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Voluntary Energy Programs and the Evaluation of Factors Influencing Corporate Participation: A Case Study in the Commercial Sector

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VOLUNTARY ENERGY PROGRAMS AND THE EVALUATION OF FACTORS INFLUENCING CORPORATE PARTICIPATION: A CASE STUDY IN THE COMMERCIAL SECTOR

by

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Master of Applied Science 2013
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Abstract

This study examined the factors that had the greatest influence on companies joining the Building Owners and Managers Association of Toronto Conservation and Demand Management Program, the experiences of the participants in the program, and the level of program satisfaction the participants had. The study also assessed what qualities the program had that deterred businesses from joining. Surveys and interviews were conducted to examine the reasons for joining, as well as the reasons for not joining. Survey results showed that companies joined the program primarily for financial incentives and environmental improvement. In-depth interviews showed cost effectiveness and return on company investment as drivers for joining. Survey results also showed participant satisfaction with the program; however, analysis of the interview data revealed dissatisfaction with program due to several administrative difficulties and a long payback period. Upfront capital cost was a major challenge in energy program participation for non-participants.

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1.0 Introduction

General electricity use in Ontario is divided into three main sectors: residential, industrial and commercial. The residential sector includes water heating/cooling, lighting, and household appliances and accounts for about one third of Ontario's total electricity consumption (Natural Resources Canada, 2006). The industrial sector, which includes manufacturing activities, mining activities, forestry and construction, accounts for approximately 28 per cent of electricity consumed (Natural Resources Canada, 2006). The commercial sector, which includes mainly space heating/cooling, and commercial and office lighting, accounts for about 39 per cent of Ontario's total electricity consumption and is projected to grow the most (Natural Resources Canada, 2006). Demand in this sector will grow from 447 petajoules (PJ) in 2005 to 638 PJ in 2020, with this energy use concentrated in commercial office buildings (Natural Resources Canada, 2006).

The Commercial (and Institutional) sector in Ontario is large and complex, with over 135,000 buildings comprising this sector (Ontario Power Authority, 2010).The Ontario Power Authority (OPA), the government agency responsible for the generation, transmission, demand and conservation of energy, has conceded that "office buildings are the single largest users of electricity in Ontario's commercial sector" (Ontario Power Authority, 2010; Ontario Ministry of Energy and Infrastructure, 2009). More specifically in Toronto, the business sector represents the largest share of energy consumption in the Toronto market (Toronto Hydro-Electric System Limited, 2010). Although this sector is becoming the dominant sector for energy demand, it has the greatest potential for energy conservation (Environmental Commissioner of Ontario, 2010). The commercial sector has thus been the selected sector for this study of energy conservation programs.

1.1 Energy Conservation in Ontario

The conservation potential in the commercial sector is a valuable area for study, as the benefits of energy conservation are numerous. It not only reduces environmental degradation, but increases energy security, reduces large swings in fuel prices and reliance on fossil fuels, and also produces economic savings, since expenditures on conservation are often less than the cost

of increasing supply (Environmental Commissioner of Ontario, 2010). In 2004, Ontario established the *Electricity Restructuring Act* to encourage conservation efforts in the province (Environmental Commissioner of Ontario, 2010). That same year, Ontario listed the OPA as its leading authority for energy conservation planning (Ontario Ministry of Energy and Infrastructure, 2009). Conservation programs were then introduced in 2005 to encourage reduced energy use in homes and buildings (Ontario Ministry of Energy and Infrastructure, 2009). They were virtually non-existent from 1995 to 2003, yet since 2003 Ontario recognized the need for energy conservation to reduce its peak energy demand (Ontario Ministry of Energy and Infrastructure, 2009). From 2006 to 2010, Ontario invested approximately $1.7 billion in conservation programs, saving the province approximately $3.8 billion in avoided costs (Ontario Ministry of Energy and Infrastructure, 2009).

The OPA also manages contracts for about 40 per cent of Ontario's generation and in 2007, introduced a 20 year plan, formally known as the Integrated Power System Plan (IPSP) which set out short-term and long-term conservation goals to reduce Ontario's energy demand of approximately 6,300 megawatts (MW) by 2025 (Environmental Commissioner of Ontario, 2010; Ontario Ministry of Energy and Infrastructure, 2009). In February 2011, the OPA was instructed to update the IPSP and file it with the Ontario Energy Board (OEB). At the time of writing, it has yet to be filed, raising concerns over how relevant the IPSP actually is for Ontario's electricity sector (Environmental Commissioner of Ontario, 2012).

Since 2005, more than 1,700 MW of energy has been conserved (Ontario Ministry of Energy and Infrastructure, 2009). The *Green Energy and Green Economy Act, 2009* (*GEGEA*) was introduced to encourage investment in renewable energy and make energy conservation a priority (Ministry of Energy and Infrastructure, 2011; Environmental Commissioner of Ontario, 2012). This was to be achieved by setting conservation goals for Local Distribution Companies (LDCs) to create effective provincial and neighbourhood energy conservation programs (Ontario Ministry of Energy and Infrastructure, 2009). The Ontario government anticipates that the commercial sector will contribute about 50 per cent of the conservation target; the residential sector 30 per cent, and the industrial sector about 20 per cent (Ontario Ministry of Energy and Infrastructure, 2009).

As it stands, it seems that there is less effort put into energy conservation efforts than was promised. Since 2009 under the *GEGEA*, there has been little to suggest the government has made energy efficiency a top priority (Environmental Commissioner of Ontario, 2012). Although there is evidence pointing to the development of renewable energy under the *GEGEA* such as the feed-in-tariff (FIT) program, there are criticisms that policies and regulations on conservation efforts have been neglected (Environmental Commissioner of Ontario, 2012). Since office buildings have been the single largest users of electricity in Ontario's and Toronto's commercial sector, their conservation behaviour should be examined more closely. Although current potential energy savings from the commercial sector can be estimated, the willingness to participate in conservation programs is not known. It is therefore necessary to examine the motivations of commercial building operators who take part in conservation programs to truly understand their conservation behaviour. Office buildings are also of particular interest to the private sector as these buildings are large in scale and consume more energy per building unit than residential dwellings (Ontario Power Authority, 2010).

Canadian businesses in the commercial sector can thus decrease their energy consumption in a number of different ways. This is done either by complying with targets set by government regulation, or by opting for cooperative environmental approaches that see businesses reduce consumption above what is required by law.

1.2 Command and Control Regulations

The primary form of regulation in developed countries over the past 30 years has been a command-and-control structure, in which regulatory bodies dictate the standards that those corporations must adhere to under the threat of penalty, sanctioning those who do not comply (Potoski & Prakash, 2005; Hoffman et al., 2002; Khanna, 2001). Environmental regulations have been adopted by many countries, and have been widely credited for environmental improvements and as an efficient means of environmental protection (Borck & Coglianese, 2009). In Canada, Environment Canada was established by the Department of the Environment Act in 1971 and is responsible for overseeing environmental policies as well as preserve Canada's natural environment (Environment Canada, 2012).

1.2.1 Codes and Standards

Two regulated tools that aid in achieving environmental measures are codes and standards (Environmental Commissioner of Ontario, 2010). In fact, the OPA implicitly stated in the original IPSP that codes and standards that encourage energy efficiency would "accomplish almost 65 per cent of the Plan's 2025 conservation target" (Environmental Commissioner of Ontario, 2010: 37). Product energy efficiency in Canada is therefore regulated at the federal and provincial level (Environmental Commissioner of Ontario, 2011). Beginning in Ontario in 1988 and then in Canada in 1995, regulation of these products were concentrated on those that consumed a large proportion of energy, such as heating and cooling equipment, lighting and major appliances (Environmental Commissioner of Ontario, 2011).

One example of a code regulated by the Ontario government is the *Ontario Building Code*, which sets minimum energy efficiency standards for the construction of buildings (Environmental Commissioner of Ontario, 2011:37). The *Ontario Building Code* is thought to be one of the most important conservation tools because it incorporates energy conservation in new building projects (Environmental Commissioner of Ontario, 2012). The government reviews these instruments in order to raise minimum standards over time, when technology and other efficiency measures improve (Environmental Commissioner of Ontario, 2011).

Minimum energy performance standards are also regulated by Ontario policy makers (Environmental Commissioner of Ontario, 2011). Previously found in the *Energy Efficiency Act*, these standards establish minimum efficiency performance for products and appliances sold in Ontario (Environmental Commissioner of Ontario, 2010: 37). By establishing and then subsequently increasing the efficiency performance conditions of appliances and equipment, the least efficient products can be eradicated. A level is set that must be reached in order for a product to be sold; this level can make products that are fairly energy efficient the new minimum standard. As the efficiency of products in the market continue to rise, this level can be set higher to further increase efficiency (Environmental Commissioner of Ontario, 2011).

The *Energy Efficiency Act* was nullified and was subsequently replaced with the *GEGEA;* the new *GEGEA* established the legislative ability to set energy efficient product standards previously found in the repealed *Energy Efficiency Act* (Environmental Commissioner of Ontario, 2011). Previously, energy efficiency standards for products have been set through regulation, not legislation (Environmental Commissioner of Ontario, 2011: 10). Though the plan

was to increase the efficiency performance of these products, increases in performance requirements have not been followed. Minimum efficiency standards can be used to reduce energy consumption and balance existing conservation programs; however, the lack improvement on lighting standards and the delay in raising current energy efficient standards speaks of the little priority the government has on energy efficiency standards (Environmental Commissioner of Ontario, 2012).

With this type of legislation, businesses often meet the bare minimum standard that is dictated by law (Arora & Cason, 1995). It is of interest to determine why some businesses overcomply with minimum environmental standards. Since overcomplying imposes a cost to the company, it must also yield a benefit (Arora & Cason, 1995).

1.2.2 Government Investment through Taxation

Government investment in the form of taxes is one method of regulation meant to discourage high energy consumption from businesses. As it currently stands, there is no tax on electricity other than the price consumers have to pay for their electricity consumption per kWh. In 2004, the Ontario government introduced a pricing management system that echoed the true cost of electricity to consumers, which resulted in the creation of the Regulated Price Plan by the OEB in 2005 (Ontario Ministry of Energy and Infrastructure, 2009). As part of this plan, the OEB introduced "time-of-use" ("smart" meter) prices to utility consumers that offer this pricing to its customers who own these meters (Ontario Energy Board, 2011). This plan offered some predictability to the electricity prices for household and small business consumers (Ontario Ministry of Energy and Infrastructure, 2009). The rate one has to pay for electricity depends on what type of consumer one is. A business tends to pay an hourly rate, whereas residential consumers pay regulated rates. If a large business consumes more than 50 kW from the grid, they pay the hourly rate, which is approximately 250,000 kWh, or a $2000 monthly energy bill (Independent Electricity System Operator, 2011). If the business is connected to an interval meter, the hourly Ontario Energy price rate is changed; if not, the consumer pays an average rate based on consumption. In previous years, large consumers of power were rewarded with a block rate structure that favoured large users: the more power used, the less paid per kWh. As of now, some large businesses continue to be connected directly to the grid and buy electricity on the market (Independent Electricity System Operator, 2011).

1.2.3 Electricity Regulation in Ontario

The OEB, which regulates energy for the Province, also manages regulated electricity and natural gas (Environmental Commissioner of Ontario, 2010). The government develops law and policy in the electricity and natural gas sectors, and the OEB regulates these sectors based on standing legislation. The Board's decisions are not subject to government supervision; therefore, the OEB acts independently and is able to form the regulatory policy needed to implement government legislation based on those decisions. The regulatory decisions dictated by the OEB must be followed by gas and electricity distributors, as well as others, making these decisions significant and allowing the OEB to be a dominant authority of electricity and gas conservation (Environmental Commissioner of Ontario, 2010).

Furthermore, the Ontario government uses two other means to reduce electricity consumption. It exclusively owns Hydro One, which offers conservation programs, and it also instructs the OPA to take various actions on the electricity system, such as directing conservation resources (Environmental Commissioner of Ontario, 2010).

Government regulation to decrease energy consumption is enforceable. For example, Ontario announced a ban on the sale of incandescent light bulbs in households as part of its plan to reduce greenhouse gas emissions (Ontario Ministry of Energy and Infrastructure, 2009). In its stead, it has encouraged the use of compact fluorescent bulbs which use approximately 75 per cent less energy than the older light bulbs in home settings (Ontario Ministry of Energy and Infrastructure, 2009). The focus of this campaign was primarily targeted to households, with the Ontario government converting only to energy efficient lights for its own buildings. Reducing energy consumption using these initiatives is a sustainable and efficient way to decrease energy demand (Ontario Ministry of Energy and Infrastructure, 2009). Although regulating the use of incandescent light bulbs is a step towards energy conservation, the energy sector, specifically for office buildings, has not been sufficiently regulated, nor has it been the focus of government regulation in favour of other, more critical government mandates (such as the ban on toxic chemicals). Other provinces and several Ontario municipalities have energy conservation strategies; however, Ontario as a whole does not (Environmental Commissioner of Ontario, 2010).

In Ontario, there have since been several statements on the improvement of energy efficiency, but implementation of its regulations has been lengthy. Usually with its legislation on

energy efficiency, Ontario has conventionally tried to conform to standards established by the federal and United States governments; however, they are currently not in line, making Ontario trail behind these areas in its energy regulations (Environmental Commissioner of Ontario, 2010).

1.2.4 Challenges with Regulations

In order to ensure environmental improvement, command-and-control environmental regulations have been implemented to enforce compliance. Many believe that without regulations, businesses would maximize their profits without thought to environmental consequences (Darnall, Potoski & Prakash, 2009). Regulations have undoubtedly improved the environment by imposing limits on pollution emissions; however, some regulations have produced a fragmented policy structure. They have been criticised as being inflexible and inefficient, deterring innovation, are being ineffective in addressing and dealing with continuing environmental problems, and fail to provide incentives for businesses to go beyond compliance (Borck & Coglianese, 2009; Darnall, et al., 2009; Khanna, 2001; Harrison, 1999). This fragmentation refers to efforts that are spread across a wide area of environmental concerns, such as air, water and toxic wastes, and is of particular concern to issues of climate change that span many of these areas (Darnall & Carmin, 2005). It has been noted that because regulations are meant to dictate the behaviour of facilities, these organizations have little flexibility and therefore no incentive beyond compliance to find alternative or innovative ways to improve their environmental impact (Borck & Coglianese, 2009; Anand, 2005; Arora & Gangopadhyay, 1995).

By the 1980's, complaints were starting to arise about the ineffectiveness of command-and-control regulations (Darnall & Sides, 2008; Potoski & Prakash, 2005). While the traditional regulatory system made great progress in regulating cleaner air, water and soil, it has been unsuccessful in changing the environmental performance of businesses beyond minimum regulatory compliance (Strasser, 2008). As a result, concern has been increasing over whether this system will be able to obtain the necessary environmental improvement needed to effectively acquire true sustainability (Strasser, 2008). Regulations are resource-intensive, impose unnecessary costs on businesses and do not utilize the potential of companies that adopt environmental incentives voluntarily, nor do they allow the flexibility for businesses to choose approaches most appropriate to them based on their size and structure (Koehlor, 2007; Potoski &

Prakash, 2005; Anand, 2005). As a result, it is generally acknowledged that regulations to enforce compliance lead to strained relationships between business and government, and prevent joint solutions for environmental performance (Borck & Coglianese, 2009).

Consequently, the focus has moved, beyond regulation and conventional command-and-control, to alternative approaches, and an increasing interest in businesses given more flexibility to choose a cost-effective method of pollution control (Khanna, 2001). Given the shift in focus towards flexible modified environmental initiatives and cooperative approaches to environmental protection, a collaborative form of compliance has been developed that is customized to the needs of individual organizations and interests (Khanna, Deltas & Harrington, 2009; Darnall & Carmin, 2005; Hoffman et al., 2002; Harrison, 1999). As a result, alternative approaches have been recommended to improve effectiveness beyond conventional regulations (Borck & Coglianese, 2009).

1.3 Alternative: Good Will/Altruism

Environmental improvement through altruistic voluntary programs is one type of method companies can utilize. Some voluntary programs exist that offer no benefit to participating members other than environmental improvement. It may be a surprise to some that these programs can actually be successful. As an example, prior to the cost imposed according to the size of non-recycled garbage containers, residents of Ontario voluntarily took part in the curbside Blue Bin Recycling Program. Launched in 1981, the program was of no cost to the resident other than the time it took to separate the discarded material (Stewardship Ontario, 2011). The voluntary program was a substantial success, with approximately 70 per cent of households voluntarily complying; today, more than 95 per cent of Ontarians make use of curbside recycling (Stewardship Ontario, 2011). In 2002, the Province passed the Waste Diversion Act (WDA) to promote the reduction, reuse and recycling of materials. The WDA is a way to make manufacturers and importers more responsible for the recycling of their products and packaging (Lambie, 2009). The municipalities split the cost of collection, transportation and the processing of materials. The cost, through extended producer responsibility (EPR), is placed on producers' products and packaging throughout their lifecycle. There is no cost or tax placed on the resident, and there is no penalty for not contributing to the program. There is no financial motivation for

people to participate in this program, and yet they do. This program is purely voluntary and the success of the Blue Bin Program is the result of public awareness and concern for the environment. Although some voluntary programs have been successful, and some businesses do engage in environmental activities for purely altruistic reasons, those companies that do participate are the exception (Plaza-Úbeda, Burgos-Jiménez, Vazquez & Liston-Heyes, 2009).

1.4 Alternative: Economic Incentives

Government investment through incentives is also another alternative that businesses can employ. Economic incentives such as tradable permits rely on prices to encourage pollution prevention and provide flexibility for businesses (Khanna, 2001). These market-based measures offer businesses flexibility, because they allow businesses to regulate their performance over a period of time (Borck & Coglianese, 2009). Market-based approaches, unlike performance-based regulations, give businesses the incentive to reduce their environmental effects below the targeted amount (Borck & Coglianese, 2009).

