenced by other firms within their sector. No other sectors that participated in the study indicated that this was something that was taken into consideration. Although the number of participants is too few to draw generalizations, it seems likely that field cohesion may play a role, particularly in industries where environmental performance is closely monitored. This is reflected in Hypothesis 2a:

Hypothesis 2a: Firms that operate in more cohesive fields will be positively influenced to voluntarily adopt green electricity if competitors within its field begin to voluntarily use green electricity.

Another industry related factor that played a role in the decision of the study's participants to use GE was a direct connection between the products and/or services of their business and the GE industry. This connection existed for two firms, U-E and U-W. For U-W, this connection was the sole explanation for its decision to adopt GE. The issue was somewhat more complex for U-E but the participant did point out that the fact that GE was produced by some of its clients was an additional benefit. Although this finding seems intuitive, evidence supporting it could not be found in the literature. The finding is expressed in Hypothesis 2b:

Hypothesis 2b: Firms that have a financial business connection to the green electricity industry will be positively influenced to voluntarily adopt green electricity.

6.3.2 Non-Financial Measures and Proactive Decision-Making

Another finding of this study is the tendency by the user firms to use proactive decision-making criteria that extend beyond financial measures. The clearest example of these criteria

was the public disclosure of environmental performance metrics by five of the user firms. In addition to these five firms, three other user firms – U-E, U-C, and U-A – all indicated that non-financial factors are frequently used in decisions related to an environmental or social issue.

Looking specifically at *voluntary* environmental performance indicators, empirical evidence of the influence that these indicators have on the proactive decision-making within firms is seldom touched on in the literature. Instead, the literature tends to focus on how this information is used by firms to communicate to its external stakeholders (Doane, 2005; Livesey & Kearins, 2002; Pruzan, 1998). Although some empirical evidence does exist that supports the notion that voluntary public reporting of metrics is used for internal decision-making purposes, the discussion has been largely theoretical (Zadek, 1998).

The finding that environmental metrics positively influenced the likelihood of user firms to adopt GE seems to agree with the argument made by Sharma, Pablo et al. (1999b) that the level of integration of environmental information within a firm influences whether its managers perceive environmental issues as opportunities or threats. However, in the case of GE, an important caveat appears to be the public dissemination of this information. As was discussed in section 5.3.1.4, an explanation for why the public tracking of environmental indicators – particularly greenhouse gas emissions - led to an increased likelihood of a firm voluntarily adopting GE is that it increases the certainty with which the firm's environmental performance can be attributed to its operations. This in turn increased the urgency of the environmental issue being measured which ultimately increased its salience to the firm (Bansal et al., 2000).

The use of non-financial environmental criteria is particularly important in the case of GE because of the cost inhibitor associated with its premium price. The importance of such criteria is further demonstrated by the fact that environmental metrics helped a number of GE champions to legitimize the initiative. The influence of non-financial decision-making criteria is summarized in Hypothesis 3:

Hypothesis 3: The voluntary adoption of green electricity will be positively influenced by the use of non-financial environmental decision-making criteria. The salience given to these criteria will be further increased by the public reporting of indicators that are linked to environmental issues associated with conventional electricity use (e.g., greenhouse gas emissions).

6.3.3 External Legitimization of a Pollution Prevention Programme

This study has also provided empirical evidence to support Hart's (1995: 1000) hypothesis that "Over time, a pollution-prevention strategy will move from being an exclusively internal (competitive) process to an external (legitimacy-based) activity." Although almost all of the firms interviewed identified a link between their electricity use and their environmental performance, all but one of the non-user firms indicated that voluntary measures taken to reduce the environmental impacts that are linked to their electricity use had to be equated with cost savings (i.e., energy conservation or energy efficiency). The exception to this exclusive electricity-efficiency connection was NU-TR1. Although this firm did not use GE, it did participate in a community-based forest rejuvenation program as part of its efforts to neutralize its GHG emissions. This indicates that GE is not the only means by which firms in the study were externally legitimating their pollution prevention programs.

The use of public GHG emissions indicators by five of the user firms suggests that these firms, like the one non-user firm that participated in a forest rejuvenation program, have externalized their programs and, therefore, are more likely to seek recognition for their actions. This outcome is supported by the fact that the majority of user firms in the study identified legitimation-based motives as at least one of their reasons for adopting GE. The relationship between a firm's pollution prevention program and its propensity to use GE is provided in Hypothesis 4:

Hypothesis 4: The presence of a mature pollution prevention program aimed at reducing the emissions of a firm that are generally associated with conventional electricity use (e.g., greenhouse gas emissions) will positively influence the firm's decision to voluntarily adopt green electricity.

6.4 Individual Factors

6.4.1 Individual Concern and Tangible Links to Corporate Values

This study also found that both the support of a high-level decision-maker and the commitment of an internal champion are important factors in the decision of a firm to adopt GE. This agrees with the research findings by Holt et al (2001) and Lewis (2003). It also provides empirical evidence for Prakash's (2001) argument that the interests and values of managers play an important role when a firm is deciding how to respond to a voluntary environmental issue whose payoff cannot be calculated by conventional financial evaluations.

For a number of the firms in my study, it was important for the champion and/or decision-maker to have a direct interest in GE and to value it as a sustainable source of electricity. In four of the cases, the champion was able to align this interest with the firm's environmental strategy in order to gain the decision-maker's support for it as a legitimate initiative. And in three of these four instances, GE was promoted as an opportunity for the firm to gain positive public recognition in addition to being "the right thing to do". In another firm, the decision to use GE was both championed and made by a senior manager who in addition to aligning GE with the firm's existing strategy also promoted it as an opportunity to gain positive public recognition.

The connection between individual concern for an environmental initiative and broader corporate values is consistent with the observations made by Bansal (2003). What was unclear from the Bansal (2003) study, however, are the kinds of corporate values needed to align an initiative such as GE, which costs more and has minimal legitimizing pressures, with the broader corporate agenda. GE's attributes run counter to the competitive and legitimizing drivers that the literature has argued provide the main explanation for why firms respond to environmental issues (Andersson et al., 2000; Banerjee, 2001; Bansal, 2003; Bansal et al., 2000; Henriques et al., 1996; Jiang et al., 2003; King et al., 2000; Porter et al., 1995).

If we move away from looking at the motivators that drive firms' environmental decisions to the contextual factors that influence these decisions, the literature shows that an integrated proactive environmental strategy positively influences the range of environmental practices a firm is likely to adopt (Andersson et al., 2000; Banerjee, 2001; Sharma, 2000; Sharma et al., 1998). The integration of a firm's strategy or a "shared vision" was identified by Hart (1995) as a key firm-specific resource for a sustainable development strategy. If the organizational factors in Table 5.17 are used as indicators of each firm's overall environmental strategy, six of the user firms - U-F1, U-F2, U-TR1, U-R, U-T and U-A - have environmental strategies that are more proactive than their matched pair firm; the environmental strategy of three users firms - U-TR2, U-E, and U-W - are too similar to their matched non-user firm to determine which has a more proactive strategy; and the strategy for U-C cannot be compared with its non-user firm because U-C's summary represents its social performance strategy and NU-C's summary represents its environmental performance strategy. Five of the user firms (i.e., U-F1, U-F2, U-TR1, U-R, and U-T) have also been recognized by external sources as sustainability leaders in their industry as was indicated in Table 4.4 and Table 4.20 in chapter four. All of this is to say that firms with more integrated environmental strategies appear to be more likely to voluntarily adopt GE.

In addition to having an integrated environmental strategy, Sharma (2000) also found that the internal legitimation of a firm's environmental strategy was important for managers to

recognize environmental issues as opportunities rather than threats. Since there are few external drivers promoting GE as a voluntary initiative, it seems evident that these drivers must come from within the firm. My study found that tangible links between the firm's environmental strategy and the personal interest of its managers in GE positively influenced the initiative to be recognized as an opportunity rather than as a threat to the firm. For a number of the participants, links that allowed them to align their personal interest in GE with the firm's broader values were formalized environmental processes that encouraged continual improvement such as the public reporting of environmental indicators, setting environmental performance targets, a senior level environmental committee and a designated environmental department or senior manager.

For the non-user firms, the environmental strategy pursued was largely efficiency-based. This strategy is reflected in the competitive and responsive criteria used by most of these firms to assess initiatives. In addition to the more bottom-line driven environmental values, many of these firms had fewer tangible links to formal processes that emphasized continual environmental improvement.

Going back to Bansal's (2003) finding that corporate values influenced the ability of concerned individuals to promote an environmental initiative, we can now say that for a number of the study's participants, proactive or sustaining corporate environmental values positively influenced the ability of the champion to align their individual concern for the GE initiative with the firm's values. In addition to this, the values of the firm were further legitimized by formalized environmental processes that emphasized the importance of continual environmental improvement. This is expressed in Hypothesis 5:

Hypothesis 5: The voluntary adoption of green electricity will usually be championed by an individual within the firm who supports the concept of more sustainable forms of energy and who may also have direct experience with alternative energy. Furthermore, the success of the championing effort will be enhanced if the firm has a formal process that facilitates continual environmental improvement.