There are several government-initiated incentive programs that to decrease their energy consumption. Voluntary programs such peaksaver® require companies to decrease their central air conditioning and water heater use when the electricity grid is being exhausted (Ontario Ministry of Energy and Infrastructure, 2009). Ontario's feed-in-tariff (FIT) program under the *GEGEA* is designed to "offer stable prices and long-term contracts generated from renewable resources" (Ontario Power Authority, 2011). The additional tariff incentive is intended to offset the capital cost of new renewable energy installations. These programs assist conservation by increasing the supply of renewable energies; however, these cannot fully be used by the office sector. The *GEGEA* allows one to buy renewable power at a reasonable rate via the FIT program, but it has not targeted the office sector. As a result, regulatory bodies must therefore explore avenues that entice companies to consume less energy.

1.5 Alternative: Cooperative Approaches

Cooperative approaches are also utilized to decrease energy use. They are primarily focused on the association between government and businesses, there must be an element of

common ground for government and businesses on which to agree, and businesses and governments work collaboratively to formulate and employ government policy decisions. They also alter the roles and the objectives of both regulatory and businesses. Performance-based regulation, for instance, offers regulated businesses the opportunity to be adaptable in their behavior if they comply with established performance restrictions (Borck & Coglianese, 2009). In lieu of regulations, regulators request the contribution and involvement of knowledgeable parties about the nature of their environmental problems and the potential solutions that could be created (Hoffman et al., 2002). Interest in these approaches has thus been increasing as a result of dissatisfaction with command-and-control regulations and their mandatory standards (Harrison, 1999).

Cooperative environmental approaches seek to reward companies wishing to obtain a competitive advantage through environmental advancements beyond regulatory standards (Hoffman et al., 2002). This is done with the awareness that industries are a part of the problem but must also be considered part of the solution (Harrison, 1999). Through negotiations, corporations gain the flexibility to define which impacts they wish to control through their own compliance strategies and set broadly-defined objectives (Hoffman et al., 2002).

Some cooperative approaches could be questioned on their legitimacy. For example, some approaches contain mutually-agreed common ground between cooperative businesses and government. There may be some that question how these approaches were agreed on, given that consensual agreement is occurring with a legislative body that has the authority to make significant decisions (Harrison, 1999). Cooperative approaches could also reveal the reluctance of politicians to impose the costs of regulation on businesses (Harrison, 1999). Because cooperative approaches can be based on motives other than environmental objectives, the effectiveness of cooperative approaches to achieve environmental protection must be examined (Harrison, 1999).

There is a wide variety of cooperative approaches that are available to organizations when deciding to decrease their energy consumption. Deciding whether to reduce energy for purely moral and altruistic reasons or to reduce it based on investment by the government through taxes or through subsidies is a critical decision that shapes the future of the company to the public and its shareholders and must therefore be examined more closely.

1.5.1 Cooperative Approaches: Voluntary Agreements

Voluntary programs that do not set compulsory limits or specify how a company is to behave are an alternative to traditional regulations. Governments, individual companies and industry groups have placed an emphasis on voluntary environmental programs (VEPs) because of their ability to increase public awareness in energy conservation (Darnall et al., 2009; Henriques & Sadorsky, 2008; Paton, 2000; Costanzo, Archer, Aronson & Pettigrew, 1986).

The definition of VEPs, in the context of this study, is a series of programs, codes, and commitments that encourage businesses to voluntarily reduce their environmental impacts beyond what is required by regulation (Darnall et al., 2009; Darnall & Sides, 2008). Unlike command-and-control regulations, VEPs are mutually agreed upon between businesses and governing bodies, are put in place to control behavior and reach a specific goal, and businesses are not mandated to participate (Anand, 2005; Webb, 2004). They are also unlike traditional regulations in that they do not rely on penalties and sanctions as a tool for motivating and improving environmental performance (Borck & Coglianese, 2009). Businesses voluntarily commit to improve corporate environmental performance and go beyond regulatory compliance (Henriques & Sadorsky, 2008; Delmas & Terlaak, 2001; Paton, 2000).

They are also meant to promote, rather than command, businesses and other enterprises to adopt environmentally-friendly practices, and are a positive way to encourage businesses to reduce their regulated environmental impacts to levels below what is permitted by law (Borck & Coglianese, 2009). By asking businesses to produce public goods at their own cost, businesses receive benefits in comparison to non-participants, creating the motivation for businesses to participate (Potoski & Prakash, 2005). The United States has employed a number of voluntary initiatives that deal with environmental matters such as: the EPA's 33/50 Program, which encourages businesses to reduce their pollution emissions; Waste Wise, which focuses on businesses reducing their waste output; and Green Lights, an energy conservation program designed to reduce the amount of electricity used through lighting retrofits (Moon & deLeon, 2007; Paton, 2000; Videras & Alberini, 2000; Khanna & Damon, 1999).

The number and appeal of VEPs has substantially increased, with many programs launched by federal or provincial agencies (Moon, 2008). Having more programs available for

the private sector provides an opportunity for a larger number of businesses to commit to such programs. Business conglomerates are also increasing their efforts voluntarily to increase environmental protection (Strasser, 2008). There are a number of reasons why businesses join these programs, including appearing "greener" to their consumers, attempting to prevent stringent government regulation and gaining a competitive advantage over their competitors (Videras & Alberini, 2000). Rewards in joining could include monetary subsidies, or the avoidance of negative publicity of a company's environmental practices (Potoski & Prakash, 2005).

VEPs are valuable instruments that are useful in encouraging behavioural change in businesses. In Canada, voluntary codes are developed as a mechanism to address environmental concerns as well as other social issues including consumer and worker issues. If they are not well-designed or executed, however, they can attract negative publicity and be misunderstood by the public, can forestall or prevent needed laws in the area of concern, and may fail to deter "free-riding" companies hoping to benefit from its success without making any effort (Webb, 2004).

Energy conservation programs are considered to be one type of voluntary environmental program. Based on the varying alternatives businesses can choose from to promote energy conservation, it is of interest to examine energy programs that were, or are, available to businesses. To encourage energy reduction, voluntary approaches with incentives (through government investment) are the most reasonable choice to manage businesses.

1.6 Energy Incentive Programs in Ontario

Since the commercial sector has been acknowledged as having the greatest potential for energy savings, the Minister of Energy has given directives to the OPA to achieve peak energy savings of 6,300 MW in Ontario by 2025 (Environmental Commissioner of Ontario, 2011). This allowed the OPA to fund conservation programs, paying particular attention to the Toronto area (Environmental Commissioner of Ontario, 2011).

From 2007 to 2010, four major energy conservation programs were funded by the OPA targeting existing commercial and institutional buildings (Environmental Commissioner of Ontario, 2011):

1. The Better Buildings Partnership (operated by the city of Toronto);
2. The Business Incentive Program (operated by Toronto Hydro);
3. The BOMA Conservation and Demand Management CDM Program (BOMA Toronto); and
4. The Electricity Retrofit Incentive Program (delivered by multiple LDCs)

These programs were specifically targeted to Toronto due to the city's aging infrastructure and its constrained transmission and distribution grid (Summit Blue Canada Inc., 2010).

1.6.1 Better Buildings Partnership

The Better Buildings Partnership – Existing Buildings (BBP-EB), operated by the city of Toronto and administered by the Toronto Energy Efficiency Office, was one incentive program for specific commercial buildings to reduce their energy consumption, as well as create city-wide environmental conservation (Environmental Commissioner of Ontario, 2011). The goal of this public-private partnership was to reduce carbon emission in Toronto by helping owners increase the energy efficiency of old and new buildings in the city, in addition to creating a culture of conservation in Toronto buildings (Better Building Partnership, 2013; Summit Blue Canada Inc., 2010).

The BBP targeted the MASH sector (municipal, academic social services and healthcare) buildings, which comprises much of the institutional sector (Better Building Partnership, 2013). Institutional buildings must have been owned and operated by a MASH organization, and universities could also apply as multi-residential buildings. Institutional buildings could be of any size to qualify; however, the BBP only applied to buildings in the Toronto area. Old buildings fell under the Existing Building program category, which both aided owners in improving their energy retrofits, and increased their eligibility for incentives to offset the cost of the initiatives. New buildings fell under the New Construction program, which helped to

improve energy efficiency in building design. Upgrades included lighting retrofits, heating/cooling/boiler upgrades, and chiller replacements (Better Building Partnership, 2013).

The incentives covered between 40 to 50 per cent of the total eligible project costs and the funds were made available by the OPA Its program goal, by the end of 2010, was to reduce energy consumption by 50 MW (Table 1). According to the Environmental Commissioner of Ontario's 2010 Annual Energy Conservation Progress Report (2011), the BPP was able reach net energy demand savings of 19.8 MW, about 40 per cent of its target (Table 1).

1.6.2 The Business Incentive Program

The Business Incentive Program (BIP), operated by Toronto Hydro-Electric System Limited (THESL), focused on smaller commercial buildings, less than 25,000 square feet, in Toronto (Environmental Commissioner of Ontario, 2011). Its objective was to offer business customers of Toronto Hydro financial incentives to encourage their implementation of energy efficiency projects, and deliver 20 MW of energy demand reduction (Toronto Hydro-Electric System Limited, 2010).

Eligible applicants needed to have been connected to the Toronto Hydro distribution grid for a minimum of one year, the project must have resulted in a reduction of at least 3 kilowatts (kW) of peak energy demand, and the applicant could not receive funding from any other OPA-sponsored incentive program for that project (Toronto Hydro-Electric System Limited, 2010). In 2010, the BIP was able to achieve 17 MW of energy demand savings, or 80 percent of its target (Table 1) (Canada Newswire, 2010).

1.6.3 The Electricity Retrofit Incentive Program

The Electricity Retrofit Incentive Program (ERIP) was also an OPA program that offered financial incentives to adopt more energy efficient technologies, and provided rebates to help businesses with their bottom line (Hydro One, 2013). Administered by LDCs, such as Hydro One Networks Inc., the program targeted commercial, industrial, institutional and agricultural

buildings outside Toronto that were hydro customers. Each was given an opportunity to reduce their energy and, in turn, would be given a financial incentive to reduce the cost of implementing those technologies (Hydro One, 2013; Environmental Commissioner of Ontario, 2011).

The incentives were offered on a per-unit performance basis, and implemented technologies were: energy-efficient lighting, air-conditioning units that were ENERGY STAR®-qualified, three-phase premium energy motors, agricultural fans, creep heat and controls. Eligible applicants were owners or tenants of businesses served by Hydro One; however, tenants needed to obtain permission from the owner for the installation of measures that would be considered for the incentive (Hydro One, 2013). The ERIP was able reach net energy demand savings of 94.2 MW, the closest any program was in reaching its target (Table 1) (Environmental Commissioner of Ontario, 2011).

1.6.4 The BOMA Toronto CDM Program

The BOMA CDM program, operated by BOMA- Toronto (Building Owners and Managers Association - Toronto) targeted office buildings larger than 25,000 sq. feet located in the city of Toronto (Environmental Commissioner of Ontario, 2011). This program was launched in 2007, done in collaboration with the OPA, and was one of a suite of OPA programs to achieve 300 MW of energy savings over three years in Toronto (Summit Blue Canada Inc., 2010). It is important to note that this program was different than the others, in that the OPA contracted it to BOMA Toronto and allowed the association flexibility in the program design and in its administration and management (Summit Blue Canada Inc., 2010). Because of this, BOMA Toronto developed and delivered a business-to-business CDM program that enabled them to reach out to large offices, the largest single commercial sector building segment in Toronto, which account for a significant portion of Toronto's electricity use -specifically summer peak load (Ontario Power Authority, 2010). By the end of 2010, the BOMA CDM program was able to save over 52 MW of energy, about one-third of its original target (BOMA Toronto, 2012).

1.6.5 Program Incentives

Although each program began with differing levels of incentives, all four programs implemented a two-tier system: incentives were $400 per kW of demand savings (or $0.05/kWh for energy consumption savings) for lighting-related measures and $800/per kW (or $0.1/kWh for energy savings) for non lighting-related measures (Environmental Commissioner of Ontario, 2011). Lighting retrofits were the most popular choice of equipment retrofits, accounting for about 89 per cent of demand savings in 2008 (Environmental Commissioner of Ontario, 2011).

Table 1: Energy Incentive Programs Funded by the Ontario Power Authority

Factor	**BBP-EP**	**BIP**	**BOMA CDM**	**ERIP**
Proponent	City of Toronto, administered by Toronto Energy Efficiency Office (Public-private partnership)	Toronto Hydro	BOMA-Toronto (Program in collaboration with OPA)	LDCs throughout Ontario outside the Greater Toronto Area
Objectives	Reduce carbon emissions in Toronto caused by the energy used to heat, light, cool and operate buildings through energy retrofits	Provide financial incentives to customers to encourage the implementation of energy efficiency improvement projects	Reduce Toronto's on-peak electricity demand by 150 MW over a three-year period (2007-2010)	Encourage use of energy efficient equipment by providing cash incentives to reduce incremental costs of its installation
Criteria	Existing city, municipal and multi-family residential buildings in Toronto	Commercial buildings < 25,000 sq. ft in Toronto	Large commercial buildings (25,000 sq. ft. or more, specifically office buildings , in Toronto	Province-wide (outside Toronto), industrial, commercial and agricultural customers
Program goal (by end of 2010)	50MW	20 MW	150 MW	100 MW
Results	19.8MW*	17 MW	52 MW**	94.2 MW*

Source: Summit Blue Canada Inc., 2010
**Source: Environmental Commissioner of Ontario, 2011.*
***Source: BOMA CDM Program Results. Building Owners and Managers Association (BOMA) Toronto Conservation and Demand Management Program.*

1.7 Restructuring of Ontario's Energy Incentive Programs

Among the complaints directed at these programs were that LDCs were not appropriately streamlined and that some programs were very similar in nature (Toronto Hydro-Electric System Limited, 2010). To address the overlapping nature of some of these programs, as well as to ensure that LDCs were offering the same functions, in 2010 the Minister of Energy and Infrastructure issued a Directive that set out specific CDM targets for LDCs to reach (Toronto Hydro-Electric System Limited, 2010). The first was for the 2011 to 2014 period, where CDM targets were to be met by LDCs; the second target was to be achieved by all organizations that are responsible for conservation, such as LDCs, government and the OPA, for the years 2015, 2020, 2025, and 2030, as indicated in the Government's Long Term Energy Plan (Environmental Commissioner of Ontario, 2011). Specifically for the first objective, all LDCs in Ontario were given four-year mandatory electricity consumption and demand targets by the OEB that stated the amount of both demand reduction (MW) and energy savings (Environmental Commissioner of Ontario, 2011; Ontario Power Authority, 2010)).

In 2011, the OPA replaced the BBP, BOMA CDM, BIP and ERIP programs with a new provincial program that sought to provide financial incentives to commercial and institutional buildings (Environmental Commissioner of Ontario, 2011). The objectives of this new program are to help owners and operators in this sector reduce their energy demand, increase their energy savings through the purchase of energy efficient equipment, and participate in demand-response efforts (Ontario Power Authority, 2010). The program is also delivered by LDCs, and the OPA is responsible for delivering the program and for providing training programs. The cumulative energy savings for this is expected to be 2,495 MW (Ontario Power Authority, 2010).

By the end of 2014, 1,330 MW of Ontario peak demand reduction is expected to be reached and 6,000 gigawatt-hours (GWh) of electricity reduction should be accumulated over the four-year period (Toronto Hydro-Electric System Limited, 2010). Each LDC has its own specified target; Toronto Hydro Electric System Limited's provincial target is to reduce consumption by 286 MW and 1,317 GWh by the end of 2014, which can be met through 'OPA-Contracted Province-Wide CDM Programs' (or OPA Contracted Programs) and CDM Programs approved by the OEB, referred to as Potential Board-Approved Programs (BAPs) (Toronto

Hydro-Electric System Limited, 2010). The OPA's programs are anticipated to achieve 1,037 MW of Ontario's target of 1,330 MW of peak demand reduction; the rest are to be addressed by other CDM programs (Toronto Hydro-Electric System Limited, 2010). It is therefore clear that the provincial policy relies heavily on the success of CDM programs to achieve its peak demand reduction targets.

In September 2010, the OEB finalized the CDM Code for Electricity Distributers, which sets out the regulations that distributers must adhere to when setting out CDM targets in their areas (Ontario Energy Board CDM Code, 2010). In late 2010 and in the beginning of 2011, both Toronto Hydro and Hydro One applied for approval of Board-Approved CDM Programs (referred to as BAPs) under the CDM Code, but were withdrawn because either the applications were incomplete or because the programs were similar in nature to those offered by the OPA (Environmental Commissioner of Ontario, 2012). As a result, there have not been any distributers applying for BAPs nor have Toronto Hydro and Hydro One resubmitted their applications, thus programs led by distributers have not surfaced due to the restrictions put on LDCs (Environmental Commissioner of Ontario, 2012). If consumption and demand targets are to be reached, distributers must implement both OPA Contracted Programs and BAPs; since no BAPs are approved, these targets will not be achieved (Environmental Commissioner of Ontario, 2012).

2.0 Study Objectives

The four energy programs administered by the OPA were designed for the use of buildings in the commercial and institutional sector. Of the four listed, only one program was contracted outside of the OPA: the BOMA CDM program. This allowed the program administers flexibility in the design of the program structure and in its operation. It also targeted office buildings, which have been recognized as intensive energy users. This program was therefore determined to be the best choice as the voluntary program examined for this study.

The overall purpose of this study was to determine the factors that motivated businesses to participate in the BOMA CDM program. The BOMA CDM program (referred to in this study as "the program") was small in duration, was localized in the city of Toronto, and targeted a specific type of company (office buildings in the commercial sector). The pressures listed in the literature will be assessed to see whether they were present in the program, and whether they had similar influences to those found in the literature. The specific objectives of this study are thus summarized as followed:

- To discover what motivated businesses to join the BOMA CDM program and determine which motivator had the greatest influence;
- To assess what qualities the program had that may have deterred businesses from joining;
- To evaluate the effectiveness of the program structure according to the opinions of the selected respondents; and
- To examine the experiences of participants that may influence participation in future energy programs.