6.5 The “Caring Profile”

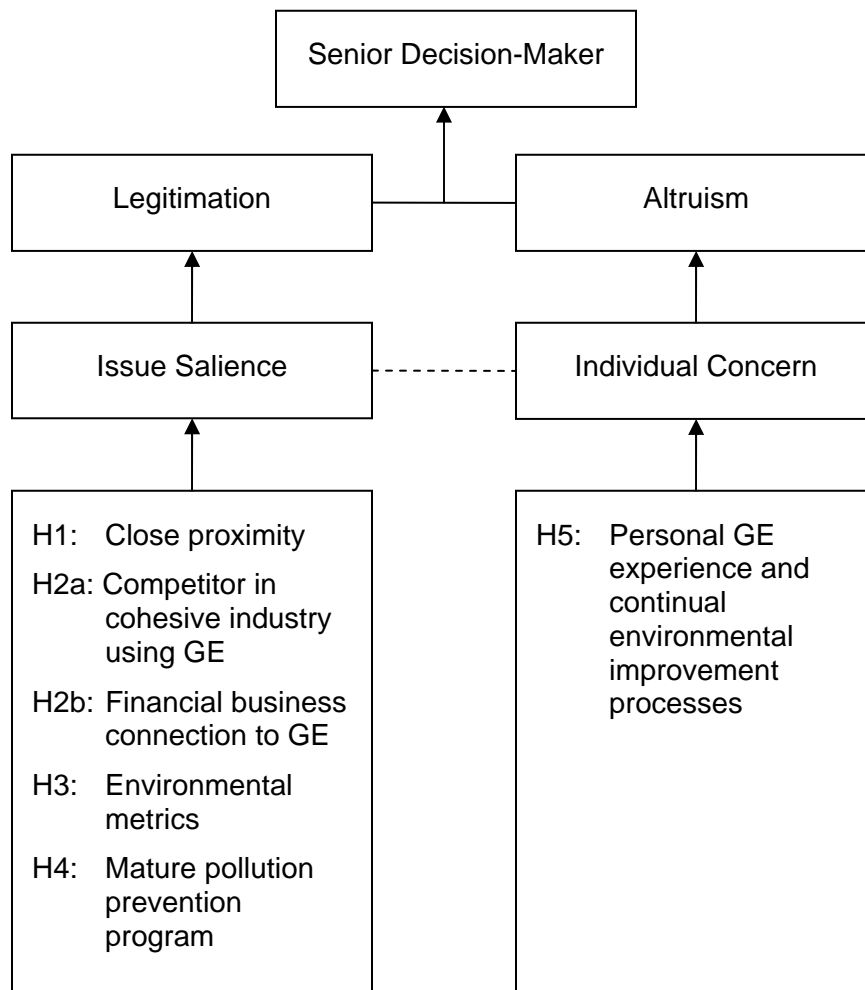
Bansal and Roth (2000: 732) hypothesized that there are three corporate profiles that can lead to unusually high ecological responsiveness. These profiles are the competitive profile, the concerned profile, and the caring profile. For the competitive profile, “the interaction between individual concern and low field cohesion promotes a mixed motive of ecological responsibility and competitiveness...” With the concerned profile, “the interaction of field cohesion and issue salience induces a more intense legitimation motivation. In this profile, the field is cohesive and, as ecological concerns are recognized, all field members respond.” Finally, in the caring profile “the influence of the individual concern on ecological responsibility is moderated by issue salience...The ability of an individual to influence organizational change is heightened as ecological responsiveness is recognized as valid. In essence, issue salience provides a legitimizing context for the individual’s introduction of change.”

As noted in the above discussion, the initiative to adopt GE was championed in most firms by a manager who was supportive of GE and in some cases had direct experience with it (see figure 6.1). A variety of instruments such as environmental indicators, ISO 14001 certification and benchmarking were used by the champions to link their individual concern with the firm’s broader environmental strategy. This approach increased the salience of the initiative in relation to the firm’s broader environmental objectives, thereby legitimating it to senior management as a voluntary initiative. From this description it is evident that for the majority of firms in the study, the decision to use GE matches the “caring profile”.

One should be careful, however, to not over generalize that all firms that voluntarily use GE fit the caring profile. Of the user firms included in my study, at least two – U-W and U-A – do not fit this profile. For U-A the decision to use GE was strictly a personal one made by the firm’s owner to “do the right thing” and was not necessarily legitimated either internally or externally. At the other end of the spectrum, the decision by U-W was purely a competitively driven one, intended to allow it to gain access to a specific market.

What should be drawn from this finding is that GE, an initiative that improves the firm’s environmental performance but has a premium cost, does not improve the firm’s efficiency and carries a relatively low level of external pressure was more likely to be adopted if it was a) championed by a concerned individual b) linked to an established business issue, and c) supported by sustaining or proactive corporate values (see figure 6.2).

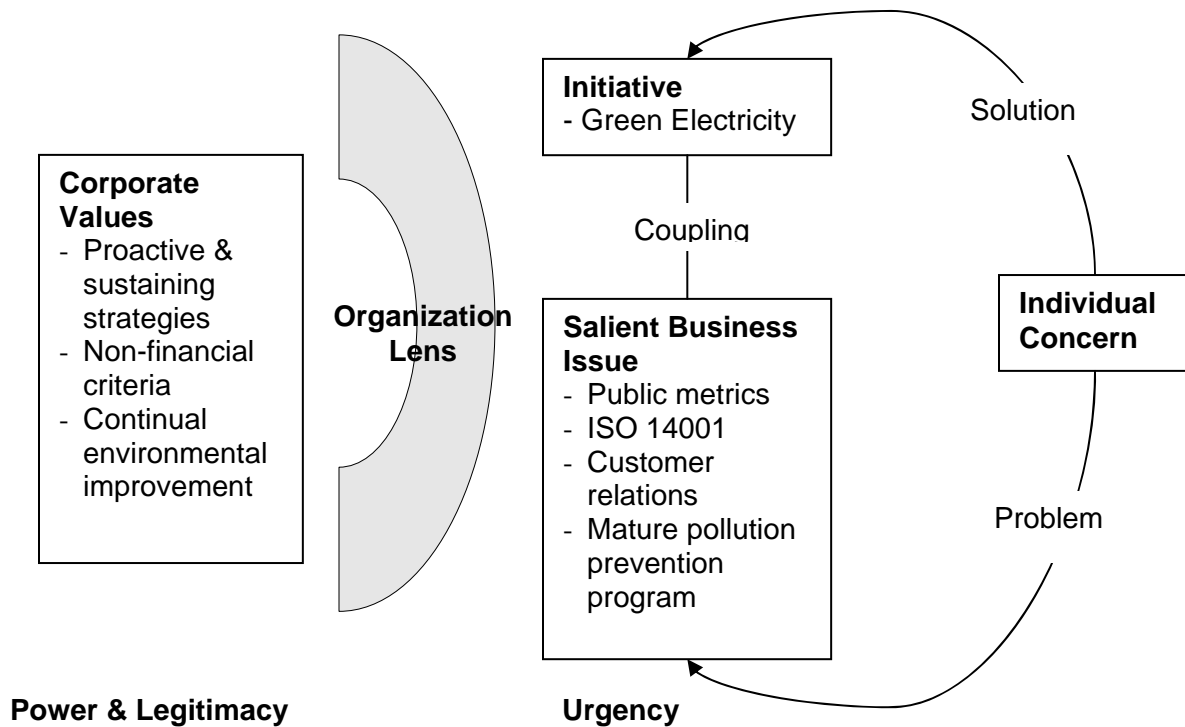
Figure 6.1: The “Caring Profile” and the Voluntary Adoption of Green Electricity



The first of these three points has been well documented in the literature (Bansal, 2003; Bansal et al., 2000; Rains et al., 2005; Sharma, 2000). This study demonstrates, however, how some champions are able to build a sense of urgency around a specific initiative by linking it to broader business issues such as customer relations, public performance indicators, and ISO certification. When this urgency is created within the context of a firm that has formal sustaining or proactive environmental processes, the three stakeholder attributes identified by Mitchell et al. (1997) are present: legitimacy, power, and urgency. The legitimacy and power of the environment are established by the fact that the firm has formal environmental mechanisms in place (Mitchell et al., 1997). In circumstances such as this, urgency is the only attribute that is missing that is needed to make an environmental issue “highly salient”. While it is unlikely that the urgency that surrounds a firm’s decision to adopt GE is viewed as extremely urgent, this

study demonstrates that champions, at least in some instances, are able to make it salient enough for decision-makers to view the initiative as a legitimate form of action.

Figure 6.2: Typical Green Electricity Decision-Making Process Identified by User Firms



The role played by the GE champion, whereby she couples a preestablished environmental solution - in this case GE – with an existing corporate issue or “problem” is similar to the role played by the “policy entrepreneur” in the formation of public policy. According to Kingdon (2003: 122), the defining characteristic of policy entrepreneurs “is their willingness to invest their resources – time, energy, reputation, and sometimes money – in the hope of a future return.” The return for most of the GE champions that participated in the study was the altruistic reward that came with the initiative being supported by their firm. What is particularly important to point out is that policy entrepreneurs do not necessarily solve problems. “Instead, they become advocates for solutions and look for current problems to which to attach their pet solution” (Kingdon, 2003: 123). A scenario that explains quite aptly how many of the GE champions built a sense of urgency around the initiative by linking it with an existing corporate issue.

This study also demonstrates that the organizational decision-making lens used by a firm to assess different environmental issues, or at least ones related to voluntary actions, may be just as important as the actual physical, spatial and emotive characteristics of the issue itself. The firms in my study that had sustaining or proactive strategies, included non-financial instruments in their decision to voluntarily adopt GE, and had continual environmental improvement processes in place, approached the decision from a different perspective than most of the non-user firms.

It is important to point out that the decision-making process to use GE did not stop for the user firms once the original decision to adopt the initiative was made. As was indicated in Table 4.18 in chapter four, the likelihood of the user firms renewing their existing GE commitment varied for each of the companies. This on again, off gain use of GE is indicative of the fact that for all but one of the firms - U-T - the actual use of GE is not an official corporate policy. Instead, using GE voluntarily was seen by most of the participants from the user firms as an initiative that needed to be reassessed from time to time in terms of its ongoing compatibility with the company's decision-making criteria and broader environmental strategy. The voluntary use of GE by these companies, therefore, was not necessarily an engrained component of their strategy but rather a part of the puzzle that could be changed as the bigger picture and the factors that influence it evolved.

What this means is that the decision-making process outlined in Figure 6.2 may need to be repeated until the adoption of GE becomes a corporate norm in its own right. When asked whether his or her company would stop using GE, the champion for U-R stated: "I don't think it's the right thing to do [stop buying GE]. I mean you made a commitment to buy it, why would you want to stop. I think that's kind of negative. So that's my own opinion but I would sell it to management."

For most of the user firms, the corporate instrument that allowed for GE's legitimization was a sustaining or proactive environmental strategy. The participant from U-F1 explained GE's role in his or her company in the following way: "You can look at it as a donation, you can look at it as enhancing your reputation. In my mind it's just basically a part of the big picture of doing the right thing when it's warranted and looking at CSR and sustainability in a bigger way." The "when it's warranted" part of this comment is determined by the firm's decision-makers and the set of criteria they use to assess what initiatives will be adopted and what ones will not be adopted. How a company looks at issues like CSR and sustainability, meanwhile, is determined by the corporate lens that is being used. What actual initiatives get seriously considered by a

firm will depend in large part on what initiatives are brought forth by individuals within the firm and the ability of these individuals to match their initiatives with salient business issues.

Of course having a sustaining or proactive environmental strategy does not necessarily guarantee that any one initiative will be adopted. In the case of this study, two non-user firms – NU-TR1 and NU-E – both had proactive environmental strategies but did not use GE at the time of the study. For NU-TR1, existing GE proposals have not yet met its criteria which include that the GE should be locally sourced and the electrons preferably received directly. And for NU-E, the suitability of GE for the firm's strategy had not yet been tested because at the time of the study it had not yet been brought to the attention of decision-makers by an internal champion.

In the end, the environmental issues related to GE were virtually the same for all the firms included in the study. However, it was the different organizational perspectives used by most of the user firms that made it a more salient issue for them. This suggests that the factors influencing the salience of an initiative may run deeper than the issue itself. Although previous studies have pointed out the importance of such non-financial organizational factors as cultural values (Bansal, 2003), issue legitimation (Sharma, 2000), and the corporate environmental paradigm (Andersson et al., 2000), they have thus far not connected these broader concepts with evidence of the tangible decision-making instruments that have allowed the champions to legitimize an initiative that does not appear to improve the firms competitiveness nor is it associated with significant external pressure.

A partial explanation for why such specific information may not have been previously identified is because research methods have tended to use either broad strategic issues or a wide range of smaller initiatives as their measure of corporate environmental performance. By limiting this study to a single and arguably non-strategic issue I was able to minimize the number of potential factors that influenced the firm's decision to adopt the initiative. In addition to this, the use of a comparative method of analysis allowed me to differentiate between factors that were present in both sets of firms and the factors that were only present in the user firms, thus, allowing for an even further reduction in the number of unique factors.

A final important discovery made by this study is that it demonstrates how different initiatives may have unique factors that influence how they are interpreted by firms. In the case of GE, location, a financial business connection to the GE industry and the personal GE experience level of either the champion or decision-maker influenced the willingness of firms to adopt the initiative. Although it is often the goal of academic studies to attempt to generalize phenomenon such as the voluntary adoption of environmental initiatives, it is important to recognize that individual initiatives may have specific factors that lie outside of generic models.

While more research needs to be conducted on initiatives with properties similar to GE before it can be known just how unique the above mentioned factors are to it, it should at least be clear that one should be cautious when using generalizations derived from broad strategic observations when studying factors that influence specific initiatives.

6.6 Factors That Did Not Influence the Voluntary Use of Green Electricity

Of the numerous factors that did not promote the voluntary use of GE, three that were nevertheless discussed in the thesis' literature review were: firm size, managerial discretion, and stakeholder integration. Although studies have found that larger firms are more likely to adopt proactive strategies and initiatives than smaller ones (Darnall, 2002; King et al., 2000; Sharma, 2000; Stratos et al., 2000), it is unclear from the study's findings whether the size of the companies that participated had a significant influence on their willingness to use GE. While the decision-making process for the larger firms in the study was more formalized (e.g., corporate policies, environmental managers, and environmental metrics), many of the firms - regardless of their size - still relied on a GE champion and senior level support. Most of the user firms also indicated that GE was adopted for both legitimating and altruistic reasons, the exceptions being one medium-sized firm that was motivated by competitive drivers and one small-sized company that was motivated purely by altruism.

Managerial discretion refers to the ability of managers to make and implement decisions that will influence the firm's environmental performance. Bansal and Roth (2000) and Bansal (2003) found that discretion is an important element in the level of influence that a manager's individual concern for an issue can have on a firm's environmental performance. Sharma (2000) also argues that the level of discretionary slack afforded to managers affects the likelihood of environmental issues being interpreted as opportunities by managers. In my study, eight of the ten decisions made by user firms to adopt GE were either championed and decided upon by the head of the firm, or required a middle-management champion to seek senior management approval. The finding that a GE purchase is usually a top-management decision is consistent with the findings of Holt et al. (2001) and Lewis (2003). Given the general need to receive senior support for a voluntary GE purchase, managerial discretion does not appear to be a factor that is currently promoting its use.

Stakeholder integration is the third factor that was discussed in the literature but was not apparent in promoting GE as an initiative. Studies by Sharma and Vredenburg (1998) and Banerjee (2001) found that firms with a higher level of stakeholder integration were more likely to demonstrate proactive environmental performance. Influences from active stakeholder

integration was not something which the participants in my study discussed as either influencing their decision to use GE nor was it something that was explicitly listed as part of their environmental decision-making process. Although numerous stakeholders were listed by the participants as being important to the firm, the regular integration of these stakeholders into the environmental decision-making process was not evident. The exception to this was that a number of participants did mention that they were regularly involved in industry and government working groups. Most of these groups, however, were generally connected to forthcoming regulations and standards or implementing existing government programs rather than firm specific initiatives. Although some of these working groups dealt with GHG related issues, GE was not mentioned by any of the participants as a topic that was discussed.

In addition to the three factors discussed above it is not clear from the study what role, if any, industry type plays in a firm's decision to use GE. Although the study did include a cross section of firms from nine different industries, only three of these were manufacturing industries and none were from a primary industry. It is worth noting that two of the three manufacturing firms had either stopped using GE at the time of the study or did not plan to renew their existing commitment compared to only one of the six service based firms that indicated that it may not renew its commitment. The tenth firm, U-C, which was in the construction industry indicated that it would renew its existing commitment. While an argument could be made that this demonstrates that GE is an initiative more likely to be adopted by serviced based firms, the fact that over 25% of the study's user population were manufacturing companies does indicate a willingness to use GE by non-service industries.

6.7 Implications

Despite continuing improvements in GE technology, it is perhaps unrealistic to expect these improvements to be sufficient enough in the near future to completely overcome the numerous external factors and organizational factors currently inhibiting its voluntary adoption by businesses. Given this argument, it is likely that GE will continue to need government support for sometime before it can call itself a financially self-sustaining industry. However, as has been shown in this study, some firms are willing to voluntarily adopt GE today as a means to demonstrate their proactive response to a broader set of environmental issues. For policymakers and GE advocates interesting in promoting this initiative to such firms, it is in their interest to seek programs that will further legitimate its use as a proactive means to improve a firm's environmental performance. The obvious place to start as a means to legitimate its use is to develop a program that publicly recognizes companies that voluntarily adopt GE. At the time of

the study the only recognition programs in Canada are the ones that are administered by the electricity retailers selling GE. Although a recognition program that was sponsored by the Government of Canada and run by Friends of the Earth (FOE) did exist from 2002 to 2003, it was eventually “mothballed” by FOE because of a lack of funding and unstable provincial level GE policies.