3.0 The Case Study: The BOMA Toronto CDM Program

The Building Owners and Managers Association (BOMA) of Toronto is a non-profit organization established in 1917 and includes building owners, managers and service providers (BOMA Toronto, 2010). The Association includes all of Ontario except for the Ottawa region, has over 800 real estate members, and represents over 80 per cent of all commercial and industrial real estate companies in the Greater Toronto Area (BOMA Toronto, 2009).

The energy program in this study is the BOMA Toronto CDM program, an electricity conservation incentive program sponsored by the OPA. As stated, launched in the spring of 2007, its primary objective was to reduce total electricity demand by 150 MW in three years from Toronto office, retail, industrial and hospitality properties that were 25,000 sq. ft. or greater (BOMA Toronto, 2009. The program ended on December 31, 2010, the deadline for businesses to submit applications. Participants had until June 30, 2011 to complete their projects and to receive their payments (BOMA Toronto, 2010). More than 500 businesses participated in the program, and eligible companies whose operating buildings were 25, 000 sq. ft. or greater, were:

- Those in Canadian real estate who own properties and have third party property managers overseeing them;
- Those that manage the properties (the property managers);
- Those that both own and manage their properties; and
- Those that are facility managers that manages their client's spaces.

Although limited to Toronto, this program was viewed as a pilot CDM program to other urban centres across Ontario (BOMA Toronto, 2010). The directive of the program was to "deliver Ontario significant energy conservation projects as part of the OPA's larger plan to reduce 6300 MW of electricity use in the province from various sources" (BOMA Toronto, 2010). The program provided incentive funds for capital costs to reduce electricity demand in commercial buildings. More specifically, the program provided a $60 million subsidy from the OPA to building owners and tenants for energy conservation projects within their buildings (BOMA Toronto, 2010).

Eligible measures were defined as those that provided sustainable electrical savings and included lighting retrofits and controls, ground source heat pumps, HVAC redesign, and fuel and equipment (BOMA Toronto, 2010). The program was performance-based, in that the incentives were based on demonstrable measurements and calculations verifying that the project would reduce on-peak demand or annual energy consumption. The three key points the program stressed as benefits in participating were: the improvements of the payback for the company's energy projects, the reductions in the company's property costs, and the improvement of the environment by reducing energy demands and water consumption (BOMA Toronto, 2010).

3.1 Eligibility

Any corporation, partnership or organization that owned or leased commercial properties in the City of Toronto greater than 25,000 sq. ft. was eligible to join. The program was promoted through BOMA; however, it was not exclusive to BOMA members alone (BOMA Toronto, 2010). Eligible buildings included offices, retail stores, mixed use buildings, industrial buildings, warehouses, private institutions and hotels. Ineligible buildings were municipal buildings, universities, schools, hospitals, multi-residential buildings and new construction (BOMA Toronto, 2010). The buildings had to complete the BOMA Canada's Go Green Plus/Building Environmental Standards (BESt) Assessment Tool, a national benchmark on-line assessment tool and recognition program managed by BOMA Canada (BOMA Toronto, 2010). It measures a building's environmental factors such as its energy use and environmental performance against the best industry management practices and is well-recognized within the commercial real estate industry (BOMA Toronto, 2010). In sum, in order to be deemed eligible, the retrofit projects had to offer sustainable energy savings in commercial buildings (BOMA Toronto, 2010).

3.2 Incentives

Once a company decided to participate, the incentives offered were $400 per kW of demand savings (or $0.05/kWh for energy consumption savings) for lighting-related measures and $800/per kW (or $0.1/kWh for energy savings) for non lighting-related measures, to a

maximum of 40 per cent of eligible project costs, including energy audits, engineering, equipment, installation labour, commissioning, or meter rental (BOMA Toronto, 2010). The incentive program was available to building owners, operators, tenants and those that had successfully completed their energy retrofit projects. They were also able to receive the Conservation Program Award which recognized the company's leadership and environmental stewardship (BOMA Toronto, 2010). The logo was available to participating businesses wishing to place it on its website.

3.3 Complementary Programs

The BOMA CDM program also introduced two complementary programs to assist commercial property owners, tenants and managers in reducing their energy consumption. The first was the Tenant Incentive Program (TIP), which qualified commercial tenants for electricity saving retrofits (BOMA Toronto, 2010). The rules were the same for TIP as they were for the CDM program; tenants under lease in commercial or industrial properties greater than 25,000 sq. ft. and in the Toronto area could apply. TIP paid the tenants for electricity savings at their sites of $400 per kW of demand savings (or $0.05/kWh for energy consumption savings) for lighting-related measures, up to a maximum of 40 per cent of eligible project costs (BOMA Toronto, 2010). The Energy Conservation Assessment Program (ECAP) was also an extension of the program that allowed property owners to assess potential energy savings and apply to the program. It gave incentives to property owners/operators to conduct energy conservation assessments of their property and to apply to the program (BOMA Toronto, 2010).

3.4 Completion of the BOMA Toronto CDM Program

In 2011, the OPA began Contracted Province-Wide CDM Programs. Because these programs began while the BOMA CDM program was in use, Toronto Hydro transferred this and other OPA-approved programs into the OPA-Contracted Province-Wide Programs. This transition avoided stranding business projects, and its savings would accrue to Toronto Hydro's 2011-2014 CDM targets. Managed by Toronto Hydro, the Province-Wide CDM Program was to

aid in achieving Ontario's electricity demand reduction goal of 1,300 MW (BOMA Toronto, 2011).

The goal of the program was to reduce energy by 150 MW by the end of 2010. This goal was set in 2007. By mid-summer 2009, the goal was reduced to 100 MW due to the low energy savings realized and the economic recession of 2008. When the program closed, the program was able to reach one-third of its initial target: over 52 MW of energy savings and the delivery of $60 million in subsidies to participating buildings (BOMA Toronto, 2012).

Although the CDM program catered to private sector businesses that were not public agencies, public agencies are still required to report their energy consumption. By 2013, it will be mandatory for public agencies under Section 6 of the *GEGEA* to report on their energy consumption and greenhouse gas emissions annually (Willms and Shier, 2011). Public agencies will have to submit a document that demonstrates their plans for their energy consumption for three years. These plans must include in detail how the agency plans to reduce energy and their demand for the duration of the plan, as well as any details for energy audits and equipment retrofits (Willms and Shier, 2011).

4.0 Theoretical Framework

The determinants of corporate participation in voluntary energy programs must be put into context by examining voluntary initiatives in a general sense. By understanding and establishing motivators in corporate behavior and voluntary program participation, one can effectively evaluate the appeal of these types of programs to businesses. These actions may be more than purely altruistic on the part of the company and discovering the agendas of businesses can help in the creation and the implementation of effective voluntary environmental programs.

4.1 Discussion Theory on Company Participation

Voluntary initiatives fall under three theoretical types of discussion theory that help explain company participation: neoclassical theory, neo-institutional theory and resource-based theory (Moon & deLeon, 2008; Clemens & Douglas, 2006; Howard-Grenville, Nash & Coglianese, 2008; DeCanio & Watkins, 1998).

4.1.1 Neoclassical Theory

The neoclassical theory of investment depicts a business as a rational entity that is able to maximize profits when barriers in technology, public policy and market conditions are put in place (Howard-Grenville et al., 2008; DeCanio &Watkins, 1998). This theory assumes that profit-maximizing businesses do not question prices and regulations and they have no reason to decrease their pollution if environmental regulations are not present (Khanna, 2001). Companies under this theory also have no motive to go beyond compliance with current regulations because reducing their pollution will only sustain costs to the company (Khanna, 2001). Policies made under this theory also involve businesses making corporate decisions where there are marginal costs and benefits of energy consumption, and environmental quality is pursued at the minimum cost of the company (Howarth, Haddad & Paton, 2000). Thus, in a market economy, businesses will adopt technologies voluntarily if they are of profitable, and reject those that are not; if this applies to an environmental investment, then businesses will adopt those as well (Plaza-Úbeda et al., 2009).

4.1.2 Neo-Institutional Theory

The neo-institutional theory focuses on the external pressures that influence organizational decisions (Clemens & Douglas, 2006). It rests on the belief that businesses are vulnerable to institutional pressures; their strength and continued existence depends on the extent of the business's compliance with regulations. There are three pressures that influence company behavior under institutional theory: coercive pressures, such as government standards and regulations for businesses to adopt environmental practices; normative pressures, from academic/professional training or trade associations; and mimetic pressures, which arise when organizations, uncertain of the goals of their company, result in mimicking or reproducing actions that other organizations have already taken that rendered them profitable (Moon & deLeon, 2008). These pressures influence how businesses tackle environmental issues; organizations use normative pressures and regulators utilize coercive pressures to improve a company's environmental performance (Clemens & Douglas, 2006).

4.1.3 Resource-Based Theory

Resource-based theory in contrast centres on internal pressures arising within the company that influence the company's organizational decisions (Clemens & Douglas, 2006). It argues that businesses have specific resources that give them an advantage in achieving environmental sustainability, measured by tangible sources such as company location and technology, or on intangible resources such as experience and reputation (Moon & deLeon, 2008). Resource-based theory helps explain how a company uses environmental sustainability to be competitively advantageous in the market (Moon & deLeon, 2008). To become effective, the resources must be advantageous to the company and must also decrease external pressures, helping the company garner a greener reputation and promote its competiveness in the market (Moon & deLeon, 2008; Clemens & Douglas, 2006).

The literature therefore points out that the theoretical discussions of neo-institutional and resource-based theory forms the foundation of why businesses participate in voluntary programs. Specifically, these theories suggest that both internal and external pressures play a role in

influencing the decisions of businesses to consider environmental issues, and the research is based on these theories.

4.2 Voluntary Initiatives

Khanna (2001) describes non-mandatory approaches as both voluntary initiatives undertaken and regulated by businesses, in addition to pressures (both market and public) that create a demand for self-regulation by businesses. Due to the criticisms of command-and control approaches to environmental protection, these public policy instruments have been used as an option for conventional regulatory approaches (Darnall & Carmin, 2005). Voluntary initiatives can be categorized into two general types based on the level of commitment a company wants to engage in: environmental management systems or commitments to attain a particular environmental target.

4.2.1 Environmental Management Systems

Environmental management systems (EMSs) are voluntary approaches that are done at the facility level (Arimura, Hibiki & Katayama, 2008). They are systems that are intended to reformat a company's environmental protection strategies and potentially lead them to more environmentally-sound decisions (Strasser, 2008). EMSs consist of policy making, planning and implementation (with some sort of company policy statement about its intentions on environmental protection), are formulated by senior management, and are intended for facilities to reduce their environmental impact (Arimura et al., 2008; Strasser, 2008). They also include a checking system that assesses a company's environmental impacts and monitors management effects. The EMS must be specifically designed for the individual organization, and must be agreed on by managers and its customers (Russell & Sacchi, 1997). As a result, EMSs are designed to help make sound business decisions rather than impede them (Russell & Sacchi, 1997). If it can be shown that environmental objectives are in line with corporate objectives, then EMSs are an effective tool in environmental improvement.

One of the reasons why several companies establish an EMS is because of its ability to focus on the company's environmental management, which can result in a company's improvement in its environmental performance (Strasser, 2008). In order for the EMS to be effective, there must be a strong and legitimate commitment from the businesses and its senior management on environmental improvement (Plaza-Úbeda, et al., 2009).

Strasser (2008) found that an EMS is important when evaluating a company's environmental performance. In particular, businesses with more comprehensive EMSs usually had the greatest improvement in their environmental performance and resulted in cost savings, an attractive outcome for shareholders. Plaza-Úbeda et al. (2009) further argue that stakeholder theory is a prominent feature in many organizations; therefore, if a company wants to survive in the market, they would often adopt an EMS that is not required by law.

4.2.2 Commitments to Attain Particular Targets: Voluntary Environmental Programs

The second type of voluntary initiative is commitments to achieve a specific target of environmental performance, or for businesses to reduce their environmental impact, such as energy or toxic waste reduction (Strasser, 2008). The instruments that have been commonly used have been voluntary environmental agreements, or alternatively voluntary environmental programs (VEPs), that provide incentives to participants to improve their environmental performance (Darnall & Carmin, 2005).

As stated, VEPs are defined as programs, codes, agreements and commitments that encourage businesses to voluntarily reduce their environmental impacts beyond what is required by regulations (Darnall et al., 2009; Darnall & Sides, 2008). Because VEPs require businesses to modify their behaviour, companies in return receive program benefits, so much so that the tangible and intangible benefits outweigh the costs associated of participating (Potoski & Prakash, 2005).VEPs are incentive-based programs that offer benefits in exchange for their commitment to the program goals (Darnall & Carmin, 2005).

Most of the voluntary programs that have been implemented since the 1970s are those that have tried to increase gains in energy efficiency (Lyon & Maxwell, 2003). Programs such as

these encourage businesses to go beyond regulatory compliance. In return for this, companies can receive benefits such as public recognition, technical assistance, and in some cases some regulatory relief (Strasser, 2008). Although there are many voluntary initiatives with varying sizes and scopes, these programs can be separated into differing types that are based on the degree of government involvement and on the number of participating businesses: unilateral agreements, which are sponsored by industry or trade associations and allow businesses to set individual organizational targets; bilateral (or negotiated) agreements between a company and regulators, in which businesses that commit to these programs set a specific target to reach; or public voluntary programs, in which companies partake in and commit to a specific environmental action (Borck & Coglianese, 2009; Henriques & Sadorsky, 2008; Strasser, 2008; Delmas & Terlaak, 2001; Khanna, 2001). Examples of unilateral agreements are the ISO 14001 certification programs as well as the Responsible Care Program developed by the Canadian Chemical Producers' Association (Henriques & Sadorsky, 2008; Lyon & Maxwell, 1999). Examples of negotiated agreements in North America include the EPA's Common Sense Initiative and Project XL, and Canada's Recycling Program for Rechargeable Batteries (Henriques & Sadorsky, 2008). Finally, examples of public voluntary programs include Canada's Voluntary Challenge and Registry (VCR) and the Accelerated Reduction and Elimination of Toxics Initiative (ACER) (Henriques & Sadorsky, 2008; Delmas & Terlaak, 2001).

In sum, public voluntary programs have the ability to significantly improve an organization's environmental performance, especially as the number of programs increase as well as the level of participation (Strasser, 2008). Although environmental performance can be improved, empirical study on the impact of this performance has been mixed (Strasser, 2008).

4.3 Factors Influencing Participation

A considerable amount of research has examined why organizations participate in voluntary programs. It is of interest for regulators and policy makers to understand what motivates companies to join environmental programs, as it is important to see how businesses would respond to potential environmental regulations (Lyon & Maxwell, 1999). For businesses, there are many benefits in joining voluntary programs. The benefits gained are typically those

that increase the company's market demand by showcasing the company's green reputation (by assisting the company in avoiding the cost of regulation through government financial and technical incentives), and one through the transfer of program knowledge about best management practices between businesses participating in the same program (Brau & Carraro, 2010; Darnall & Sides, 2008). VEPs also offer assistance in the form of grants for participants to hire consultants, and offer technical assistance to aid participants in achieving their environmental goals and strengthen their environmental management (Darnall & Sides, 2008).

Borck and Coglianese (2009: 7) state that environmental concerns are viewed as "externalities because some businesses do not internalize the costs of their environmental behaviour". If this is correct, it is interesting that some businesses decide to internalize this cost and join VEPs that encourage this behaviour (Borck & Coglianese, 2009). There are even some cases in which organizations voluntarily set environmental targets that are *more* rigid than existing regulations consisting of low inspection and lenient fines (Arora & Gangopadhyay, 1995). It can therefore be assumed that joining voluntary programs are also done in the self-interest of the businesses, because although the aim of the program is for the benefit of environmental issues, it is usually joined because there is some benefit gained for the company (Khanna, 2001). In other words, participation in voluntary programs will occur if the benefits of doing so outweigh the costs (Borck & Coglianese, 2009; Plaza-Úbeda et al., 2009). The case study will examine the following factors suggested by the literature:

- The avoidance of regulatory threats;
- Cost efficiency; and
- Reactions to green stakeholders.

4.3.1 The Avoidance of Regulatory Threats

Businesses may want to join voluntary programs because joining could lower the company's cost of compliance towards existing regulations. They offer flexibility for companies to comply with standards as they are already displaying evidence of improving environmental performance by going beyond environmental compliance (Borck & Coglianese, 2009; Khanna, 2001; Howard-Grenville et al., 2008). Voluntary programs can also divulge information on the organization's environmental performance to external parties, and instead of depending on fines

and penalties, VEPs can be used to either reduce the company's liability or to compensate those that reduce their environmental impact (Darnall & Carmin, 2005). Participation in voluntary programs can be provided by regulators that offer businesses financial or technical assistance that lowers the costs of the company's learning (Khanna, 2001). If regulations are implemented that could pose political resistance, VEPs have the potential to reduce this resistance since government support can provide technical assistance to companies for environmental management practices (Darnall & Carmin, 2005).

4.3.2 Cost Efficiency

Voluntary agreements also offer flexibility regarding the cost of production, are cost-effective, and fit both the regulator's duty to enforce environmental protection as well as help participating businesses gain a competitive edge over businesses that did not join (Borck & Coglianese, 2009; Delmas & Terlaak, 2001; Videras & Alberini, 2000). If the cost of participating in the program (such as start-up and equipment fees) is lower and delivers cost-savings, businesses will likely participate (Khanna, 2001). One example of a program that increases cost efficiency is Project XL, which establishes stringent standards, yet is less costly than current command-and-control regulations (Khanna, 2001).