In the United States, the Environmental Protection Agency (EPA) has been running a reasonably successful recognition program called the Green Power Partnership since 2001. Now in its fourth year, the program has 563 “partners” that voluntarily use 2.5 million MWh of GE annually. This means that on average each of the 563 companies is demanding over 4400 MWh of GE (USEPA, 2005). This figure is particularly impressive when one considers that of the ten user firms that participated in this study, the GE purchasing leader used 2000 MWh annually.

The benefits of instituting a GE recognition program in Canada are twofold. First, it will help to raise the public profile of GE and thereby increase its public relations value for firms. Secondly, it provides potential and existing internal GE champions with a tangible instrument to legitimize the initiative within their firm, something which this study has shown to be an important influence on firms considering to voluntarily adopt the initiative.

Of course, a government supported recognition program is only one of a number of different initiatives that could be implemented to support the development of GE. Other initiatives include renewable portfolio standards, greenhouse gas emissions trading, and feed-in tariffs (i.e., a mandated minimum purchase price for electricity generated from green sources), to name just a few potential policy options. However, as this thesis is interested in the voluntary demand for GE by businesses, I have limited the discussion to demand side GE policy implications that are supported by the study’s findings.

Looking beyond GE, this study has also shown the important role that non-financial decision-making instruments and processes that facilitate continual environmental improvement play in legitimizing a voluntary environmental initiative that has no clear competitive advantage or external pressure associated with its adoption. In light of this, policies intended to improve the long-term sustainability of firms should include programs that improve the capability of companies to use non-financial factors as part of the decision-making process. This in turn will help companies to look at environmental issues from potentially new perspectives and assist environmental champions to legitimize a broader range of voluntary initiatives. The long-term benefits of such a program could certainly extend well beyond GE and potentially make the adoption of future voluntary environmental initiatives more straightforward.

Legislation that requires large Canadian financial and insurance companies to publish annual public accountability reports is an example of an initiative that has both increased non-financial decision-making capabilities and has led to improved performance. In my interviews with representatives of the financial industry, the public accountability requirement was specifically identified by most of the participants as an instrument that has improved not only their communication of social and environmental issues but it has also acted as an impetus for the adoption of more proactive strategies within the financial industry.

In terms of financial incentives that can motivate more firms to adopt GE, most of the user and non-user firms that participated in the study were weary of using aggressive tax incentives or rebates as a means to narrow the premium price gap between conventional electricity and GE. Although a number of the participants did not object to small financial incentives, they did not necessarily think that this was the best use of government funds to support GE development. This sentiment was particularly strong with the non-user firms and is therefore an indication that such measures would not necessarily entice them to adopt GE. One financially related incentive that was supported by some of the participants was the use of tradable carbon credits that could be earned from buying GE. However, reaction to this initiative was mixed as some participants saw this as a means for heavy polluters to continue with their existing processes.

Given the findings of this study, it seems reasonable to suggest that the best sustainable policy strategy to encourage firms to voluntarily adopt environmental initiatives that are good for the environment but not necessarily good for the firm from a financial perspective is to develop decision-making processes that take the non-financial benefits of such initiatives into account. By focusing on organizational decision-making capabilities, government and environmental advocates are not only planting the seeds for continual environmental improvement but also provide internal champions with the necessary tools to legitimize a wide array of environmental issues.

6.8 Contribution

Research on the factors that promote and inhibit the voluntary adoption of green electricity by Canadian-based businesses has made three main contributions to the academic literature. To begin with, this study empirically demonstrated the factors that influence firms to adopt GE, a voluntary initiative that is good for the environment but does not have a clear benefit to the firm adopting it. It provides, therefore, some answers to Banerjee's (2001: 509)

question: “[W]hat happens when what’s good for the environment is not good for the company[?]”

The study has also provided objective data on the decision by firms to voluntarily substitute a conventional source of energy for a more sustainable source of energy. Energy substitution was pointed out by Sharma (2000: 693) as an area of study that would help to advance research on the comparative environmental performance of organizations. In the case of this study, energy substitution appears to have properties that appeal more to firms that meet the “caring profile” than firms whose environmental performance is driven by purely competitive factors.

In terms of the green energy literature, this research has added considerable theoretical and empirical depth to previous studies that have looked at the willingness of firms to adopt GE. The focus of this study on the contextual factors that influence a firm’s motivation to adopt the initiative rather than strictly on the motivation has allowed the discussion to advance from looking at the effect of a decision, to developing an understanding of what elements cause the desired effect to occur.

6.9 Limitations and Future Research

The main limitation of the study is that its findings cannot be generalized beyond the group of firms that participated in this study. It is also unclear how well its findings apply to jurisdictions where the electricity market is deregulated and/or where the price gap between GE and conventional electricity is markedly narrower than it was in Ontario at the time of the study. Although some of the findings from this study, particularly related to the motivation of firms to adopt GE, agree with the findings from a European study (Lewis, 2003) and partially with the findings from an American study (Holt et al., 2001), subsequent research is needed to empirically test its hypotheses that explain the contextual factors that influence a firm’s decision to adopt GE rather than the motivation of firms to adopt GE. In addition to empirically testing the hypotheses, parallel research needs to be carried out in a deregulated electricity market in order to understand the potential influence that market conditions have on a firm’s willingness to adopt the initiative. Although previous GE studies have been carried out in both regulated and deregulated markets, these studies did not disaggregate the data based on differences in the electricity market (Holt et al., 2001; Lewis, 2003). Little is known, therefore, about how different market structures influence firms’ GE decisions.

Another limitation of the study is that it used only one voluntary environmental initiative – GE – to explore how firms are making decisions regarding initiatives that are good for the

environment but not necessarily good for the firm. While the reliability of the study's findings is strengthened by the fact that it draws a number of parallels with the caring profile hypothesized by Bansal and Roth (2000), further empirical testing of this profile is needed to determine how well it applies to other initiatives with properties similar to GE and the role that initiative specific factors play in contributing to issue salience.

Finally, the study has provided empirical evidence of the role that non-financial decision-making instruments such as publicly stated environmental metrics and "best practice" play in legitimizing environmental issues within a firm. Because these types of instruments play an important role in how firms interpret their environmental performance, it is important to understand what factors influence the instruments ultimately used by firms, the type of information that they communicate, and how this information is incorporated with more conventional measures of corporate performance. Although considerable research has been conducted on reporting methods such as "the triple bottom line" and the Global Reporting Initiative, the successful integration and persistent application of non-financial factors into regular business decision-making processes is still relatively unexplored.

6.10 Conclusion

Research on the environmental performance of firms has shown that most environmental processes and initiatives adopted by businesses are intended to improve their competitiveness or legitimation. This study sought to develop an understanding of the factors that influence some firms to adopt initiatives that are good for the environment but do not necessarily improve their competitiveness or legitimation. Green electricity was used by the study as an objective measure to explore this issue because while it improves a company's environmental performance, it increases its costs, does not improve corporate efficiency, and has relatively little external pressure associated with its use.

Previous studies have shown that a wide range of potential factors can influence how firms respond to environmental issues. The more prevalent factors found in the corporate ecological responsiveness literature include corporate values (Andersson et al., 2000; Bansal, 2003); the integration of environmental information (Banerjee, 2001; Hart, 1995; Sharma, 2000); stakeholder integration (Banerjee, 2001; Sharma et al., 1998); issue salience (Bansal et al., 2000); and individual concern (Bansal, 2003; Bansal et al., 2000; Prakash, 2000). While the literature provided a rich framework to investigate the research topic, it still did not explain the factors that differentiated firms that voluntarily adopt GE from firms that rejected the initiative.

In order to develop a better understanding of the phenomenon, this study used an exploratory research approach to conduct a comparative investigation of the factors that promote and inhibit the voluntary adoption of GE by Canadian-based businesses. The research found that the voluntary adoption of GE by businesses demonstrates the important role that individuals within a firm play in the successful adoption of voluntary environmental initiatives. An important aspect of this success is the ability of the individual to attach her or her personal interest to a tangible business issue. This task is in turn aided by proactive or sustaining corporate environmental strategies that formalize continual environmental improvement processes and are predisposed to evaluating the success of an initiative on more than its financial or legitimizing contribution to the firm.

Given the findings of this study, it appears that before more businesses can be expected to voluntarily adopt initiatives that are good for the environment but are not necessarily good for the firm, they will need to develop norms and values that extend beyond the bottom-line. Once this is done, how far these firms are willing to go is anyone's guess. The critical moment, in terms of sustainability, will occur when a firm is equally unwilling to advance its financial, environmental, or social performance if it is done at the expense of at least one of the other two measures.

Appendix A: Interview Schedule for User Firm Participants

1. Environmental and Social Performance/Responsibility Strategy

1.1 Social and environmental performance/responsibilities in context of broader business objectives.

Q 1.1 To begin with, can you tell me in broad terms how your company approaches decisions related to its environmental performance and social responsibility.

Probe: Who is involved in the decision making process?
What stakeholders need to be considered before adopting an initiative?
What criteria do you need to consider?
Explain to me the analysis that is carried out in order to evaluate the merits of different initiatives.

1.2 Social priorities & criteria

Q 1.2 Can you tell me in general terms what your company's top 2 or 3 social responsibility priorities are over the next couple of years?

Probe: Examples of possible priorities you can ask them about in case they are stuck:
How much of a priority is...

- Ensuring that health and safety requirements meet regulatory requirements?
- Daycare facilities for employees' children?
- Financial support to community charities?
- Corporate governance?
- Promoting employees who volunteer in the community?
- Pay equity?
- Ergonomic workplaces?

IF NO SOCIAL PRIORITIES HAVE BEEN SET THEN ASK

Q – How does your company normally decide that it needs to initiate a response to a social responsibility issue?

Q 1.2.1 How does our company determine what projects related to its corporate social responsibilities become its priorities? In other words if you have a list of say 10 potential projects, how do you decide which of these projects should get addressed first and which ones can be looked at later?

Probe: What criteria do you have to consider when setting your company's short-term and medium-term social responsibility priorities?
What drives your company's environmental priorities?
What kind of analytical tools does your company use to calculate the pros and cons of a potential environmental project?
How does your company consider the "softer" benefits (e.g., public relations, employee morale) that are often associated with non-regulated voluntary initiatives?
What types of events or influences can increase the level of priority that you give to dealing with an environmental issue or problem?
How well do these priorities meet your company's primary business objective of maximizing its profits?
What departments and key employees are involved in the decision making process for social responsibility initiatives?
If you consider the priorities that we just discussed, what has made these items priorities for your company?
What types of things get labelled as a "social" issue by your company?
What drives your social decision-making?
What department within your organization would generally work on a social issue?

Examples of possible criteria you can ask them about in case they are stuck:

How important is it for an environmental initiative adopted by your company to...

- Increase the company's financial bottom line?
- Address a popular public issue?
- Reduce the risk of future regulation?
- Reinforce existing corporate values?
- Be already adopted by your competitors?
- Require a minimal amount of new technology to be installed by our company?
- Place few demands on our existing operating systems?
- Generate positive public recognition?
- Make a significant contribution to the broader well-being of the local community/region/nation/world?
- Mitigate a social issue that is linked directly to the company's facilities?
- Be difficult for your competitors to mimic?
- Improve the company's overall social responsibility performance?

Q 1.2.2 What stakeholders have the most influence on how your social responsibility priorities are set?

Probe: How do stakeholders influence your social responsibility priorities?
What stakeholder groups influence your social responsibility decision-making?
In what way are your priorities affected by what your competitors are doing?

Examples of stakeholders you can ask them about in case they are stuck:
How is your decision to adopt a social responsibility initiative affected by...

- Top management
- Employees
- Government regulators
- Industry association
- Social advocacy organizations
- Environmental organizations
- Customers
- Institutional lenders
- Business groups (e.g., The Chamber of Commerce)
- Media
- Ethical investment funds
- Insurers
- Suppliers of goods and services
- Shareholders
- Board of directors
- Communities in which you are located

1.3 Environmental priorities & criteria

Q 1.3 Can you tell me in general terms what your company's top 2 or 3 environmental priorities are in the next couple of years?

- Probe: Examples of possible priorities you can ask them about in case they are stuck:
How much of a priority is...
- Ensuring that the level of pollution generated on-site is less than the maximum amount permitted by law?
 - Implementing or maintaining an Environmental Management System (EMS)?
 - Increasing energy efficiency?
 - Working with suppliers to improve their environmental performance?
 - Redesigning operating processes to prevent pollution and waste from being generated in the first place?
 - Reducing the amount of materials needed to produce each unit of your product or service?
 - Supporting natural habitat preservation?
 - Extending product durability?

IF NO ENVIRONMENTAL PRIORITIES HAVE BEEN SET THEN ASK

Q – How does your company normally decide that it needs to initiate a response to an environmental issue?

Q 1.3.1 How does our company determine what environmental projects become its priorities? In other words if you have a list of say 10 potential projects, how do you decide which of these projects should get addressed first and which ones can be looked at later?

Probe: What criteria do you have to consider when setting your company's short-term and medium-term environmental priorities?
What drives your company's environmental priorities?
What kind of analytical tools does your company use to calculate the pros and cons of a potential environmental project?
How does your company consider the "softer" benefits (e.g., public relations, employee morale) that are often associated with non-regulated voluntary initiatives?
What types of events or influences can increase the level of priority that you give to dealing with an environmental issue or problem?
How well do these priorities meet your company's primary business objective of maximizing its profits?
What departments and key employees are involved in the decision making process for environmental initiatives?
If you consider the priorities that we just discussed, what has made these items priorities for your company?
What types of things get labelled as an "environmental" issue by your company?
What drives your environmental decision-making?
What department within your organization would generally work on an environmental issue?

Examples of possible criteria you can ask them about in case they are stuck:

How important is it for an environmental initiative adopted by your company to...

- Increase the company's financial bottom line?
- Address a popular public issue?
- Reduce the risk of future regulation?
- Reinforce existing corporate values?
- Be already adopted by your competitors?
- Require a minimal amount of new technology to be installed by our company?
- Place few demands on our existing operating systems?
- Generate positive public recognition?
- Make a significant contribution to the broader health of the environment?
- Mitigate an environmental concern that is linked directly to the company's facilities?
- Be difficult for your competitors to mimic?
- Improve the company's overall environmental performance?

Q 1.3.2 What stakeholders have the most influence on how your environmental priorities are set?

Probe: How do stakeholders influence your environmental priorities?
What stakeholder groups influence your environmental decision-making?
In what way are your priorities affected by what your competitors are doing?

Examples of stakeholders you can ask them about in case they are stuck:
How is your decision to adopt an environmental initiative affected by...

- Top management
- Employees
- Government regulators
- Industry association
- Social advocacy organizations
- Environmental organizations
- Customers
- Institutional lenders
- Business groups (e.g., The Chamber of Commerce)
- Media
- Ethical investment funds
- Insurers
- Suppliers of goods and services
- Shareholders
- Board of directors
- Communities in which you are located

2. Electricity

2.1 Importance of electricity

Q 2.1 The remainder of the interview is going to shift from looking at your company's broad environmental and social strategies to specifically discussing its use of electricity. To start with can you tell me in general, how important is electricity to your operations?

Probe: Would you consider electricity to be more of an operational issue than a strategic issue or vice versa?
How significant of an expense item is electricity to your company's operations?
How does the procurement of electricity compare to other procurements made by your company?

Q 2.2 When your company negotiates a new electricity contract, what are the most important criteria that you need to consider?

Probe: Examples of possible criteria you can ask them about in case they are stuck:
How important is...

- Price?
- Including a hedging instrument as part of your overall portfolio?
- Reliability of supply?
- Source of generation?
- Diversity of supply?
- Length of contract?
- Price volatility on the electricity spot market?

Q 2.2.1 How would you rank each of these criteria in terms of its importance?

Probe:

2.3 Current electricity consumption & decision making

Q 2.3 I would like to now develop a better understanding of your specific electricity uses and needs. Can you tell me how your company's current electricity contract structured?

Probe: Do you pay the province's subsidized flat rate or do you need to negotiate directly with an electricity retailer in order to set your rate?
Does your head office negotiate one electricity contract that is applied to all of our Ontario/Alberta locations?
Is your electricity contract negotiated by an industry consortium and the price of the contract is then applied to all of our company's Ontario/Alberta locations?
Does each of your company's locations in Ontario/Alberta negotiate its own separate electricity contract?

Q 2.3.1 When your company negotiates and eventually signs a contract to purchase electricity, what departments or units within your company are most likely to be consulted regarding the decision?

Probe: Examples of possible departments you can ask them about in case they are stuck: What kind of role would the _____ play in a electricity procurement decision?

- Environmental department
- CEO, owner or director
- Parent company
- Marketing or public relations department
- Facilities/energy/procurement department
- Finance or accounting department

Q 2.4 I am going to give you several ranges of average monthly electricity use. Can you please tell me which range best reflects your company's average electricity use in Ontario/Alberta?