4.3.3 Reactions to Green Stakeholders

Zutshi and Sohal (2003: 134) define stakeholders "as any persons or organizations that could potentially be impacted by the operations of an organization or vica versa". They could include investors, consumers, suppliers, employees and environmental agencies such as the EPA (Zutshi & Sohal, 2003). A company relies on both its investors and consumers to a large degree for its success, and as a result they can influence the decisions that companies make on their environmental performance (Khanna, 2001). Investors can create incentives for implementing environmental practices depending on the type of stock they own. If a company's environmental performance is poor, the company may be viewed as lacking in its environmental management practices. It could also be seen as a liability and a potential risk for investors who do not want to

reinvest in irresponsible businesses, resulting in the company not being invested in (Lyon & Maxwell, 1999; Khanna, 2001). It is thus in the best interest of the company to improve its environmental performance. Businesses can also gain public recognition through awards distributed and through media because of their participation in the program, which can facilitate the company to increase their market share or charge higher prices for the products they sell due to their distinction of being environmentally forward (Borck & Coglianese, 2009; Koehler, 2007; Khanna, 2001).

4.4 Empirical Findings from the Literature

Many studies have examined the reasons as to why businesses joined public voluntary programs, such as Green Lights (Videras & Alberini, 2000; DeCanio & Watkins, 1998), Waste Wise (Videras & Alberini, 2000), and the 33/50 programs (Videras & Alberini, 2000; Khanna & Damon, 1999; Arora & Cason, 1996). Other studies have examined why businesses have decided to produce an environmental plan (Henriques & Sadorsky, 1996) or an environmental management system (Khanna & Anton, 2002). Like the theoretical framework, these studies operate under the assumption that businesses will only join voluntary programs if the expected net benefits are larger than not participating at all (Khanna, 2001; Videras & Alberini, 2000; Arora & Cason, 1996). Darnall and Sides (2008) have evaluated whether current environmental programs have collectively benefited environmental goals and thus have assessed their overall efficacy. They found that participants in voluntary programs did not have a significantly higher environmental performance compared to non-participants. Khanna (2001) asserts that the costs and benefits in joining voluntary programs vary from company to company because they are unique in their technologies, regulatory pressures and other characteristics. It is thus safe to assume that some businesses choose to participate and some choose not to. DeCanio and Watkins (1998), however, disagree with this statement, especially concerning the Green Lights program, because in order to participate in this energy program, all businesses had to commit to retrofitting their lighting. The uniformity across businesses and sectors made the differences in company characteristics an unsuitable explanation in the decision to participate.

4.4.1 Company Size and R&D

Several studies, such as Khanna and Damon (1999) suggest that larger businesses are more likely to participate in voluntary environmental programs. Because they are larger and are more recognizable, these businesses are also more visible to consumers and could therefore experience an increase in demand in being more environmentally protective (Moon & deLeon, 2007; Stoeckl & Cook 2004; Khanna, 2001; Videras & Alberini, 2000; Lyon & Maxwell, 1999). Although businesses that are smaller in size are greater in number, they lack the resources and the man power needed to complete the applications, or they find that the benefits in joining are too small (Borck & Coglianese, 2009). Large businesses have more of an influence on setting tighter environmental standards than smaller businesses, which may give them more cause to join in order to execute this influence (Arora & Cason, 1995). Businesses that are larger are also able to meet the demands of participation because they are able to hire more people to deal with administrative matters involving those issues (Khanna, 2001). The number of employees a company contains can thus determine its participation (Stoeckl & Cook, 2004). Larger businesses can also help shape future regulations because they have the capability and resources to overcomply (Khanna, 2001). They are also more exposed to liabilities because they are more visible, have better access to capital, and have more financial resources than smaller businesses within the same industry (Khanna, 2001; Lyon & Maxwell, 1999). Larger businesses participating in voluntary programs are indicated by the number of employees a company has and its earnings per share (Stoeckl & Cook, 2004; Khanna, 2001; DeCanio & Watkins, 1998). This study therefore examines company size as a factor in program participation by determining the number of employees a company has.

Khanna and Anton (2002) found that businesses that had a higher research and development (R&D) expenditure (and were therefore considered to be more innovative) were more likely to adopt strategic environmental management practices and thus participated in voluntary programs because they were more likely to possess the knowledge and have the means to determine cost-effective solutions for environmental problems (Khanna, Deltas & Harrington, 2000; Khanna & Anton, 2002; Delmas & Terlaak, 2001). This study also examines R&D as a factor in program participation by determining whether a company has an R&D department.

Finally, businesses that have allocated funds directed to green initiatives, such as monitoring, technical training, and the potential costs of adopting new organizational techniques, are also found to participate in voluntary programs and are more likely to join programs because of altruistic reasons rather than those that do not have comparable resources (Clemens & Douglas, 2006). This study therefore examines green initiatives as a factor in participation.

4.4.2 Environmental Performance and Financial Ability

A company's previous environmental performance may have some influence on its future environmental performance. Poor environmental performance could imply that these businesses will do perform well in the future (Lyon & Maxwell, 1999). Some studies have suggested that businesses with poor environmental performance are more likely to join voluntary initiatives. This is because of the negative attention the businesses can garner from lobby and environmental groups by not being up to environmental standards (Khanna, 2001).

The financial health of a company may also affect its ability to join environmental programs. Financial factors play a role in determining the participation in a voluntary program. There are some studies which suggest that the more profitable a company is, the more likely they are to participate in voluntary programs (Khanna, 2001). Businesses with higher earnings and higher rates of growth were more likely to participate in voluntary initiatives (Stoeckl & Cook, 2004; DeCanio & Watkins, 1998). Participation is ultimately motivated by the economic self-interest of the company (Khanna & Damon, 1999). If the program is too costly initially for businesses, or if the payback period is too long to realize the rewards of joining, businesses are reluctant to join the program, regardless of the expected cost-savings for the organization.

4.4.3 Stakeholder Pressures

Market forces have a significant influence in shaping the environmental behaviour of businesses (Koehler, 2007). As previously stated, businesses will join voluntary programs if the perceived benefits outweigh the costs. These benefits come from key stakeholders that are both internal and external to the businesses that drive them to join voluntary programs (Lyon &

Maxwell, 1999). The majority are usually pressures outside the corporate institution that affect the company's decision to join, and are shaped by the community (such as a consumer's preference for green products), the location of the company (such as in a heavily regulated region), and through company interactions (Howard-Grenville et al., 2008). Some pressures, however, do occur within the organization. Because the literature pointed to public recognition, consumer concerns and the promotion of green products as some of the sources of pressure that encourage businesses to join voluntary programs, these pressures from stakeholders are considered to be motivators (Khanna, 2001; Henriques & Sadorsky, 1996).

4.4.3.1 Regulatory Pressures

Institutional pressures such as regulation and legislative mandates are significant factors in motivating businesses to join voluntary programs (Clemens & Douglas, 2006; Khanna & Anton, 2002; Arora & Gangopadhyay, 1995). As stated by Henriques and Sadorsky (1996), one of the main reasons for a business's decision to adopt environmental plans was to deal with present and future potential regulations. One study found that businesses were more likely to join the EPA's 33/50 program when threatened with regulatory controls (Khanna & Damon, 1999). This program aimed for companies to reduce 17 known chemicals by 33 per cent, and later by 50 per cent over the course of the program (Strasser, 2008). In order to avoid the high cost of compliance for future regulations, businesses are more willing to join voluntary initiatives, rendering the businesses better able to assist in regulation flexibility by weakening existing regulations or by influencing future regulations (Delmas & Terlaak, 2002; Khanna & Damon, 1999). Thus, businesses were more likely motivated by the need to develop some control with the regulator and thus influence future regulatory decisions (Koehler, 2007). Voluntary programs were therefore found to be more successful when there are outside regulatory threats (Khanna & Damon, 1999).

Even the threat of legal accountability propelled businesses to participate in the WasteWise and the 33/50 programs, as well as implement an environmental management strategy (Khanna & Anton, 2002; Videras & Alberini, 2000; Khanna & Damon, 1999). Henriques and Sadorsky (1996) also noted that the perceived threat of liability was a significant

determinant in the implementation of an environmental plan. If regulators had yet to implement emissions reductions, then businesses had the incentive to over-comply or to invest in cleaner technologies in the expectation of future regulations (Arora & Gangopadhyay, 1995). The literature has also found, however, that when regulation is in the form of a reduction target that needs to be met by all businesses, those businesses may have an incentive to under-perform if costs of clean-up are high (Arora & Gangopadhyay 1995).

4.4.3.2 Public Recognition

Businesses that are more visible to the public are also more likely to join (Arora & Cason, 1996). The potential publicity that the company receives in participating is a strong external pressure in corporate voluntary participation (Videras & Alberini, 2000). Joining a voluntary program gives the impression of environmental concern to the public, consumers, shareholders and employees (Potoski & Prakash, 2002). It also shows that the company cares about concerns its employees and consumers may have regarding the environment and responds to them accordingly (Henriques & Sadorsky, 2006). The company garners a better image in the view of the public, and their environmental improvements can be showcased in the media.

4.4.3.3 Competitive Pressures

Businesses in very competitive markets and have access to programs which deliver short-term costs and long-term advantages are more likely to participate in voluntary programs, as these pressures offer competitive advantages to businesses in the market (Stoeckl & Cook, 2004; Arora & Cason, 1996). This is because businesses in competitive markets often look for ways to reduce their cost relative to their competition that can increase their sales (Khanna, 2001). The market benefits gained when participants are involved in a VEP result from the information given about their participation (Darnall & Carmin, 2005). This generates a signal, such that participation in VEPs signifies to investors, consumers, and regulators that the company is doing their part to reduce their damage on the environment and gives investors and consumers an idea of a company's behaviour (Darnall & Carmin, 2005).

4.4.3.4 Shareholder and Consumer Pressures

Investor pressures are a key external factor in company participation. Investors can be divided into two groups. The first, called "green" investors, can pressure a company to increase its environmental performance and decrease its financial success (Lyon & Maxwell, 1999). For example, if a company has done poorly in its environmental performance, investors may not want to be affiliated or allocate funds in a company that receives negative attention (Khanna, 2001). It is therefore in the company's best interest to perform in an environmental manner in order to please their investors and ensure their investments. The other group, "traditional" investors, avoid these activities and instead favour those that optimize financial returns or decrease negative outcomes (Lyon & Maxwell, 1999). Because the proportion of green investors is small, it is important to evaluate the influence traditional investors have on corporate environmental participation (Lyon & Maxwell, 1999).

Consumer pressures can also put demands on businesses to undertake voluntary initiatives. Businesses that produce final goods and are in closer contact with its consumer are more likely to join voluntary programs (Khanna & Damon, 1999). The closer a company interacts with its consumers, the more likely it is to join programs earlier to capitalize on its corporate image of being green (Moon, 2008; Moon & deLeon, 2007). Environmental labelling occurs on certain products that are certified by public or private organizations, or even through government labels such as fuel efficiency (Khanna, 2001). This is a common practice of green consumerism, where the customers are aware about green labelling, value environmental quality and are willing to pay a higher price for cleaner products (Arora & Gangopadhyay 1995; Khanna, 2001). For example, Stoeckl and Cook (2004) found that businesses whose demographic were affluent consumers were more inclined to participate in programs because they could market their green products to their consumer base and charge a higher cost to the product. Consumers can therefore affect the decision-making process of companies by pressuring the organization to environmentally improve their products or services (Zutshi & Sohal, 2003). Companies that are more in tune with the needs of their consumer base can thus improve their success.

Pressures can also occur from people who are not necessarily consumers (Lyon & Maxwell, 1999). This pressure usually takes the form of lobby groups, which could have a significant impact for businesses to undertake voluntary initiatives (Lyon & Maxwell, 1999).

Organizations depend on VEPs to communicate to their investors, suppliers and consumers about their environmental behaviour (Darnall & Carmin, 2005). Participation in VEPs can thus allow companies to form a name in being environmentally proactive and also gives the companies the chance to form relationships with other parties who share these values (Arora & Gangopadhyay, 1995; Darnall & Carmin, 2005). Eventually, this green reputation becomes linked with the company brand, which could persuade consumers with their purchase choices (Darnall & Carmin, 2005). This reputation however is heavily dependent on imperfect information, and because of this ambiguity, customers have to rely on these market signals (Arora & Gangopadhyay, 1995).

4.4.3.5 Management Pressures

A company, although often spoken as a single entity, is actually a collection of individuals organized in a hierarchal manner, each entering the company with different objectives and interests (DeCanio, 1993). The opinions and beliefs of an organization's members play a large influential role in whether a company participates in VEPs. These organizational and individual factors help shapes company decision-making regarding environmental issues, and influence the decisions, perceptions and leadership of upper management in a business or in different organizational structures (Howard-Grenville et al., 2008). Examples of this include formal reporting structure, approval procedures, and public portrayal through the media.

There are two key organizational pressures that are placed on a company in its decisions to improve its environmental performance: the role of employees and the views of senior management. Employees are often an overlooked but significant pressure in how a company manages its environmental commitment. Employees have a considerable bearing on how an organization functions. If there is any change within the organizational structure that disrupts the routine of an employee, any change that occurs will be met with some sort of resistance, as basic human psychology shows that there is discontent when one is required to change his or her habits

(Zutshi & Sohal, 2003). If a program or a process is therefore forced on them, employers will be met with conflict and delays that could hinder the success of the program. It is thus in the best interest of an organization to have the support of its employees, and this could occur by including them in the initial stages of a program's implementation. Having their cooperation at the onset of a program's implementation can decrease the level of resistance that is met, leading to the acceptance of the program (Zutshi & Sohal, 2003).

Managers also play an integral part in the success of a program, whether it is through financial support, or moral support through encouragement and commitment (Zutshi & Sohal, 2003). If employees witness the support and commitment from senior management, they are more willing to accept changes within the company (Zutshi & Sohal, 2003). The ideals and beliefs of managers regarding the environment shape the behaviour of a company, and may explain why some businesses are more proactive environmentally than others (Plaza-Úbeda et al., 2009). Since the decision to participate in environmental programs is made at the corporate level, the views of senior management are important in determining the motivations behind joining the programs. Arora and Cason (1995) found that improving the environmental performance of a company also increases the goodwill within the organization, thus businesses that are larger (with a higher number of employees) also benefit from overcomplying on environmental standards.

Managers are also typically rotated within the organization every few years; projects that have shorter payback periods will therefore be favoured over those that are environmentally beneficial, but take longer to see profits (Alberini & Segerson, 2002; Delmas & Terlaak, 2001; DeCanio, 1993). Managers who are in a position for a short period of time would rather see a project come to fruition in their duration rather than in the future (DeCanio, 1993). Also, managers who are risk averse are less likely to see profit in energy saving technologies if the project has a potential risky outcome than the degree of payoff (DeCanio, 1993). It could also be that these types of projects are not a high priority for managers, since they only cut costs in small ways (DeCanio, 1993). This study therefore examines the period of time a senior manager has been at the company as a factor in this research.

4.5 Program Design of Voluntary Environmental Programs

Studies by Strasser (2008), Darnall and Carmin (2005) and Potoski and Prakash (2005) have highlighted certain shortcomings in the design and implementation of VEPs. More specifically, the lack of third-party oversight in monitoring a company's environmental performance, the lack of sanctions for poor environmental performance, and the prevalence of "free-riding" have left some inquiring about the true benefits of voluntary programs for both participants and for environmental improvement (Darnall & Sides, 2008). These and other studies have suggested programs with low environmental performance are the result of weak program design (Darnall & Sides, 2008).

Programs may be weakly designed because program managers attempt to balance the goal of the program while trying to be flexible with participants wanting to go beyond regulatory environmental performance (Darnall & Sides, 2008). There is therefore this pressure between trying to encourage participation in the program while ensuring that the requirements of the program are met (Darnall & Sides, 2008). This not only occurs in government VEPs but in industry-sponsored VEPs as well, which have also come under scrutiny for their weak implementation and monitoring features that lead to their poor environmental performance (Darnall & Sides, 2008). Weak program design includes ineffective monitoring, not ensuring that participants achieve their program goals, and if participants have to self-report their targets, not verifying that these reports are accurate (Darnall & Carmin, 2005; Darnall & Sides, 2008).

Submissions of businesses self-reporting on their environmental performance are also rarely verified for their conformance and there is no way to enforce program rules or force out participants who fail to meet the requirements; participants therefore gain program benefits without actually having to adhere to program requirements (Darnall & Sides, 2008). Before assessing the factors that propel businesses to participate in VEPs, the features that deem a VEP successful should also be considered.

Consequently, two fundamental challenges that any VEP faces are attracting participants and ensuring they meet the program's standards (Borck & Coglianese, 2009). An effective VEP is therefore one that contains incentives strong enough for businesses to participate; since there

are costs associated with joining programs, there must also be advantages to participate (Dawson & Segerson, 2008; Potoski & Prakash, 2005).

4.6 Uncertainties of Voluntary Environmental Programs

As more businesses participate in VEPs, and as more regulators rely on them as a policy tool, it is important to determine if VEPs are significant in helping to improve a company's environmental performance and whether it is an accurate representation of a company's environmental conduct (Borck & Coglianese, 2009; Darnall & Carmin, 2005). There are a number of uncertainties that have been raised about the effectiveness of voluntary initiatives in achieving environmental improvements. Many of the voluntary agreements that are currently in place are either poorly designed or are unclear in their objectives (Paton, 2000). As well, the true performance of public voluntary programs is limited if businesses are unwilling to disclose accurate information. Weak performance standards and a lack of effective monitoring can create free-riding among participating members, such that these members get all of the advantages of joining without significantly altering their environmental behaviour or meeting the targets of the program (Darnall & Carmin, 2005). If this is indeed the case, internal performance must be measured.

Darnall and Carmin (2005) evaluated whether VEPs were sending correct environmental signals about the guidelines of their programs and whether the environmental performance of their participants was indeed accurate. Although stakeholders may use participation in VEPs as an indicator or signal for a company's environmental conduct, an organization's participation does not assure that it is environmentally conscious. The existence of a VEP signals that both the regulator and the participants are willing to work together to achieve environmental protection (Koehler, 2007). The more participants there are, the greater the potential for environmental protection (Koehler, 2007), however encouraging a high rate of participation creates an opportunity for a company to "free-ride". If a VEP is created to address an industry-wide problem, it is believed that the entire industry as a whole benefits from forestalled regulation because regulated costs are avoided (Koehlor, 2007).