- Less than 10,000 kWh per month
- 10,000 kWh to 20,000 kWh per month
- 20,000 kWh to 100,000 kWh per month
- 100,000 kWh to 1,000,000 kWh per month
- More than 1,000,000 kWh per month

2.5 Electricity and environmental/social performance

Q 2.5 I would now like to talk about how electricity consumption is compatible with some of the broader environmental and social objectives of your company that we discussed at the start of the interview. I want to start by giving you a list of five electricity related initiatives that your firm could hypothetically adopt. Can you please take a moment to rank them from the most likely to the least likely to be implemented by your company?

- Co-generation (i.e., the simultaneous production of heat and electricity)
- Purchasing green electricity (e.g., wind, solar, biomass) from the grid
- Energy conservation
- Generating on-site green electricity (e.g., wind, solar, biomass)
- Increasing energy efficiency
- Other? _____

Probe:

Q 2.5.1 Can you please explain to me what factors you considered while you ranked the different initiatives?

Probe: For example, what made you choose _____ for number 1 and _____ for number 2?
Why did you choose _____ as the least likely initiative to be adopted by your company?
Is your company presently looking at implementing any of these initiatives? Why or why not?

3. Green Electricity

Q 3.1 For the remainder of the interview I am going to shift our focus specifically to green electricity. Can you start by telling me what your general impressions of “green electricity” are?

Probe: How do you think it differs from conventional electricity?
What energy sources do you feel should relate to green electricity?
How does “green” electricity differ from “renewable” electricity?
What comes to mind when you hear somebody mentions “green” electricity?
What environmental and social attributes do you most commonly associate with green electricity?
Do you feel that there is a high level of public support in Ontario/Alberta for the use of green electricity?
Whose responsibility should the development of green electricity be?
Do you think that green electricity is an effective way to reduce climate change?
Do you think that green electricity is an effective way to reduce smog?
Is green electricity a reliable source of electricity?
Is green electricity an effective and efficient means for society to improve its environmental and social performance?

Q 3.1.1 Please rank each of the following sources of green electricity from the most preferred to the least preferred source for your company?

- Small Hydro
- Solar
- Wind
- Biomass
- Other? _____

3.2 Green electricity decision-making process

Q 3.2 When did your company make the decision to voluntarily buy green electricity?

Q 3.2.1 How did your company's decision to buy green electricity play itself out?

Probe: Did a particular unit or department in your company champion the initiative?
What units or departments within your company were involved in the decision?
How long did the decision-making process last?
Who made the final decision to adopt the initiative?

Examples of possible departments you can ask them about in case they are stuck:
What kind of role did the _____ play in your company's decision to purchase green electricity?

- Environmental department
- CEO, owner or director
- Parent company
- Marketing or public relations department
- Facilities/energy/procurement department
- Finance or accounting department

Q 3.2.2 Why did you company decide to buy green electricity?

Probe: Can you explain to me whether your company uses green electricity acting as an energy hedge?
What benefits do you see coming out of your voluntary purchasing of green electricity?
How does your purchase of green electricity compare against other possible initiatives in terms of its ability to obtain your company's environmental and social objectives in an effective and efficient manner?
What do you see as the business case for buying green electricity? What are the strengths and weaknesses of this business case?
Do you feel that your voluntary purchase of green electricity has helped with your company's relations with government regulators?
What kinds of competitive advantages might be linked to your purchase of green electricity?
What about public relations?
Did you experience any technical barriers to adopting green electricity?
What stakeholders do you see benefiting most from your green electricity purchase?

Q 3.2.3 What stakeholders did you take into consideration when making your decision to purchase green electricity?

Probe: Did you give special consideration to anyone group more than the others?

Examples of stakeholders you can ask them about in case they are stuck:

How is your decision to purchase green electricity...

- Top management
- Employees
- Government regulators
- Social advocacy organizations
- Environmental organizations
- Customers
- Institutional lenders
- Business groups (e.g., The Chamber of Commerce)
- Media
- Ethical investment funds
- Insurers
- Suppliers of goods and services
- Shareholders
- Board of directors
- Communities in which you are located

Q 3.2.4 What aspects of your green electricity purchase have worked well for your company?

Probe: What are some of the benefits that have definitely materialized?
What are some of the unanticipated benefits that have not been met?
Have you had any unanticipated surprises?

Q 3.2.5 Are there any aspects of your green electricity purchase that you would like to change in order to make a future purchase more desirable to your company?

Probe: Have you had any negative experiences with your green electricity purchase?
Have you had any negative experiences with your purchase?

3.3 Criteria for continued commitment to green electricity

Q 3.3 When your current green electricity contract ends, how likely is it that your company will renew its purchase?

IF NOT LIKELY TO RENEW GREEN ELECTRICITY PURCHASE, ASK

Q – Why is it unlikely that you will renew your current contract?

Q 3.3.1 Can you give me a few examples of incentives or changes that would make it more likely for your company to continue buying green electricity or to even increase your existing procurement amount in the future? For example, what kinds of things could the electricity market, civil society, government, electricity retailers, stakeholders or your competitors do to increase your willingness to buy more green electricity?

Probe: What types of market incentives would make green electricity seem more attractive? What do you see as the most likely reason that you would buy green electricity? You mentioned in the last question that _____ was a drawback to purchasing green electricity, what do you think could be done to make this less of an obstacle for your firm?

Examples of specific incentives or change you can ask them about in case they are stuck:

What kind of change in _____ would have to occur in order to increase your likelihood of buying green electricity in the future?

- Price
- Whether your competitors are buying green electricity
- Recognized by government regulators as a pollution reduction measure
- Contract or commitment length
- Percent of your company's electricity portfolio that will be green
- Type of green electricity (wind, biomass, solar, etc.)
- Your money will go towards constructing new green electricity generation rather than towards the operation of existing facilities
- Green electricity is generated in-province rather than out-of province
- It is part of a green power program that includes both electricity conservation and green electricity
- The amount of public recognition associated with different purchase volumes
- Guaranteed long-term price stability
- The capability of green electricity to provide a reliable supply of electricity
- The existence of a regulated body to track the environmental benefits attributed to green electricity
- Scientific evidence supporting the true environmental and social benefits of green electricity

3.4 Salience of green electricity procurement

Q 3.4 For the next set of questions I want you to ask you specific questions about your company's green electricity purchasing decision-making process. What is the source of your current green electricity purchase (e.g., small hydro, solar, wind, biomass, etc.) and why did you choose this source over other potential sources?

Probe: What different sources were you offered when you were negotiating your contract?
Do you feel that all sources of green electricity are created equal in terms of the benefits that they offer your company?
Do you see any advantage in negotiating a "bundled" green electricity contract that includes more than just one source?

Q 3.4.1 What percentage of your current electricity use is supplied by green electricity?

_____ percent

Q 3.4.2 What percentage of your current electricity supply would you like to buy from green electricity?

Probe: In other words, how much would your ideal volume of green electricity be relative to conventionally generated electricity?

IF LESS THAN 100% ASK:

Q – Why wouldn't you want 100% of your electricity to be supplied by green electricity?

IF MORE THAN THEIR CURRENT AMOUNT ASK:

Q – What do you see as the 2 or 3 most significant barriers currently preventing your company from buying this percentage of green electricity?

Q 3.5 If your company could buy green electricity to meet 10% of its electricity requirements, either now or in the future, how likely would it be that your company was willing to pay the different price ranges as indicated on this chart for the green electricity portion of its electric power requirements relative to what you now pay for electricity?

	Very Unlikely	1	2	3	4	5	Somewhat Likely	Very Likely
At a slightly discounted cost (less than current cost)?	1	2	3	4	5			
At a competitive cost (equal to current cost)?	1	2	3	4	5			
At a 1 to 10% higher cost (0.1 to 1.0% total increase)?	1	2	3	4	5			
At a 10 to 25% higher cost (1.0 to 2.5% total increase)?	1	2	3	4	5			
At a 25 to 50% higher cost (2.5 to 5.0% total increase)?	1	2	3	4	5			
At a 50% or more higher cost (5.0% to 10% total increase)?	1	2	3	4	5			
At a higher cost if bundled with services like energy efficiency, special metering or consolidated billing?	1	2	3	4	5			
At a higher cost that is completely offset by energy efficiency savings?	1	2	3	4	5			
Other (<i>Please specify</i>)	1	2	3	4	5			

3.6 Government Policy

Q 3.6 How do you think future green electricity development should be encouraged in Ontario?

- Probe:
- Who do you think should be responsible for the development of a green electricity market in Ontario/Alberta?
 - Is there a role for a voluntary market?
 - Should people and businesses be expected to pay more for their electricity?
 - What role should utilities play in the development of green electricity?
 - What is your feeling about "Green" tax incentives?
 - What are your thoughts on the effectiveness of a voluntary government challenge?
 - How about an emissions trading system?

Q 3.7 In the event that the province mandated that all electricity utilities had to purchase a minimum percentage of green electricity as part of their total supply, say 10% for example, would this make your company more inclined, less inclined, or just as likely to voluntarily buy additional green electricity beyond what the government is mandating utilities to supply? Why?

4. Company Profile

4.1 Green consumers

Q 4.1 What percentage of your sales revenue do you estimate can be attributed to customers whom you believe make a concerted effort to buy green products and services?

Probe:

4.2 Annual revenue

Q 4.2 Into which of the following gross annual revenue categories does your company's *Canadian* operations fall?

- less than \$500,000
- \$500,000 to \$2 million
- \$2 m to \$10 million
- \$10 m to \$100 million
- \$100 million to \$1 billion
- more than \$1 billion

Appendix B: Interview Schedule for Non-User Firm Participants

1. Environmental and Social Performance/Responsibility Strategy

1.4 Social and environmental performance/responsibilities in context of broader business objectives.

Q 1.1 To begin with, can you tell me in broad terms how your company approaches decisions related to its environmental performance and social responsibility.

Probe: Who is involved in the decision making process?
What stakeholders need to be considered before adopting an initiative?
What criteria do you need to consider?
Explain to me the analysis that is carried out in order to evaluate the merits of different initiatives.

1.5 Social priorities & criteria

Q 1.2 Can you tell me in general terms what your company's top 2 or 3 social responsibility priorities are over the next couple of years?

Probe: Examples of possible priorities you can ask them about in case they are stuck:
How much of a priority is...

- Ensuring that health and safety requirements meet regulatory requirements?
- Daycare facilities for employees' children?
- Financial support to community charities?
- Corporate governance?
- Promoting employees who volunteer in the community?
- Pay equity?
- Ergonomic workplaces?

IF NO SOCIAL PRIORITIES HAVE BEEN SET THEN ASK

Q – How does your company normally decide that it needs to initiate a response to a social responsibility issue?

Q 1.2.1 How does our company determine what projects related to its corporate social responsibilities become its priorities? In other words if you have a list of say 10 potential projects, how do you decide which of these projects should get addressed first and which ones can be looked at later?

Probe: What criteria do you have to consider when setting your company's short-term and medium-term social responsibility priorities?
What drives your company's environmental priorities?
What kind of analytical tools does your company use to calculate the pros and cons of a potential environmental project?
How does your company consider the "softer" benefits (e.g., public relations, employee morale) that are often associated with non-regulated voluntary initiatives?
What types of events or influences can increase the level of priority that you give to dealing with an environmental issue or problem?
How well do these priorities meet your company's primary business objective of maximizing its profits?
What departments and key employees are involved in the decision making process for social responsibility initiatives?
If you consider the priorities that we just discussed, what has made these items priorities for your company?
What types of things get labelled as a "social" issue by your company?
What drives your social decision-making?
What department within your organization would generally work on a social issue?

Examples of possible criteria you can ask them about in case they are stuck:

How important is it for an environmental initiative adopted by your company to...

- Increase the company's financial bottom line?
- Address a popular public issue?
- Reduce the risk of future regulation?
- Reinforce existing corporate values?
- Be already adopted by your competitors?
- Require a minimal amount of new technology to be installed by our company?
- Place few demands on our existing operating systems?
- Generate positive public recognition?
- Make a significant contribution to the broader well-being of the local community/region/nation/world?
- Mitigate a social issue that is linked directly to the company's facilities?
- Be difficult for your competitors to mimic?
- Improve the company's overall social responsibility performance?

Q 1.2.2 What stakeholders have the most influence on how your social responsibility priorities are set?

Probe: How do stakeholders influence your social responsibility priorities?
What stakeholder groups influence your social responsibility decision-making?
In what way are your priorities affected by what your competitors are doing?

Examples of stakeholders you can ask them about in case they are stuck:
How is your decision to adopt a social responsibility initiative affected by...

- Top management
- Employees
- Government regulators
- Industry association
- Social advocacy organizations
- Environmental organizations
- Customers
- Institutional lenders
- Business groups (e.g., The Chamber of Commerce)
- Media
- Ethical investment funds
- Insurers
- Suppliers of goods and services
- Shareholders
- Board of directors
- Communities in which you are located

1.6 Environmental priorities & criteria

Q 1.3 Can you tell me in general terms what your company's top 2 or 3 environmental priorities are in the next couple of years?

- Probe: Examples of possible priorities you can ask them about in case they are stuck:
How much of a priority is...
- Ensuring that the level of pollution generated on-site is less than the maximum amount permitted by law?
 - Implementing or maintaining an Environmental Management System (EMS)?
 - Increasing energy efficiency?
 - Working with suppliers to improve their environmental performance?
 - Redesigning operating processes to prevent pollution and waste from being generated in the first place?
 - Reducing the amount of materials needed to produce each unit of your product or service?
 - Supporting natural habitat preservation?
 - Extending product durability?

IF NO ENVIRONMENTAL PRIORITIES HAVE BEEN SET THEN ASK

Q – How does your company normally decide that it needs to initiate a response to an environmental issue?

Q 1.3.1 How does our company determine what environmental projects become its priorities? In other words if you have a list of say 10 potential projects, how do you decide which of these projects should get addressed first and which ones can be looked at later?

Probe: What criteria do you have to consider when setting your company's short-term and medium-term environmental priorities?
What drives your company's environmental priorities?
What kind of analytical tools does your company use to calculate the pros and cons of a potential environmental project?
How does your company consider the "softer" benefits (e.g., public relations, employee morale) that are often associated with non-regulated voluntary initiatives?
What types of events or influences can increase the level of priority that you give to dealing with an environmental issue or problem?
How well do these priorities meet your company's primary business objective of maximizing its profits?
What departments and key employees are involved in the decision making process for environmental initiatives?
If you consider the priorities that we just discussed, what has made these items priorities for your company?
What types of things get labelled as an "environmental" issue by your company?
What drives your environmental decision-making?
What department within your organization would generally work on an environmental issue?

Examples of possible criteria you can ask them about in case they are stuck:

How important is it for an environmental initiative adopted by your company to...

- Increase the company's financial bottom line?
- Address a popular public issue?
- Reduce the risk of future regulation?
- Reinforce existing corporate values?
- Be already adopted by your competitors?
- Require a minimal amount of new technology to be installed by our company?
- Place few demands on our existing operating systems?
- Generate positive public recognition?
- Make a significant contribution to the broader health of the environment?
- Mitigate an environmental concern that is linked directly to the company's facilities?
- Be difficult for your competitors to mimic?
- Improve the company's overall environmental performance?

Q 1.3.2 What stakeholders have the most influence on how your environmental priorities are set?

Probe: How do stakeholders influence your environmental priorities?
What stakeholder groups influence your environmental decision-making?
In what way are your priorities affected by what your competitors are doing?

Examples of stakeholders you can ask them about in case they are stuck:
How is your decision to adopt an environmental initiative affected by...

- Top management
- Employees
- Government regulators
- Industry association
- Social advocacy organizations
- Environmental organizations
- Customers
- Institutional lenders
- Business groups (e.g., The Chamber of Commerce)
- Media
- Ethical investment funds
- Insurers
- Suppliers of goods and services
- Shareholders
- Board of directors
- Communities in which you are located

2. Electricity

2.1 Importance of electricity

Q 2.1 The remainder of the interview is going to shift from looking at your company's broad environmental and social strategies to specifically discussing its use of electricity. To start with can you tell me in general, how important is electricity to your operations?

Probe: Would you consider electricity to be more of an operational issue than a strategic issue or vice versa?
How significant of an expense item is electricity to your company's operations?
How does the procurement of electricity compare to other procurements made by your company?

Q 2.2 When your company negotiates a new electricity contract, what are the most important criteria that you need to consider?

Probe: Examples of possible criteria you can ask them about in case they are stuck:
How important is...

- Price?
- Including a hedging instrument as part of your overall portfolio?
- Reliability of supply?
- Source of generation?
- Diversity of supply?
- Length of contract?
- Price volatility on the electricity spot market?

Q 2.2.1 How would you rank each of these criteria in terms of its importance?

Probe:

2.3 Current electricity consumption & decision making

Q 2.3 I would like to now develop a better understanding of your specific electricity uses and needs. Can you tell me how your company's current electricity contract structured?

Probe: Do you pay the province's subsidized flat rate or do you need to negotiate directly with an electricity retailer in order to set your rate?
Does your head office negotiate one electricity contract that is applied to all of our Ontario/Alberta locations?
Is your electricity contract negotiated by an industry consortium and the price of the contract is then applied to all of our company's Ontario/Alberta locations?
Does each of your company's locations in Ontario/Alberta negotiate its own separate electricity contract?

Q 2.3.1 When your company negotiates and eventually signs a contract to purchase electricity, what departments or units within your company are most likely to be consulted regarding the decision?

Probe: Examples of possible departments you can ask them about in case they are stuck:
What kind of role would the _____ play in a electricity procurement decision?

- Environmental department
- CEO, owner or director
- Parent company
- Marketing or public relations department
- Facilities/energy/procurement department
- Finance or accounting department

Q 2.4 I am going to give you several ranges of average monthly electricity use. Can you please tell me which range best reflects your company's average electricity use in Ontario/Alberta?