Although a small number of businesses will still participate in the VEP, it is the non-members that benefit more (Koehlor, 2007). This dilemma often occurs if there are no sanctions in the program that are related to free-ridership. If businesses join voluntary programs to improve their relationship with regulators, they are motivated to report their environmental performance to show their environmental improvement, and are willing to incur its cost. If, however, there was no specific motivation for the company to join other than the lack of associated regulatory cost, they are less likely to sustain the cost of reporting and disclosing their environmental performance (Delmas & Keller, 2005).

Regarding whether VEPs were accurate in the environmental signals they conveyed, Darnall and Carmin (2005) found that VEPs were sending out inaccurate signals which can cause VEP failures within and amongst programs. Within programs specifically, VEPs that were not properly designed created the opportunity for free-ridership, enabling participants to receive the benefits of the program without fulfilling any of its requirements.

4.7 Energy Reduction: A Combination of Regulatory and Voluntary Measures

The effective management of environmental protection is arguably found by looking beyond the conventional regulatory approaches commonly used and, instead, by focusing on a combination of both regulatory and voluntary policy measures (Harrison, 1999). Regulations are necessary because they provide the urge needed for businesses (wanting to avoid these arduous regulations) to participate in voluntary programs. The goal then is to determine the best relationship between regulation and voluntary programs that is most effective for environmental protection (Harrison, 1999).

Webb (2004) uses the analogy of voluntary codes and public policy in relation to the use of personal computers and mainframe computers. Mainframes were very large and expensive; only a limited number of people with specialized knowledge and skills were able to operate these machines. With the development of personal computers, a larger population with less refined skill-sets is able to harness the power that mainframes provided, through less expensive and more accessible options. Legislation still is and will always be considered the "mainframe computer" of the general public that is controlled by specialists such as elected members and

regulators of legislatures and government (Webb, 2004). Voluntary codes instead are considered the "personal computers" of regulation development and implementation, and although not as commanding and powerful as "mainframe" regulation approaches, they are more widely accessible and manageable (Webb, 2004).

Literature suggests that voluntary programs work best in combination with other policy instruments such as regulation and market-based incentives, which encourage participation and prevent free-ridership (Hoffman et al., 2002; Webb, 2004; Harrison, 1999). VEPs may not be the ideal replacement for environmental regulations but they do complement existing regulations by increasing environmental awareness and changing corporate behaviour (Darnall & Carmin, 2005). An optimizing approach is to therefore incorporate a mixture of regulatory and voluntary tools. Webb (2004) deduces that just as the invention and use of home computers did not replace the need for mainframes, the rules for voluntary codes will not replace the rule structures set by government. The law extends to any and all sorts of environmental practices and voluntary codes are another tool that operates underneath its structure. VEPs offer regulators another method in the development and execution of law: it can function in conjunction with regulation, and as a result, can increase the chance for successful environmental implementation and enforcement (Webb, 2004).

It has also been suggested that businesses prefer to choose options that are most advantageous to the company. With no taxes and little regulation in the energy sector, government investment in programs to conserve energy is the appealing alternative to both businesses and regulators. Webb (2004) has deduced that one could rely on regulation alone, but that compliance can only be taken so far. Cooperative voluntary actions, in this case energy programs, agreed on between regulators and businesses, are the most logical choice for companies to choose because there is an agreement made between both government and company for the minimum target acceptable to achieve.

5.0 Study Method

The collection of data for this study occurred through a two-step method: the first was a survey of participants and non-participants; the second was in-depth interviews with these interest groups in addition to energy consultants and commercial energy reduction industry leaders. The following section describes the survey design of the BOMA Toronto CDM program. It also describes the design of the interview with its coded results presented in the next section. The survey questions were based on voluntary program pressures and limitations derived from the literature and included questions for both participant and non-participant groups in the survey.

5.1 Survey and Data Description

Unless one is assessing regulated emissions, or if there is a government-funded project, there has been a noted difficulty in obtaining the data needed to evaluate voluntary programs, EMSs, and other environmental impacts (Strasser, 2008). Acquiring this kind of data is extremely difficult, since the information either comes directly from the company, or the information is gathered by third parties (Strasser, 2008). Unless accurate information can be obtained, these studies rely on surveys for assessment. They also tend to have sample sizes that are less than ideal, which need to be considered when deciding to use this method of assessment (Strasser, 2008). For this reason, the research for this study was done in two stages: quantitative data were gathered through the use of surveys in the first stage, while qualitative analysis of interview data were obtained in the second stage.

5.2 Sampling

As stated by Zutshi and Sohal (2003), managers play an important part in the success of a program through financial and moral support. Employees, witnessing this support and commitment from senior management, are more willing to accept changes within the company (Zutshi & Sohal, 2003). Managerial environmental ideals and beliefs of managers may explain why some businesses are more environmentally proactive than others (Plaza-Úbeda et al., 2009).

Purposive sampling was employed, and employees in a senior management position within their respective business fields were the target subjects. The target respondents were those in a senior position who had an extensive knowledge of company policies and consequently of the reasons for its behaviour. These positions included, but were not limited to, property managers, general managers, operations and facilities managers, technical managers, directors, owners, managers and Chief Executive Officers. Approval by the Research Ethics Board was approved on December 10, 2010 and was renewed on November 12, 2011.

A list of buildings that received incentives from the program, as well as their representative's contact information, was provided by BOMA Toronto. This list was used to establish the sampled group of companies that participated in the program. A participant was defined as a company whose building it owned or operated was eligible to take part in the program, and was able to receive the energy incentive rebate; therefore Toronto businesses that participated in the program were contacted. Because the purpose of the study was to assess the factors that motivated program participation, it was also an objective to study businesses that were aware of the program but chose *not* to participate. In order to accurately determine what companies seek when deciding to participate, one must also assess what qualities programs have that may have deterred businesses from joining. For this reason, a control group consisting of businesses having knowledge about the program but chose not to participate was also contacted for the study. The identification of the businesses that were aware of the program but chose not to take part was a more difficult pursuit. BOMA Toronto previously held information sessions to explain the nature of its CDM program for companies to recruit them as potential clients. As a means of tracking businesses attending these sessions, BOMA Toronto asked those interested to submit their email address to confirm their attendance. The non-participant population was then established using the BOMA Toronto attendance list.

The names of businesses that attended the information session and were not found on the participant list were considered candidates for the control group. It should also be mentioned that BOMA Toronto has kept a more extensive database on their participants than on those who have not joined. As a result, the database containing the names of respondents who attended the information session was significantly smaller and not as up to date in comparison to BOMA

Toronto's client list. Consequently, the representative number of potential candidates who did not participate was also smaller.

Due to the local nature of the CDM program, as well as the senior position of the target group, the population size of the respondents was very small. There was a high degree of difficulty in retrieving responses needed to determine the motivations to join and not join the program. The population size of the non-participants was even smaller than that of the participants, since the study needed to locate businesses that were aware of the program, but chose not to participate. A significant effort was made to contact both the participant and non-participant population through repeated emails and by telephone. There was tremendous difficulty in getting responses from non-participants since the thoughts of potential respondents are not easily penetrated. They were also difficult populations to penetrate. Interviews were also sought to help substantiate the survey results.

5.3 Stage One (Survey)

Both the list of the information session attendees and the list of participating companies were consolidated and cross-referenced to ensure that any duplicate, incomplete or inactive emails were not included in the study. Representatives on the participant list and those who attended the information sessions were contacted to complete the survey. In total, 421 emails asking companies to complete the survey were sent to those on the participant list and 147 emails were sent to those who attended the information session.

To evaluate the determinants of corporate participation in voluntary energy programs, surveys were sent online to prospective respondents using the online survey software *Opinio*. The letter of introduction used to contact the potential respondents is contained in Appendix A. The survey link along with the letter of introduction was sent to the total 568 potential respondents. A reminder was sent to the respondents eight days following the letter of introduction.

Respondents who completed the survey after the follow up email were removed from the candidate list. To encourage better survey results, the remaining candidates on the list were

telephoned and asked to complete the survey online following the email reminder, which can be found in Appendix A. If they were interested, the candidates had the option of completing the survey or conveying their thoughts and opinions through an interview about participation in energy conservation programs. The final email reminder was sent three weeks later after the commencement of the telephone calls. In total, 116 people responded to the survey, and 106 of these surveys were completed. The overall response rate of completed surveys was 18.6%. The response rate is broken down by control group and experimental group in Table 2.

Table 2*:* Response Rate by Study Group

	Sample size	**Responded**	**No response**	**Response rate (%)**
Experimental Group	421	82	339	19.5
Control Group	147	24	123	16.3

5.3.1 Survey Questions

The survey questions were based on the work done by Wu (2009), Clemens and Douglas (2006) and Henriques and Sadorsky (1999, 1996), and can be found in Appendix B. They were designed to determine the various pressures on businesses that have been suggested to influence program participation. Rated questions found within the survey had the option of *"Other"*, where any written responses the respondents gave were combined with the interview results and were coded for thematic responses. Since a control group was also used in the study, the survey contained a branching question placed on Question 9, which asked whether the respondent's business participated in the CDM program. If the respondent indicated 'no', the survey omitted four questions (questions 10-13) which pertained to participation. Another branching question was placed on Question 16, which asked whether the respondent's company had an environmental plan. If the respondents indicated 'no', the survey omitted questions 17-19 which pertained to environmental plans.

Overall, there were six major components influencing a company's willingness to join:

1. Factors influencing participation;
2. Stakeholder relationships;

3. Managerial views on environmental issues;
4. Impacts of environmental standards;
5. Environmental management practices; and
6. General information.

The survey was therefore divided into these six sections as suggested in the literature to determine corporate behaviour in energy incentive programs. Although the aim of the voluntary program was to reduce energy use, studies suggest businesses would join this program if there was some benefit to be gained to the company (Khanna, 2001). It is expected that participation in voluntary programs tends to occur if the benefits of doing so outweigh the costs (Borck & Coglianese, 2009; Plaza-Úbeda et al., 2009). There are also internal or external pressures that influence a company's decision to join voluntary programs. Both pressures are usually encountered by a business and the greater the number of pressures the company faces, the higher the likelihood is that the company will incorporate environmental strategies within their corporation, as each pressure plays an important role in the decision making process of businesses to join voluntary programs (Khanna, Deltas & Harrington, 2009; Henriques & Sadorsky, 1996).

The survey consisted of multiple choice questions and rated questions. Rated questions asked respondents to identify the level of importance a particular factor had in reference to the question asked. The responses for rated questions were scaled from *very unimportant = 1* to *very important = 7*. A weighted mean for each response was then calculated, and each mean was also scaled on the same 7 point scale of importance, with a midpoint of the scale being 4. Some rated questions also asked respondents to indicate their level of satisfaction on a particular topic in the survey. The possible responses were scaled from *not at all satisfied = 1* to *very satisfied = 7*. A weighted mean for each response was then calculated, and each mean was also scaled on the same 7 point scale of importance, with a midpoint on the scale being 4.

5.3.2 Section 1: Factors Influencing Participation

The first component of the survey examined factors that influenced participation in the program. This part included the reasons for the company's participation in the program, and the challenges in the decision to join (or not to join) the program. Participation studies suggested that these are the major factors in a company's decision to join:

- Financial incentives/sufficient return on investment;
- Public relations;
- Corporate policy, culture and awareness;
- More flexible regulation standards; and
- Environmental improvement.

As a result, Question 10 on the survey indicated the level of importance each of the above pressures had in influencing a company's decision to join the program. Question 11 asked if there are other reasons for the company's participation in the program, and Question 12 asked the respondents how many of their buildings took part in the program. Question 13 indicated the level of satisfaction the respondents felt with the program.

Factors limiting participation were also considered. To examine this, Question 14 asked the respondent to indicate the level of importance the following challenges were for their company's decision to join/not join in the BOMA Toronto CDM Program. The possible responses were:

- Lack of information or knowledge;
- Lack of available new and improved technology;
- Lack of skills or personnel;
- High cost of equipment; and
- Lack of financing; and
- Regulatory and policy barriers.

Question 15 asked if there were other challenges that influenced the company's decision to participate in the program, with the responses combined with the interview results. Market forces shape the environmental behaviour of businesses, thus perceived pressures, both external

and organizational, are motivators for businesses joining environmental programs (Howard-Grenville et al. 2008; Koehler, 2007; Henriques & Sadorsky, 1996). Studies such as Alberini and Segerson (2002), Delmas and Terlaak (2001) and DeCanio (1993) indicated that challenges faced by businesses can often prevent their participation in voluntary programs.

5.3.3 Section 2: Stakeholder Relationships

The second component examined the company's stakeholder relationships. Several studies have indicated a strong motivation to join comes from the expectation from a company's stakeholders, both internal and external to the company. Question 21 indicated the level of importance the following stakeholder pressures have on the respondent company's decision to consider environmental issues. The possible choices were:

- Your company's customers;
- Your company's suppliers;
- Your company's shareholders;
- Your company's employees;
- Cost of controls;
- Efficiency gains;
- Government regulations;
- Competitive pressures;
- Managerial pressures;
- Environmental organizations;
- Research and development;
- Neighbourhood/community; and
- Other lobby groups (church, political groups, etc.).

Howard-Grenville et al. (2008), Khanna (2001), Lyon and Maxwell (1999) and Henriques and Sadorsky (1996) suggest that the majority of pressures outside the corporate institution are usually those that affect the company's decision to join, and are shaped by the community, by consumers and through company interactions.

5.3.4 Section 3: Managerial Views on Environmental Issues

The third component examined the perceptions of managers about environmental issues such as energy efficiency. Question 22 indicated the level of importance senior management placed on environmental issues. The possible responses were:

- Moral responsibility to protect the environment;
- Support in protecting the environment if costs will be incurred;
- Belief that its consumers and stakeholders care about the environmental impact of company products;
- Belief that improvements in environmental performance will improve long term financial performance; and
- Recognition of its company's environmental risks to customers/suppliers/partners.

Question 25 asked the respondents to indicate the level of importance environmental issues will have to the company in the next five years relative to today. The opinions and beliefs of an organization's members play a large influential role in whether a company participates in VEPs. These influence the decisions, perceptions and leadership of upper management in a business or in different organizational structures (Howard-Grenville et al., 2008).

5.3.5 Section 4: Impacts of Environmental Standards

The fourth component of the survey evaluated the influence of external and internal environmental standards on the company's decision. Question 23 asked the respondent what kind of impact current environmental standards has had on his/her company's competitive position, either in Canada or abroad. It indicated the direction of impact, with the possible responses scaled from *negative = 1 to positive = 3*.

5.3.6 Section 5: Environmental Management Practices

The fifth component examined the company's environmental management practices. It examined whether the company had formulated a plan for dealing with environmental issues, and if there is a formal document describing the plan. If the respondent indicated that they have a plan, they were asked if the plan was presented to company stakeholders, to company employees, and what kind of impact the environmental plan had made on the company. Other questions regarding environmental management practices were whether the company had undergone any other green initiatives, if there were other voluntary environmental programs that the company took part in, and if the company participated in other voluntary energy programs. It is expected that businesses wishing to display their performance in the form of environmental reports are more willing to join voluntary programs (Videras & Alberini, 2000), and consumer pressures have also been found to be a motivator for businesses to implement an environmental plan (Henriques & Sadorsky, 1996).

5.3.7 Section 6: General Information

The final component of the survey contained general information about the respondent's company. This general information included the respondent's position at the company, the length of employment at the company, and the size of the company. It also included whether the company sold final goods to its consumers and was in close contact with its consumer base. General information also included if the company was aware of the CDM program, had a representative attend an information session regarding the program, and whether the respondent's company had a Research and Development (R&D) department.

5.4 Stage Two (Semi-Structured Interviews)

To provide a more in-depth analysis of the factors influencing participation in the CDM program, as well as to supplement the survey responses, interviews were also completed. Interviews were deemed to be a suitable means to acquire information and opinions from experts in the field of energy conservation and incentive program design. Interest groups included

participants, non-participants, consultants, and experts in energy conservation. Participants were those who indicated that they participated in the program and non-participants were those who indicated that they did not participate.

Consultants and experts in energy demand management were two additional groups that were interviewed. Since they had experience in dealing with the nature of both the program and the two respondent groups, their insights were thought to add to the findings. Energy consultants, due to their close working relations with these respondents and their experience in witnessing their business behaviour, provided an account of what they felt influenced businesses in behaving the way they do. The questions were similar to the survey questions, with more emphasis on their opinions about incentive programs, and their experience with the CDM program or on incentive programs in general.

The final interview group consisted of five energy efficiency industry experts. The expert respondents were selected via snowball sampling from respondents in the other interest groups. Because this group was involved in program design, and their opinions about factors that motivated businesses to join the program were sought, their questions were structured in a different manner to those of other interest groups. The interview guide for the *Experts* interest group varied somewhat due to the nature of the interest group. It consisted of 14 questions that were arranged in three sections: program design, program implementation, and energy programs and behavioural change. They were grouped in this fashion to collect information on their experiences in delivering incentive programs, as well as gain some insight on how these programs fared from the perspective of industry leaders.

The interviews were semi-structured and consisted of open-ended questions. The interview guides containing interview questions for the interest groups are presented in Appendix C. A total of 29 interviews were carried out both in-person and via telephone, and responses were recorded as well as supplemented with written notes. The recorded responses were then transcribed and combined with the notes. They were also combined with the typed answers the respondents gave from the survey responses. They were then coded for similarities based on the responses and were categorized by interest group. The number of interviewees in each interest group is summarized in Table 3.