- Less than 10,000 kWh per month
- 10,000 kWh to 20,000 kWh per month
- 20,000 kWh to 100,000 kWh per month
- 100,000 kWh to 1,000,000 kWh per month
- More than 1,000,000 kWh per month

2.5 Electricity and environmental/social performance

Q 2.5 I would now like to talk about how electricity consumption is compatible with some of the broader environmental and social objectives of your company that we discussed at the start of the interview. I want to start by giving you a list of five electricity related initiatives that your firm could hypothetically adopt. Can you please take a moment to rank them from the most likely to the least likely to be implemented by your company?

- Co-generation (i.e., the simultaneous production of heat and electricity)
- Purchasing green electricity (e.g., wind, solar, biomass) from the grid
- Energy conservation
- Generating on-site green electricity (e.g., wind, solar, biomass)
- Increasing energy efficiency
- Other? _____

Probe:

Q 2.5.1 Can you please explain to me what factors you considered while you ranked the different initiatives?

Probe: For example, what made you choose _____ for number 1 and _____ for number 2?
Why did you choose _____ as the least likely initiative to be adopted by your company?
Is your company presently looking at implementing any of these initiatives? Why or why not?

3. Green Electricity

Q 3.1 For the remainder of the interview I am going to shift our focus specifically to green electricity. Can you start by telling me what your general impressions of “green electricity” are?

Probe: How do you think it differs from conventional electricity?
What energy sources do you feel should relate to green electricity?
How does “green” electricity differ from “renewable” electricity?
What comes to mind when you hear somebody mentions “green” electricity?
What environmental and social attributes do you most commonly associate with green electricity?
Do you feel that there is a high level of public support in Ontario/Alberta for the use of green electricity?
Whose responsibility should the development of green electricity be?
Do you think that green electricity is an effective way to reduce climate change?
Do you think that green electricity is an effective way to reduce smog?
Is green electricity a reliable source of electricity?
Is green electricity an effective and efficient means for society to improve its environmental and social performance?

3.2 Perception of green electricity as a voluntary initiative

Q 3.2 To what extent has your company considered purchasing green electricity?

Probe: Are you aware of green electricity being available for your company to buy?
Has your company investigated the possibility of buying green electricity?
Does your company have a green electricity procurement policy?
Have you ever entered into negotiations to buy green electricity?
Have you ever purchased green electricity in the past?

Q 3.2.1 Do you see green electricity procurement as a viable initiative for your company in the short to medium term? Why or why not?

Probe: Tell me what you think about using green electricity as an energy hedge?
What potential benefits do you see in the voluntary purchasing of green electricity?
How does green electricity compare against other possible initiatives in terms of its ability to obtain your company's environmental and social objectives in an effective and efficient manner?
What do you see as the business case for buying green electricity? What are the strengths and weaknesses of this business case?
Do you think that voluntary purchase of green electricity helps a company's relations with government regulators?
What kinds of competitive advantages might be linked to the purchase of green electricity?
What about public relations?
Are there any technological barriers to adopting green electricity?
Which stakeholders would be most affected by a voluntary green electricity purchase?

Q 3.2.2 Can you give four or five examples of incentives or changes that would make it more likely for your company to consider a voluntary purchase of green electricity in the future? For example, what kinds of things could the electricity market, civil society, government, electricity retailers, stakeholders or your competitors do to increase your willingness to buy green electricity?

Probe: What types of market incentives would make green electricity seem more attractive? What do you see as the most likely reason that you would buy green electricity? You mentioned in the last question that _____ was a drawback to purchasing green electricity, what do you think could be done to make this less of an obstacle for your firm?

Examples of specific incentives or change you can ask them about in case they are stuck:

What kind of change in _____ would have to occur in order to increase your likelihood of buying green electricity in the future?

- Price
- Whether your competitors are buying green electricity
- Recognized by government regulators as a pollution reduction measure
- Contract or commitment length
- Percent of your company's electricity portfolio that will be green
- Type of green electricity (wind, biomass, solar, etc.)
- Your money will go towards constructing new green electricity generation rather than towards the operation of existing facilities
- Green electricity is generated in-province rather than out-of province
- It is part of a green power program that includes both electricity conservation and green electricity
- The amount of public recognition associated with different purchase volumes
- Guaranteed long-term price stability
- The capability of green electricity to provide a reliable supply of electricity
- Whether the environmental benefits attributed to green electricity can be used to offset your company's emissions or traded in an open market
- Green electricity is officially certified by an independent third party
- The degree of certainty (and predictability) that exists with respect to the long-term structure of the provincial electricity market
- The existence of a regulated body to track the environmental benefits attributed to green electricity
- Scientific evidence supporting the true environmental and social benefits of green electricity

3.3 Hypothetical green electricity decision-making process

Q 3.3 For the next set of questions I want you to assume that your company is taking a serious look at green electricity as a voluntary initiative. Given this assumption, please let me know your preferences for each of the following questions. If your company were to consider purchasing green electricity, what would be your preferred source of it?

- Small Hydro
- Solar
- Wind
- Biomass
- Other? _____

Probe:

Q 3.3.1 Why did you choose this source of green electricity as your preferred source over the other possible sources.?

Q 3.3.2 If your company decided to purchase green electricity, how do you think the decision would play itself out in your company?

Probe: What unit or department in your company do you think would champion the initiative?
What units or departments within your company would be involved in the decision?

Examples of possible departments you can ask them about in case they are stuck:
What kind of role would the _____ play in a decision to purchase green electricity?

- Environmental department
- CEO, owner or director
- Parent company
- Marketing or public relations department
- Facilities/energy/procurement department
- Finance or accounting department

Q 3.3.3 If your company decided to purchase green electricity, what stakeholders would you likely have to take into consideration?

Probe: Examples of stakeholders you can ask them about in case they are stuck:
How is your decision to purchase green electricity...

- Top management
- Employees
- Government regulators
- Social advocacy organizations
- Environmental organizations
- Customers
- Institutional lenders
- Business groups (e.g., The Chamber of Commerce)
- Media
- Ethical investment funds
- Insurers
- Suppliers of goods and services
- Shareholders
- Board of directors
- Communities in which you are located

3.4 Salience of green electricity procurement

Q 3.4 If your company were to consider purchasing green electricity, what would be your preferred percentage of green electricity relative to your company's total electricity requirements?

_____ percent

Probe: In other words, how much would your ideal volume of green electricity be relative to conventionally generated electricity?

IF LESS THAN 100% ASK:

Q – Why wouldn't you want 100% of your electricity to be supplied by green electricity?

IF THEY ANSWER PRICE, THEN ASK:

Q – How much would your preferred percentage of green electricity be if price wasn't an issue?

Q 3.4.1 If your company could buy green electricity to meet 10% of its electricity requirements, either now or in the future, how likely would it be that your company was willing to pay the different price ranges as indicated on this chart for the green electricity portion of its electric power requirements relative to what you now pay for electricity?

	Very Unlikely		Somewhat Likely		Very Likely
At a slightly discounted cost (less than current cost)?	1	2	3	4	5
At a competitive cost (equal to current cost)?	1	2	3	4	5
At a 1 to 10% higher cost (0.1 to 1.0% total increase)?	1	2	3	4	5
At a 10 to 25% higher cost (1.0 to 2.5% total increase)?	1	2	3	4	5
At a 25 to 50% higher cost (2.5 to 5.0% total increase)?	1	2	3	4	5
At a 50% or more higher cost (5.0% to 10% total increase)?	1	2	3	4	5
At a higher cost if bundled with services like energy efficiency, special metering or consolidated billing?	1	2	3	4	5
At a higher cost that is completely offset by energy efficiency savings?	1	2	3	4	5
Other (<i>Please specify</i>)	1	2	3	4	5

3.5 Government Policy

Q 3.5 How do you think future green electricity development should be encouraged in Ontario?

- Probe:
- Who do you think should be responsible for the development of a green electricity market in Ontario/Alberta?
 - Is there a role for a voluntary market?
 - Should people and businesses be expected to pay more for their electricity?
 - What role should utilities play in the development of green electricity?
 - What is your feeling about "Green" tax incentives?
 - What are your thoughts on the effectiveness of a voluntary government challenge?
 - How about an emissions trading system?

Q 3.5.1 In the event that the province mandated that all electricity utilities had to purchase a minimum percentage of green electricity as part of their total supply, say 10% for example, would this make your company more inclined, less inclined, or just as likely to voluntarily buy green electricity beyond what the government is mandating utilities to supply? Why?

4. Company Profile

4.1 Green consumers

Q 4.1 What percentage of your sales revenue do you estimate can be attributed to customers whom you believe make a concerted effort to buy green products and services?

Probe:

4.2 Annual revenue

Q 4.2 Into which of the following gross annual revenue categories does your company's *Canadian* operations fall?

- less than \$500,000
- \$500,000 to \$2 million
- \$2 m to \$10 million
- \$10 m to \$100 million
- \$100 million to \$1 billion
- more than \$1 billion

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