Table 3: Interest Groups and Number of Interviews on Participation in the BOMA CDM Program

Interest Group	Number of Interviews
Participants	10
Non-Participants	8
Energy Consultants	6
Experts	5
Total	**29**

5.4.1 Section 1: Program Design

The first section of the interview guide contained questions regarding the structure and design of energy incentive programs. Questions in this section asked what the experts focused on when designing incentive programs, what the chief challenges encountered were when designing a program, how participants located energy incentive programs, and what proportion of the business population that participated in these programs was captured. Other questions included what they thought drove or deterred companies to join, what their experience had been in trying to promote energy incentive programs in the commercial sector, what factors encouraged the greatest participation from companies/buildings, and what the importance of including incentives within the program was. It also asked if financial incentives were the primary motivator for company participation, and if they thought there was reluctance from businesses joining these programs, and how to get people to focus on other areas of energy conservation beyond lighting.

5.4.2 Section 2: Program Implementation

This section of the interview guide reviewed the experts' opinions on how the BOMA Toronto CDM program was implemented. The questions asked what factors they considered when implementing a program, what the chief challenges were when implementing a program,

and how they found the balance between offering the appropriate incentive to encourage participation and implementing regulation to ensure the program ran effectively. Other questions included how the communication unfolded at the ground level between the program administers and the participants, if they were aware of any problems that may have existed at the ground level, and if the subsidy/incentive set aside for companies was used effectively and if not, what was done with the remainder.

5.4.3 Section 3: Energy Programs and Behavioural Change

The final section attempted to evaluate whether incentive programs had an impact on the behaviour of businesses regarding their energy consumption. Questions in this section asked if the experts felt that incentive programs helped companies change their energy consumption behaviour, if they had seen an improvement in the rates of program participation in the last five years, and their opinion on how Toronto fared compared to other Canadian cities regarding reduction in energy consumption by businesses.

6.0 Results

The results of this study were derived from the analysis of both survey and interview data. The first and second components summarize the findings of the BOMA Toronto CDM program, based on survey results and interview results, respectively. The remaining components are sectioned according to the structure of the surveys and interviews: factors influencing participation, stakeholder relationships, managerial views on environmental issues, impacts of environmental standards, environmental management practices, and general information. Within each section, results from the surveys are first given, followed by interview responses. The final section describes the results of the interview responses from the experts. This section is further divided according to the interview guide: program design, program implementation, and energy programs and behavioural change.

6.1 Summary of the BOMA Toronto CDM Program: Survey Results

A total of 106 people responded to the survey. Based on the survey results, 78 respondents were aware of the program, and 55 of them (67%) had a representative attend an information session regarding the program. Of the 106 people who responded to the survey, 82 indicated that they participated in the program, while 24 people indicated that they did not (Table 4). Approximately one quarter of respondents indicated they were managers for their respective company; director and property manager positions were tied for second (Table 5).

Table 6 demonstrates the number of respondents in each business category. The focus of the program was primarily in industrial, mixed use and office buildings. Results of the survey showed that, indeed, industrial buildings and offices comprised the majority of program and non-program participants. A large percentage of respondents chose "Other" to represent their type of business, with 41.7% of program and 43.5% of non-program participants responding to this category. 'Other' business categories that participants indicated were: property management, contracting, custom manufacturing, developing, health care, facility management, real estate asset management, HVAC equipment and service, movie studio, engineering/consultants, private school, pharmaceuticals, and chemical distribution. "Other" business that non-program participants indicated were: health care, consulting, project management and facilities services,

property management, waste and recycling haulage, manufacturing, refrigeration, utility billing, commercial real estate and transportation.

Table 4: Awareness and Participation of the CDM Program; Participants vs. Non-Participants

		Participant		**Non Participant**	
		Absolute Frequency	**Relative Frequency**	**Absolute Frequency**	**Relative Frequency**
Are you, or is your company, aware of the BOMA Toronto Conservation and Demand Management Program	No	4	4.9%	4	16.7%
	Yes	78	95.1%	20	83.3%
	Not Answered	0	-	0	-
	Total	**82**	**100%**	**24**	**100%**
Did a representative from your company attend an Information Session regarding the BOMA Toronto Conservation and Demand Management Program?	No	27	32.9	13%	54.2%
	Yes	55	67.1	11%	45.8%
	Not Answered	0	-	0	-
	Total	**82**	**100%**	**24**	**100%**
Did your company participate in the BOMA Toronto Conservation and Demand Management Program	No	-	-	24	23%
	Yes	82	77%	-	-
	Total	**82**	**100%**	**24**	**100%**

Table 5: Position/Title of Survey Respondents

Position/Title	Number of Respondents
President	3
Vice President	10
Director	14
Manager	25
Supervisor	3
Administrator	4
Property Manager	14
Project Manager	3
Plant Manager	3
Sales manager	2
Engineering	7
Coordinator	6
Other	12
Total	**106**

Table 6: Business Category of Survey Respondents

Business Category	Absolute Frequency	
	Participant	**Non Participant**
Entertainment/Recreational	2	3
Hotel	2	1
Industrial Building	20	3
Mixed Use	10	1
Office	21	4
Private institution	1	0
Retail store	2	1
Warehouse	3	0
Other	15	10
Not answered	6	1
Total	**82**	**24**

The respondents were asked if their company had submitted program applications for retrofits for more than one building. This question also intended to determine a respondent's experience with the program. It could be assumed that a company satisfied with the outcome of the program may want to enlist further buildings in the program for energy retrofits. Results in

Table 7 showed that 39% of respondents had more than one building under the program; however, the majority only had one building enlisted.

Table 7: Submission Applications for More than One Building in One Company; All Participants

		Absolute Frequency	Relative Frequency
Did more than one building owned/managed by your company take part in the BOMA Toronto Conservation and Demand Management Program?	No	50	61.0%
	Yes, please specify	32	39.0%
	Total	**82**	**100%**
	Not Answered	0	-

6.2 Summary of the BOMA Toronto CDM Program: Interview Results

In total, 29 interviews were carried out. In the participant group, 10 individuals were interviewed, and eight individuals, whose companies did not participate in the CDM program, were interviewed. Six individuals were identified as Consultants, while five were identified as Experts. Amongst the eight respondents in the non-participant group, there were two overarching reasons why the companies interviewed did not participate in the CDM program:

1. The respondents felt that lighting retrofits did not benefit the energy conservation strategies the companies were already following; and
2. The companies interviewed were small in size and were not in a financial position to participate in the program.

Five of the respondents in the non-participant group cited lighting retrofits as an unimportant initiative in their energy conservation efforts and as a result they did not participate in the program. As examples, Non-participants 1 and 7 said:

> Non-participant 1: "I was interested in BOMA initially because I felt that our certain product line for HVAC can be under the incentive eligibility and I could sell the product that way. Unfortunately it did not pertain to HVAC so I was not interested. The presenter spoke about HVAC at times during

the session, but the majority of it was geared to lighting because it is easier to calculate the savings, unlike HVAC."

Non-participant 7: "We are more interested in solar projects and machine management or other alternative energy sources than with lighting."

Five non-participants also cited being a small company (and thus not financially capable) as one of the reasons they did not participate in the program. For example, Respondents 3 and 7 stated:

Non-participant 3: "We are a very small company. Our business is struggling internally; we are restructuring our internal organizations, so if that isn't in place, then any other green program that they do or want to do will be a waste of time."

Non-participant 7: "We are a small company. For smaller companies it's hard to obtain projects that make it worthwhile to do this program. Even if we are able to get the projects, the payback getting the contracts is hard."

Only one company decided not to participate in the CDM program due to administrative problems in a previous project:

Non-participant 1: "With the one project I was involved with, the BOMA program was too difficult from a paperwork point of view, so it fell flat."

In the participant group, ten individuals whose companies participated in the CDM program were interviewed. Amongst the 10 respondents, there were two general reasons as to why the companies interviewed participated in the CDM program:

1. The financial incentive was the primary attraction to the program to help the bottom line; and
2. The CDM program provided the incentives that aided in the environmental changes the companies were currently undergoing.

6.3 Section 1: Factors Influencing Participation

This section describes the factors that influenced participation in the BOMA CDM program. It first depicts the factors found to influence participants to join by summarizing survey results, followed by interview results. Interview responses provided by the consultants summarized what they found, in their experience, factors that encouraged participation in the program. The section concludes by discussing the interview responses of non-participants on the factors that influenced whether they would participate in energy incentive programs.

6.3.1 Influences on Participants

Table 8 demonstrates the influence of factors on a company's decision to participate in the BOMA Toronto Conservation and Demand Management Program. The number of responses for each factor is listed in Appendix D. The possible response is scaled from *very unimportant = 1* to *very important = 7*. Results from the surveys found that companies participated in the program primarily because of financial incentives, as this factor was indicated as *"very important"* to the company (with a weighted mean of 6.8). Environmental improvement was the second major influence on a company's decision to join the program, with this factor also listed as *"very important"* to the company (with a weighted mean of 6.4). Corporate policy, culture and awareness were listed as an *"important"* value, with a weighted mean of 6.0. Every factor was listed as having an *"important"* (greater than 5.4) influence in a company's decision to join the program, indicating that there are a number of internal and external factors that influence corporate decisions to participate in energy programs.

Participant survey respondents were asked if there were other reasons for the company's participation in the program. 11.1 % of the respondents joined the program for reasons other than what were listed in Table 8. Their reasons were: health and safety, being more competitive, personal satisfaction, monitoring and verification, supporting the client base, lowering operating costs, and business survival (Appendix D). The survey results therefore showed that the determinants that motivated businesses to join the program are the same as those found in the literature.

Table 8: Importance of Factors in the Decision to Participate in the BOMA CDM Program

Factor	Weighted Mean of Importance
Financial incentives/sufficient return on investment	6.8
Public relations	5.4
Corporate policy, culture and awareness	6.0
More flexible regulation standards	5.4
Environmental improvement	6.4
None	4.8

Based on the interview results, financial incentives were, unsurprisingly, the primary attraction for participants to join the program. Of the 10 respondents in the participant group, five of them said that the financial incentives were the reason they participated. For example, Participants 1 and 2 stated:

> Participant 1: "It was good business. It made environmental sense and more importantly it made business sense."
>
> Participant 2: "We joined because of the financial incentives when doing the retrofits."

Five participants also mentioned that doing the CDM program assisted them in achieving other environmental goals. As examples, Participants 6 and 8 stated:

> Participant 6: "We participated both for the financial benefit as well as the corporate social responsibility aspect. Without the financial incentive it would've been difficult to implement the measures that needed to be undertaken."
>
> Participant 8: "Well, if you're going to do the work anyways, you might as well so get help and get the rebates; however, you also do it because you want to stay competitive in the market. Companies will come knocking only if you have these initiatives in place. It's good for business."

Amongst the respondents in the participant group, only one company joined the CDM program solely to increase environmental sustainability:

> Participant 5: "My primary incentive for joining? As a facilities manager and as an environmentally-conscious human I want to set the company forth on a path to reduce their energy consumption and carbon footprint. I fully believe this and introduced to my senior manager the triple-bottom line; that social, economic and environmental decisions can be made

> together. I was therefore able to take my beliefs and teachings and get the board of directors to get on board with the triple bottom line notion and we made significant environmental improvements. I researched all the federal, provincial and municipal government services and came across the BOMA CDM program."

In conclusion, factors that motivated businesses to join the program were the financial incentives offered by the program to reduce the cost of lighting retrofits.

6.3.2 Influences on Participation: Consultants

Energy consultants were also interviewed, responding to the questions given in their interview guide. In this interest group seven senior consultants, who had clients participate in the CDM program, were interviewed. Due to their close working relations with these respondents and their experience in witnessing their business behaviour, they provided an account of what they felt influenced businesses in behaving the way they did. The consultants worked in various environmental consultant businesses, and had a range of responsibilities for their clients. Namely, the consultants worked with their clients to address environmental concerns through the creation of innovative strategies, and encouraged their consumers to make better choices regarding the environment. They provided information on the rebates or incentives currently available. These retrofits or incentives were recommended to their clients, with the consultants promoting the available energy incentive programs.

The consultants were asked what they found, in their experience, to be the key motives in companies choosing to participate in the CDM program. In their experience, the causes for companies joining were:

1. Financial incentives;
2. Cost-effectiveness; and
3. Public image.

Financial incentives were found to be the primary motive for participation in energy programs amongst three consultants. For example, Consultants 1 and 2 stated:

Consultant 1: “Financial incentives are a huge attractor for companies.”

Consultant 2: “I am still finding that more companies are going in for financial reasons instead of moral responsibility, but there are some employers like that are doing strong sustainable initiatives. The primary reason, however, is much more bottom-line oriented.”

Similarly to financial incentives, cost effectiveness was also found in the consultant group to motivate clients in joining these programs. For example, Consultants 3 and 5 said:

Consultant 3: “The client will choose less productive equipment because they don’t have the approval or the incentive to choose the more sustainable option. They will choose the less expensive. It’s not the best decision, but it is a decision that helps the bottom line. This is a large lost opportunity for sustainable cost-effective equipment.”

Consultant 5: “The biggest programs are now geared toward financial assistance for capital-invested projects.”

Two of the consultants felt that some companies join in order to be recognized by their sector as being environmentally proactive:

Consultant 2: “First and foremost, if it is in the company plan such as the sustainability plan or the energy management plan, then they will join energy programs. BOMA is just one step in this plan. They are incented by reducing their cost, but saying that what they’re doing is to be sustainable.”

Consultant 6: “With some options, a business can purchase a portion from green sources. A portion of that money goes to green products, and it can be displayed in their company motto as trying to be green.”

One respondent in the consultant group indicated that, of his clients, those that are larger in size are usually the ones more likely to join these programs:

Consultant 5: “The most predominant clients are those with capital intensive projects on buildings the clients don’t own. Usually if you participate, you are a bigger company. You can charge the lighting or the boilers or other high cost equipment to the program. When it comes to power, and the power to make these decisions, it’s usually the ones who have the most money. When you own an asset such as a building you put money in it to see it appreciate.”

When asked what they think deters companies from joining programs such as the BOMA CDM program, the sentiment in the consultant group was that companies may not have the financial resources to invest in the retrofits. This confirms the findings that participation in these programs is mostly from financially-healthier businesses. For example, Consultants 4 and 5 said:

> Consultant 4: BOMA is offering savings. The funding organization is saying to the owners: 'here is the money, come and get it'. Building owners are saying: 'OK, thanks for letting us know, but we don't have the resources.' So unless the businesses have the capital upfront, they won't do the programs."
>
> Respondent 5: "These companies might not have the resources to do these projects. They just don't have the resources internally."

Interestingly, three consultants stated that, although the CDM program offered incentives for companies to reduce their energy consumption, they had difficulty in recruiting their clients to participate in the program and had to aggressively sell the program to their clients. For example, Consultants 4 and 5 said:

> Consultant 4: "I was selling free money so I found it interesting how difficult it was in getting people on board to do the program. It took a long time to build a clientele who was trusting that the rebates will be delivered. I needed to go through the sale cycle with them. I had to get them to trust me, trust the program, and rely on me to come back with the cheque in hand."
>
> Consultant 5: "I, as the consultant, have to turn on the inner salesman. There has to be an incentive for them to do this. What I do is create a sense of urgency –if you are undecided as to who will pay for the projects, which is to say that there will be government funding in the future? There is government money today that will pay you to do this, and it might not be here tomorrow or later on in 5 years when you will be forced to do so."

Another challenge found in the consultant group in encouraging participation in the program was that there was confusion as to who would be responsible for investing in the program: those who owned or managed the building in question, or the tenant. This confusion often led to decreased participation rates. As examples, Consultants 4 and 5 stated:

> Consultant 4: "A lot of buildings aren't occupied by the owners; they are occupied by the tenants. They have a vested interest because they want to reduce their energy expenses. The tenants go to the owners, but they (the owners) don't care to change because they don't pay the bills. The tenants turn around and say 'why should we do it if we don't own the building?' Landlords are a huge obstacle and they're the ones with the money. Both parties send it over

> or pawn it off to the other, and both are right in why they don't want to pay the initial capital or see these projects through."
>
> Consultant 5: "One major obstacle is that you don't know who owns, who manages, who the tenants are, or who the building's landowners are. The owners get a portion of a monthly bill. The property manager gets a percentage of the energy bills. For them, becoming energy efficient actually causes them to lose money. People usually pass the bill to someone else. If they own the buildings, they have a vested interest."

6.3.3 Influences for Non-Participants

Within the non-participant group, there were three common themes that influenced whether these companies would participate in energy incentive programs:

1. Cost efficiency and payback;
2. The worthiness of the program; and
3. Energy conservation is only a small aspect of joining.

Five of the respondents in the non-participant group conceded that joining this type of program would be beneficial if it drove the cost down for the companies to join as well as driving their cost of the products down. For example, Non-participants 2 and 5 said:

> Non-participant 2: "If every year the company can save money, it is a no-brainer to do the program. When we join a program, the reasons are mostly driven internally and it is due to cost savings and energy efficiency. The reasons for joining are mostly business-related or incentive-based to join. "
>
> Non-participant 5: "I am very technical; a lot of building managers are also technically advanced. For us, seeing is believing; if we see the costs go down, then they will be more inclined to participate."

Another reason that parallels that of cost efficiency is the rate at which the company receives its rebate (payback). If this can be handled in a particular time frame, it influences the participation rate of joining from the non-participant group. For example, Non-participant 7 stated:

> Non-participant 7: "If the cost savings are evident then people will do it, but if there is a 10-year payback period, there are better ways to make money if you can do it for five years for the same thing."

Two of the respondents in the non-participant group questioned whether joining a program were conducive to the company's financial success:

> Non-participant 1: "Companies need to go through an audit before they are qualified to do the program, which costs a few thousand dollars. Even before you do the lighting retrofit, you have to put in the money upfront for the audit. If it is a smaller project, you don't know how much money you'll save in the long run, or how much money you need to spend on the audit. Depending on the size of the company or the on the company itself, it doesn't make sense to participate."

> Non-participant 5: "If it is a bit of a new concept or technology we usually ask ourselves if it is worth it to join these programs."

Finally, one prevalent theme that occurred in the non-participant group was that joining these programs was not primarily motivated by energy conservation. For example, Non-participants 6 and 7 said:

> Non-participant 6: "We join programs that the customers are interested in. As a corporate mandate we want to be green. We are not the greenest company, but we're certainly not the worst company out there. All companies want to be seen as green: If you get LEED status you get preferential status on other things. It's a value-add because not all manufacturers have that. Every design that we do has to be a LEED design, which is a big energy aspect of what we do."

> Non-participant 7: "As a company, you would like to focus on energy conservation, but the focus is on the work we do, because it is how we stay in business; so the focus must be on acquiring clients."

It is interesting to note that, of all the respondents in the non-participant group, only one indicated that participation in a program depended on increasing sustainability:

> Non-participant 4: "I would join a program if the program is beneficial to reducing the company's environmental footprint."

Also, one theme that emerged in the non-participant group was the lack of energy programs that concentrate d on energy technologies other than lighting retrofits. For example, Non-participants 1 and 7 stated:

> Non-participant 1: "All of the energy programs seem to focus on lighting, which is not what we deal with. The problem with HVAC is that it is hard to measure the savings. It is not as constant; it's always off and on depending on the weather; therefore it is not a good way to record savings. With lighting it is constantly on, so it is easier to determine the savings for a company."

> Non-participant 7: "We would love to see more programs on solar energy. The problem with solar technology is that the payback is long. The possible downtime from the main focus of revenue may offset the desire to join. Companies can do it if they don't mind taking the payback but financially it's not viable."

An additional challenge mentioned from the non-participant group was the lack of communication between the owners and the tenants of a building. This lack of communication has been shown to prevent the building in question from taking advantage of these incentive programs. As an example, Non-participant 1 said:

> Non-participant 1: "There are two main people in energy efficiency: property owners and the tenants. The property owner is interested in the revenue, but the tenant doesn't want to make the retrofits because they don't own the building. The property managers are known to be cheap so they buy something because it is cheaper and that way they can save some money, but in the end they are losing out because they did not want to commit to the program."

6.4 Respondent Experiences with the BOMA Toronto CDM Program

Section 5.4 is comprised of four components. The first component describes the experiences of the respondents who participated in the BOMA CDM program. The second component discusses the level of satisfaction the participants had with the program; the third component demonstrates the challenges that the consultants, participants and non-participants had with the program; and the final component describes any areas of improvement the program should consider.

6.4.1 Satisfaction with the BOMA Toronto CDM Program

The purpose of this research was to determine the motivating factors for participation in the BOMA CDM program. If participants were satisfied with their experience in this program, it may encourage them to participate in more energy programs and recommend that their peers to do the same. Results in Table 9 showed the level of satisfaction the survey respondents felt with the program. The possible responses were scaled from *not at all satisfied = 1* to *very satisfied = 7*. The average mean satisfaction of the program was 6.02, indicating that the participants responding to the survey were satisfied with the program (Appendix D). Of the 10 respondents interviewed in the participant group, four were satisfied with their experience in the CDM program. For example, Participants 6 and 8 said:

> Participant 6: "We were very satisfied with the program. The associate was very helpful with our queries, and the financial incentives from helped us save a total of 945,000 kWh in energy consumption."

> Participant 8: "Our experience with BOMA was smooth sailing. If you are well-researched and if you have all of your information then you know what to expect. We were pretty satisfied with the program."

Of the 10 respondents interviewed in the participant group, three of them, however, explicitly stated that they were disappointed with the program:

> Participant 1: "Our experience was not a very positive one, and frankly we are disappointed."

> Participant 3:"We were extremely disappointed. We are upset and disappointed with the program and are reluctant to do any similar program of the sort."

> Participant 9: "I am disappointed in the program and it left a sour taste in my mouth. This experience has made me reconsider joining these types of programs again."

Although the remaining respondents in the participant group stated they were neither satisfied nor disappointed in the CDM program, they implicitly conveyed their disappointment in the program when communicating the challenges they experienced.

6.4.2 Challenges with the BOMA Toronto CDM Program: Participants

Table 12 indicates the level of importance of internal and external challenges in a company's decision to join the CDM program. The possible responses were scaled from *very unimportant = 1* to *very important = 7*. The responses regarding challenges on the importance scale can be demonstrated in Table 9. Results from Table 9 showed that the majority of challenges listed in the question were somewhat important to the both survey participants and non-participants; non-participants however were indifferent about the lack of skills or personnel being a factor in influencing their decision not to join the program.

Table 9: Importance of Challenges in the Decision to Participate/Not Participate in the BOMA CDM Program

Factor	**Weighted Mean of Importance**	
	Participants (n=82)	**Non-Participants (n=24)**
Lack of information, knowledge or communication	5.2	5.1
Lack of available new and improved energy technology	5.1	5.0
Lack of skills or personnel	5.3	4.7
High cost of equipment	5.8	5.7
Lack of financing	5.1	5.1
Regulatory and Policy barriers	5.0	4.8
None	4.9	5.5

Other challenges influencing the company's decision to participate in the program included the length of the contract forms (too long to fill out), the timing for approval of projects, and trying to understand the estimate of savings in power usage. Non-participants also faced challenges as well, such as the impacts the program would have on their customers, that BOMA was unresponsive to their applications, the "poorness" of the program, and the cost.

When participants were interviewed, there was a strong consensus about the challenges they experienced regarding the CDM program. The challenges they met were:

1. Dissatisfaction with the amount of the incentive received;
2. Lack of communication on the part of BOMA;
3. Long payback period;

4. Administrative difficulties on the part of BOMA; and
5. Feelings of disconnect on the part of the participants.

Regarding the first challenge, incentive dissatisfaction, half of the respondents in the participant group were not pleased with the amount of rebates they received, as they were under the impression that they would be getting more than what they actually received. For example, Participants 3, 4 and 9 stated:

> Participant 3: "We spent $65,000 and didn't get anything back. The savings were minimal and we felt as if we were on a 20-year payback period. We spent the money on the lighting thinking we would get the money but they (BOMA) said we weren't eligible, even after we submitted our paperwork."
>
> Participant 4: "There was dissatisfaction with the amount of money we got from BOMA and the work that we did. We spent $3M but their rebate was $230K. Our expectation was double of what they got and the eventual BOMA rebate was under 50% of what we spent."
>
> Participant 9: "All along the way the amount of rebates that I was supposed to receive kept getting less and less."

Regarding the second challenge, four respondents in the participant group also felt that there was a lack of communication on the part of BOMA as to if and when they would actually receive their incentive cheque. For example, Participants 1 and 5 said:

> Participant 1: "We had no idea how much money they were getting back from BOMA until the eleventh hour."
>
> Participant 5: "There was no communication from BOMA so I couldn't accrue the funds. I therefore under-delivered on the grants, which in turn made me look bad in front of the board of directors."

Concerning the challenge of a long payback period, many respondents in the participant group found that it took longer than expected in a program for them to receive their rebates. For example, Participants 1 and 7 stated:

> Participant 1: "We received our cheque nine months after applying to the program. There was a slow play back period and the turnaround for the program was very slow."
>
> Participant 7: "The payback period took a long time which is what usually happens with government programs."

Only one respondent in the participant group indicated that they received their rebate in a short amount of time:

> Participant 10: "There was a quick payback period. Once they got what they wanted they were ok and they left you alone."

Concerning the challenge of administrative difficulties, there were three issues that were prevalent amongst the respondents in the participant group:

1. A lack of transparency in the program;
2. BOMA not answering queries in a timely manner; and
3. BOMA slow in honouring their end of the program contract.

A lack of transparency seemed to have frustrated many of the respondents during their time in the program. As examples, Participants 2 and 5 said:

> Participant 2: Our data came back and it didn't make sense so we hired a consultant who is familiar with the utilities to find someone to go through it. There is a steep learning curve for these programs. It would've been helpful had BOMA answered our questions on the data more quickly.

> Participant 5: "I was stunned with the idle consultants that were hired to help. We would send in our estimates, consultants would come to verify the estimates and then the estimates would be submitted. They (BOMA) were understaffed and shut down the program before the administration was complete which left a lot of loose ends."

Timeliness is essential when working with businesses. Unfortunately, some respondents in the participant group felt that their questions were not answered in an efficient manner and it left them irritated with the program:

> Participant 1: "We applied and hit our benchmarks on time, yet when it came time for BOMA to reciprocate, they were extremely slow; the managers were shuffled amongst multiple contacts, our project was given to different people and because of their structural re-organization, we felt that our questions and concerns were not addressed in a timely manner."

> Participant 5: "The little interest I did receive at the initial stage of this project was pushed back because I was unable to prove the worth of the program in a specified period of time. Because BOMA couldn't deliver on time it made us look bad, and the OPA was dragging in their heels to

relinquish our funds. All in all, the delay with the bad communication left me with disappointment."

There was also a growing sentiment amongst several respondents in the participant group that the program administrators were slow in fulfilling their end of the program: mainly, the promise and the delivery of the incentives. For example, Participants 1 and 5 stated:

> Participant 1: "We felt like their administration got the participants to do their end, and we felt that the only party left to do the work was the OPA. We felt that our cheque was just sitting at the OPA."
>
> Participant 5: "For the payback period, they said it would take one month, and in the beginning they delivered, but then afterward I did not receive a response. It took multitude of letters and emails and phone calls and finally I spoke to the head of the program. It would've helped if the program would have told the participants what was going on. There was no communication and that was what was most frustrating."

The final challenge that respondents in the participant group found was the disconnect they felt with the program. As examples, Participants 5 and 9 said:

> Participant 5: "It was too overwhelming for BOMA, and they had to get the OPA to agree on the amounts given. I felt that there was a disconnection. I accounted for the money to come in within the fiscal year but it didn't, it trickled in. The bottom line for this year is great because I can account for the rebate money, but for last year the budget was low and it looked bad on my part."
>
> Participant 9: "I did projects in my offices to save energy but BOMA kept on saying one thing and promising the next. They continually kept on giving lower and lower incentives and not delivering on their word."

Other topics that arose in the participant group were focused on the way in which the program was marketed. Two respondents felt that the program was more of a sales pitch than an energy conservation program:

> Participant 4: "It felt more of a 'sales mentality', in terms of what BOMA would do for us."
>
> Participant 9: "It felt that it was more of a sales pitch. There was a discontent between the promise of saving and the reality. They said that they would do "ABC" and they didn't deliver."

Finally, while the majority of the respondents in the participant group were large corporations that could function while waiting for their cheque to arrive, two respondents expressed concern common to smaller companies that may not have been as fortunate:

> Participant 1: "Luckily for us, we are a large enough company to anticipate our reserves, those in smaller businesses who might rely more heavily on the rebate funds and would benefit from receiving it sooner, and may have needed it sooner."

> Participant 5: "Our club is ahead in Canadian private clubs therefore we are blessed with the financial capacity to buy sustainable products with fruition. Companies that are not as well off could not have put in the initial capital and therefore companies could not have taken advantage of putting in the initial capital and getting the investment."

6.4.3 Challenges in the BOMA Toronto CDM Program: Consultants

In the consultant group, there was a general agreement that, although the program was recommended to their clients, there were many administrative complaints. Consultant 2 was the only consultant who had mostly positive reviews:

> Consultant 2: "I liked the program. Our experience was mostly positive and we got the incentives administered by the programs. With BOMA, the incentives were good and it helped paying the retrofits. They were administered in a reasonably quick time."

The following is a list challenges the consultants found when dealing with the CDM program:

1. Long payback period;
2. Administrative difficulties;
3. Lack of trust; and
4. The program required pre-approval.

Similarly to the participant group, a common finding when interviewing the consultants was that the long payback period for the incentives was a frustrating challenge to contend with in the program. For example, Consultants 4 and 6 said:

> Consultant 4: "The program ended and still people didn't get their cheque yet. The payback period was way too long. Some clients took upwards of a year to get their money. Clients were upset and they did not want to continue; it was more of a hassle than anything else."
>
> Consultant 6: "If the payback period is really good then they'll likely join. They also get the portion of the cost paid for by the government. It comes down to the incentive buying down the cost and then seeing savings. Typically it's the cost: the payback period is too long so people don't want to do it."

Another common finding with the consultants was the administrative difficulties in the program. Their clients found the program to be time consuming and cumbersome. For example, Consultants 3 and 4 stated:

> Consultant 3: "These voluntary energy programs are overly bureaucratic and time consuming, which creates further time delays."
>
> Consultant 4: "The program was very political and bureaucratic."

Regarding the third challenge (lack of trust), one consultant felt that the reason there was hesitation in joining this program was that there was little trust that the program management would deliver what it promised:

> Consultant 4: "It was a challenge just like selling any other product. There was success and downfalls. It was definitely an uphill battle. These clients were burned in the past specifically with the OPA and the federal government. There is no trust; therefore they don't want to put forward the effort."

Another challenge that was brought to the attention of the consultants was that the CDM program required pre-approval, and that some participants felt it was unnecessary. For example, Consultants 2 and 3 said:

> Consultant 2: "One challenge is that OPA programs require pre-approval. For some clients it doesn't work for their timeline. Companies have to be substantial enough for them to take them on."
>
> Consultant 3: "The biggest challenge is that you need to get prior application approval before you let the client proceed. Usually they do a project without waiting for approval just because of the time delay."

6.4.4 Areas of Improvement: Participants

Because of the strong disappointment about the CDM program, the respondents in the participant group were asked what areas of improvement they would like to see within the program, or in future energy incentive programs. Four of them pertained to administrative matters, whereas one focused on future areas of interest. The subjects that arose were:

1. Having the program more streamlined and transparent;
2. Timeliness in the delivery of incentives and the answering of queries;
3. Better access to the program's information and education;
4. Lessening some of the program's fastidious demands; and
5. Better rewards to companies who reinvest in green initiatives.

One recommendation that was not surprising was the improvement in the company's administrative efforts. Three respondents in the participant group noted that the program must be more streamlined in order for it to be more successful. For example, Participants 1 and 2 said:

> Participant 1: "There needs to be a better and more streamlined process, especially across the company, to effectively distribute the funds. This would encourage greater participation and make the process much more efficient for both parties. The whole process should be transparent and would eliminate many of the problems that occurred"
>
> Participant 2: "They should definitely have people to run these projects and have it streamlined. They should try to make the program as clear and as easy as possible, especially when filling out an application form since it's time consuming and stressful."

The timeliness of the program's deadlines and its ability to reach those deadlines was a second recommendation that the respondents in the participant group wanted to see:

> Participant 1: "Because we were reinvesting our rebate in future projects, we didn't really need the money right away, but smaller businesses may have. There needs to be greater clarity in how the timelines should be met; what exactly the company needs to do, and what the program will do on their end, which needs to be more transparent."
>
> Participant 2: "They should set an appropriate deadline and stick with what was said. The problem is if, when you start with a small project and it is delayed, the project manager and the senior manager are waiting for your data; the program needs to be more streamlined and it must relay its deadlines."

Having better access to the program's information was a sentiment that many respondents in the participant group felt were necessary improvements for the program. For example, Participants 2 and 8 said:

> Participant 2: "Better education is required for the consumer. You should have the design people to assist and navigate to help clients show their options. Each person should have a consultant or a sustainability person that can help."
>
> Participant 8: "One suggestion to better the program is to have people educated in all aspects of the program. Sure you are using the capital, but try to promote the greener benefits of the program in conjunction with the financial benefits."

The final recommendation pertaining to administrative matters was to lessen the particular demands that were deemed too picky for two of the respondents in the participant group:

> Participant 5: "Don't be nit-picky! If the technology is proven, give us the money upfront to purchase the technology, or give us half first, and once it's proven then give us the rest. On paper they'll give us the money, the consultant will put the technology in, then measure your energy, then give you the money. It is a very tiring and very bureaucratic process."
>
> Participant 10: "I found the program to be too anal for some of the requirements they asked for. For example, the building has 33 floors, and one of the consultants from BOMA wanted me to go through each floor and count all the lights that he wanted me to change. I am busy and do not have time to go through each floor to count each light that should be changed. Some things were just too cumbersome."

One interesting finding is that companies in the participant group would prefer larger incentives for those who take the rebate and reinvest it other green technologies. This would give companies more of a reason to continue their positive environmental behaviour and utilize greener technology alternatives:

> Participant 1: "We would like to see, within environmental programs, more of an incentive for companies who will use the money for green reinvestments, and further rewarding these companies that reinvest the rebate in green initiatives. For example, the program could pay you 21 cents a kW but if you reinvest for other green initiatives the program will give you 25 cents a kW. There may be more paperwork and more legalities but it will definitely encourage more participation within the program."
>
> Participant 2: "When your equipment reaches the end of its useful life you have to replace it. If you are going to replace it, it would be nice if you could look at an upgrade that is energy efficient and is covered by the incentives. The company could then look at this as a green component."

Only three respondents in the participant group listed cost effectiveness, shorter payback and higher incentives as areas that could have been improved on in the program. For example, Participants 1 and 7 stated:

> Participant 1: "If the incentives aren't high enough, then companies will not participate. When we joined the level of incentives was great, but it is not as much as they are now. The amount of money you get back is good for business."
>
> Participant 7: "I would like to see a shorter and more efficient payback period, and higher incentives to join."

One respondent in the participant group felt that a change in customer behaviour is what is needed in order for these programs to become successful:

> Participant 4: "A culture shock needs to happen: changing the attitude is proving to be difficult. People just want to do their job but if it requires them to change their behaviour that they're not used to doing, they figure: why should they?"

6.4.5 Areas of Improvement: Non-Participants

When asked what the members in the non-participant group look for in environmental programs, three of the eight respondents also listed incentives and transparency as factors. For example, Non-participants 1 and 2 stated:

> Non-participant 1: "Our main focus is with heating and air conditioning, so if there's a program to focus on heating and air conditioning, try to sell the program in that way. Broaden the appeal as much as possible; the program should have easy paperwork and it should have an incentive to do the paper work."
>
> Non-participant 2: "The incentive portion helps with the business side to minimize capital; how well the program is received: is it transparent, lastly, is it appropriate and real and is there is substance behind it. They need more incentives and better communication."

6.4.6 Areas of Improvement: Consultants

Although there were difficulties with the BOMA CDM program, several consultants felt that the OPA has been making strides in improving the efficacy of their energy incentive programs. For example, Consultant 4 stated:

> Consultant 4: "These programs are getting better: they are learning from their mistakes. The GEA is leading the way in North America to be on track with energy conservation. The subsequent provincial program 'Save On Energy' learned a lot from the past."

When the respondents in the consultant group were asked what environmental programs should have in order to make them more effective, the criteria were summarized in two topics:

1. Incentives; and
2. Better program design.

On the topic of incentives, the respondents in the consultant group agreed that three targets must be met by the program to render it effective:

1. The continuation of incentive giving;
2. Larger incentives; and
3. Better payback.

One respondent in the consultant group indicated that the continuing the allocation of incentives will benefit both the participants and others involved:

> Consultant 5: "Governments should continue to bring out retrofit funding and audit funding, retrofit funding meaning the conversion of old to new buildings through lighting etc. because it makes people go through the program, and it create that sense of urgency for people to take advantage of the money. For audit funding, you need these types of programs because it pays for half of the services the consultants provides. If I audit, then the bill is $10,000, and it'll essentially pay for half of my costs and will be more appealing to the client."

One consultant stated that the size of incentives should be larger in order to become more effective:

> Consultant 1: "In my opinion, I would rather see the incentives larger but that is difficult with our current legislation; and with the government awards to these types of programs, that is difficult to acquire."

Finally, two consultants felt that the payback to the participants must be shorter to facilitate better efficacy. This indicates the difficulty of arriving at an effective and efficient incentive award. It is also reflective of other studies showing incentives such as Khanna's (2001):

> Consultant 2: "If I apply today, it needs to get approved in a quick time period. The payout needs to get administered promptly and in a timely fashion. You don't think with people it would leave a bad taste because everyone wants free money. But when you get to the customers we need to get it down quickly or they'll be wondering if this is too good to be true, that they'll be some headache waiting for them down the road.
>
> Consultant 4: "The CDM program and energy programs in general, should have a short time frame such as three months or so to payback the participants. The clients need to get in, get the savings, and get their money delivered in a timely manner."

On the topic of better program design, the consultants felt that the following are areas of improvement that, if made, can increase the number of participants in these programs:

1. Less bureaucratic oversight; and
2. Easier accessibility.

Three consultants felt that having the program more streamlined and decreasing the amount of bureaucracy would help encourage participants in that it would make the process easier to deliver and leave the participant satisfied with the program. For example, Consultants 1 and 4 stated:

> Consultant 1: "They definitely need better feedback. The problem with programs administered by the OPA is that there is too much bureaucratic oversight and it's cumbersome, and with BOMA it's even more so. Therefore better feedback is required for an effective program."

> Consultant 4: "The process needs to be better streamlined; there are a lot of politics involved. The OPA is trying to do different ways to be streamlined, but it was not focused on making it quick. You need to have a quick delivery in order to build trust."

Finally, two consultants felt that the CDM program, and other energy programs, needed to be more accessible to potential participants:

> Consultant 1: "Companies don't know they exist. If you don't know how to navigate the program, then the company wouldn't do it. If it's easier to find, the vendor would be able to do it on their behalf so they can anticipate more companies to participate. But if didn't and there is lack of communication you can't expect companies to want to join."

> Consultant 2: "It has to be accessible. Users have to be able to reach the program people. They need to be available to answer questions and need to respond to people in a timely manner."

6.5 Section 2: Stakeholder Relationships

The second component examined is company's stakeholder relationships. Question 21 indicated the level of importance the following factors have on the respondent company's decision to consider environmental issues. It asks the respondent to indicate how important the following stakeholder factors were for the consideration of environmental issues. The possible responses are scaled from *very unimportant = 1* to *very important = 7*. Table 10 demonstrates the responses regarding the level of importance for a company's environmental issues.

Table 10: Q.21, Importance of Factors on Company's Decision to Consider Environmental Issues

Factor	Weighted Mean of Importance	
	Participants (n=82)	**Non-Participants (n=24)**
Your Company's Customers	6.4	6.3
Your Company's Suppliers	5.7	5.4
Your Company's Shareholders	6.1	6.2
Your Company's Employees	6.2	6.1
Cost of Controls	6.3	6.2
Efficiency Gains	6.8	6.6
Government Regulations	6.1	6.2
Competitive Pressures	5.8	5.8
Managerial Pressures	5.5	5.3
Environmental Organizations	5.4	5.3
Research and Development	5.2	4.9
Neighbourhood/Community	5.5	6.0
Other Lobby Groups (church, political groups, etc.)	4.5	4.7

Based on Table 10, aside from lobby groups, which were considered slightly more than an *"indifferent"* factor (weighted mean of 4), the factors listed had an *"important"* (weighted mean of 6) or *"somewhat important"* (weighted mean of 5) influence on a company's environmental decisions. Of the factors listed, efficiency gains were considered to be very important, with a weighted mean of 6.8 for participants and 6.6 for non-participants. Results of the study showed to have the same results found in the literature, in that there are a number of internal and external pressures that influence a company's environmental decisions.

When asked about whether stakeholder pressures influenced in their clients' decision to join the CDM program, there were no responses from the consultants that indicated this was observed. Amongst the 10 respondents interviewed in the participant group, the primary pressures that influenced the business's decision to join were:

1. Company image;
2. Consumers;
3. Shareholders; and
4. Competitiveness

Three respondents in the participant group felt that the company image played a large role in determining company behaviour with energy incentive programs. For example, Respondents 2 and 10 stated:

> Participant 2: "A lot of companies like us want to think they are good corporate citizens, but money makes the important decisions, so if you can both get rebates and look good, it's a win-win."
>
> Participant 10: "We know what's available in the market and we are looking good by being on top of everything. It's also good for your owners and bosses to see that you join these types of programs. It made it look like we are doing our homework."

Two of the respondents in the participant group stated that consumer pressures are what influences their decisions to consider environmental issues. In contrast, amongst the eight respondents in the non-participant group, five stated that consumer pressures are what influences their decisions to consider environmental issues. This indicates that consumer pressures have more influence on this group relative to the participant group. For example, Participant 5, Non-participant 1 and Non-participant 8 stated:

> Participant 5: "Our club has rich customers: they are so right-winged that you cannot label the actions you do as green. I had to cater my actions as 'cost savings, bottom line agendas that have a side benefit of bettering the environment', even though I'd initially undertaken the initiatives as an environmental steward. Because the Board of Directors were so right-wing politically, I had to cater and manipulate the situations so that they would be on board with my iron-clad belief in the environment, since they had the power to make these changes."
>
> Non-participant 1: "We are driven by our customer's demands. If they are more interested in environmental issues, then the company will be involved in those customer needs. What the government provides to us we will also consider."
>
> Non-participant 8: "Our company shareholders most likely influence our decision for environmental issues. Companies do what's best for shareholders, and consumer demand determines what the companies will do. No one will do anything that does not make business or financial sense."

Two respondents in the participant group listed shareholders as pressures which influenced their decisions about joining the program:

> Participant 4: 'We still get resistance from people (in our core interest group) who still don't see why we spent that money "needlessly". Unless you have the top people in our business pushing it, you will be met with resistance."
>
> Participant 6: "It is mostly a shareholder initiative."

Interestingly, only one respondent from the non-participant group and two from the participant group indicated that they felt no pressure from any stakeholder group when contemplating the decision to join the program. As examples, Non-participant 1 and Participant 7 stated:

> Non-participant 1: "We don't really market our green behaviour: we aren't into the awards or certifications. We don't market our green initiatives to get recognized, we do it purely for being environmentally conscious (we are FSC and SFI certified)."
>
> Participant 7: "We did not notify the public; we just retrofitted all their lighting. There is no pressure from consumers or from customers."

Only one respondent in the participant group listed competitiveness as a determinant in joining environmental energy programs:

> Participant 8: "It's good for business: companies with green initiatives like to business with other companies with green initiatives. There are three things that are important for a company: Money; image and competitiveness. If you don't have these then your company looks lax and disengaged."

6.6 Section 3: Managerial Views on Environmental Issues

The third component examined the company's managerial views on environmental issues. Table 11 indicated the level of importance respondents felt their senior management placed on environmental issues. The possible responses are scaled from *very unimportant = 1* to *very important = 7*.

Table 11: Q.22, Importance of Factors that Company's Senior Management Placed on Environmental Issues

Factor	Weighted Mean of Importance	
	Participants (n=82)	**Non-Participants (n=24)**
Moral responsibility to protect the environment	6.5	6.4
Support in protecting the environment if costs will be incurred	6.3	6.2
Belief that their consumers and stakeholders care about the environmental impact of your company's products	6.4	6.3
Belief that improvements in environmental performance will improve your company's long term financial performance	6.4	6.2
Recognition of its company's environmental risks to customers/suppliers/partners	6.3	6.3*

*n=23

Results from Table 11 showed that the respondents felt their senior management placed an "*important"* influence on environmental issues, with each of the factors having a weighted mean of over 6. Interestingly, the factor that was weighted most heavily for senior managers in both groups was the moral responsibility to protect the environment.

When interviewed about their feelings as to whether senior management viewed environmental issues as important to their company, three felt that their managers viewed environmental initiatives as important. The non-participant group also felt that senior management views environmental issues as important. As an example, two respondents stated:

> Participant 10: "They (the senior managers) are interested in anything that is energy savings, cost savings, payback and that the money comes back to the company. The company's policy is to be green and to try to be a responsible company, and senior managers try to embody that mentality."

> Non-participant 5: "Yes, senior management places an importance to protect the environment. It's a small company but I feel we are doing more for the environment than what other companies are doing. We set out to help buildings conserve energy, and I feel that because I myself have a moral responsibility to protect the environment, that others in my company feel the same."

In contrast, amongst the ten respondents in the participant group, there were mixed feelings as to whether senior management viewed environmental issues as important to their company. Only one respondent in the participant group felt that senior managers were not viewing environmental initiatives as important:

> Participant 5: "I got chastised and was told to spend a little less time on these green initiatives. I was told that I 'should've been concentrating on the finance instead of the triple bottom line'. Through education, time, and the bottom line, the senior managers slowly embraced this mentality."

When asked whether senior management were motivated by a moral responsibility to protect the environment, one respondent in the consultant group felt that environmental decisions were only made in the interest of the company:

> Consultant 3: "Over the last few years there has been a shift to a commitment to sustainability in terms of sustainable and energy-efficient products. The Board of Directors is committed to sustainability, but they are all driven toward profitability, both in services and in cost-reduction to improve the bottom line. If there are sustainable options that make good business sense for their bottom dollar, then those options are considered."

When asked whether they felt senior management placed an importance on their company's environmental performance, three of the respondents in the consultant group felt that this was the case for their clients if there was an advantage to take that stand. They felt that environmental betterment was not the first priority of senior managers; rather, it was the bottom line. As examples, Consultants 1 and 3 stated:

> Consultant 1: "Seeing is believing with senior management. If you can show on paper that you are committed to environmental responsibility, then you are pretty much required to participate in some energy program. Businesses are happy because they put it in their CSR report but that is not why they were motivated to participate in the program; it isn't environmental improvement, it's all about cost effectiveness and the bottom line."

> Consultant 3: "Environmental issues are considered only if it makes economic sense. They choose the best option from an economic perspective".

Table 12 indicates the level of importance environmental issues will have to the company in the next five years relative to today. The response is scaled from *very unimportant = 1* to *very*

important = 7. Both participants and non-participants felt that environmental issues will be important to the company in the next five years compared to today, with both groups having the same weighted mean of 6.3.

Table 12: Environmental Issues to Company in the Next Five Years: Participants vs. Non-Participants

	Weighted Mean of Importance	
	Participant	**Non Participant**
How important do you expect environmental issues, in general, will be to your company in the next 5 years compared to today?	6.3	6.3

Total answered: 105

When interviewed on this subject, three respondents in the participant group felt that this sentiment would continue to grow, and half of the respondents in the non-participant group indicated that environmental issues will be gaining more importance. For example, Participant 5 stated:

> Participant 5: "It will be very important. It will become more urgent as people realize we are past the tipping point in terms of climate change and it won't be until we get our wake-up call that they will understand how important it really is."
>
> Non-participant 7: "Sustainability in the States is far more intense than it is here. The U.S. is more proactive with their environmental program and is more active in government incentives. Canada should learn from the U.S. since their government has a lot of control in getting things done and they have the power do it with taxes. The people and businesses there understand that."

Two consultants responded that the level of importance will increase and that companies should take advantage of existing energy incentive programs. For example, Consultant 5 said:

> Consultant 5: "In 5 years, people will go green either by default or design. If it's by default, they won't be able to get help; businesses will be in a corner and go based on what is available in technology. If it's by design, the companies or buildings prepare now on how they can reap the rewards. My approach is: 'look at what we have today –if you utilize these today, the government will help. We don't know what's in store in the future'."

6.7 Section 4: Impacts of Environmental Standards

The fourth component of the survey evaluated the impacts of external and internal environmental standards on the respondent's company. When interviewed on the subject of the impacts of environmental standards, there were no responses from the non-participant group that indicated whether environmental standards influenced their decisions to participate. Three respondents in the participant group compared their experience with Canadian standards to those in the United States and in Europe. For example, Participants 2 and 5 stated:

> Participant 2: "In the last 2-3 years energy efficiency was going mainstream and now it is losing momentum, but it will get more important as time goes by. The USA uses a huge amount of energy programs and we should look to that as an example of what to do here."
>
> Participant 5: "I feel that the federal government totally blocks out environmental achievement. ECAN was so cumbersome and we (Canada) opted out the of Kyoto protocol. It seems like Canada is doing what it can to prevent environmental achievement from moving forward. As a rich and developed country we should inherently want to share our wealth with the rest of the world."

Results from Table 13 show that 72.2% of participants and 60.9% non-participants perform in-house environmental compliance audits to identify potential monitoring problems. In addition, 79% of participants and 74% of non-participants indicated that their company trains their employees to more effectively identify potential environmental problems.

Table 13: Environmental Compliance Efforts; All Respondents

		Participant		Non Participant	
		Absolute Frequency	**Relative Frequency***	**Absolute Frequency**	**Relative Frequency***
Does your company perform in-house environmental compliance audits to identify potential problems with monitoring and other environmental equipment?	No	22	27.8%	9	39.1%
	Yes, please specify	57	72.2%	14	60.9%
	Total	**79**	**100%**	**23**	**100%**
	Not Answered	3	-	1	-
	Total answered: 102				
Does your company train its employees to more effectively identify potential environmental problems?	No	17	21%	6	26.1%
	Yes, please specify	64	79.%	17	73.9%
	Total	**81**	**100%**	**23**	**100%**
	Not Answered	1	-	1	-
	Total answered: 81				

*adjusted

Table 14 shows that 58.9% of those surveyed believed that current environmental standards have had a positive impact on his/her company's competitive position, either in Canada or abroad. When interviewed on this topic, the consultants agreed that although there has been a growing shift toward sustainability, North America is behind in its environmental regulations. As long as there are lenient regulations and a "good-will approach" towards energy efficiency in North America, there will be no push for environmental sustainability. Since energy incentives are mandated in parts of Europe, clients have no choice but to comply with environmental standards. For example, Consultant 2 stated:

> Consultant 2: "Europe is way ahead of North America. One thing that moves energy is regulation/legislation and they are much more ahead in Europe. Over here it's much more in a 'good-will' category; in the U.K it is mandatory to join these programs. If the programs were legislated, you will definitely see more of a difference. Regulation is a much better tool. Right now if it is regulated people would act differently like it is in Europe. The push should therefore be there. Our regulation is too lenient. I wish it could be more like Europe and we could be on the road map for energy efficiency."

Table 14: Impact of Environmental Standards on Competitive Position; All Respondents

		Participant		Non Participant	
		Absolute Frequency	**Relative Frequency**	**Absolute Frequency**	**Relative Frequency**
What kind of impact have current environmental standards had on your company's competitive position both in Canada and abroad?	Positive	49	58.9%	10	45.4
	Neutral	31	37.8%	12	55.4
	Negative	2	2.4%	0	0
	Total	**82**	**100%**	**22**	**100%**
	Not Answered	0	-	2	-

Concerning the issue of whether protecting the environment could improve the company's environmental performance, four respondents in the participant group agreed with this sentiment, whereas only one in the non-participant group indicated that it could. For example, Participant 6 and Non-participant 4 stated:

> Participant 6: "Our managers realized that environmental stewardship will not only help the environment, but will help the community and give it a competitive edge, which will increase market share and cost efficiency that increases the bottom line."
>
> Non-participant 4: "Yes, improvements in our environmental performance will improve our financial performance. It will take some time and will take longer, but you will see the returns. Usually if a company is greener, they are usually leaner. They aren't producing waste and they're not using resources such as paper, water etc."

6.8 Section 5: Environmental Management Practices

The fifth component assessed the company's environmental management practices. Regarding whether the respondent's company has formulated a plan for dealing with environmental issues 78.3% of the companies surveyed indicated that they had (Table 15). Of those who indicated they had plans, 78.0% of participants and 79.2% of non participants said they had a plan (Table 16).

Table15: Formation of Environmental Plans; All Respondents

		Absolute Frequency	Relative Frequency
Has your company formed a plan for dealing with environmental issues?	No	23	21.7%
	Yes	83	78.3%
	Total	**106**	**100%**
	Not Answered	0	-

Table 16: Formation of Environmental Plans; Participants vs. Non-Participants

		Participant		Non Participant	
		Absolute Frequency	**Relative Frequency**	**Absolute Frequency**	**Relative Frequency**
Has your company formed a plan for dealing with environmental issues?	No	18	22%	5	20.8%
	Yes	64	78%	19	79.2%
	Total	**82**	**100%**	**24**	**100%**
	Not Answered	0	-	0	-

If the respondents indicated that they have a plan, they were asked if there was a formal document describing the plan, if the plan was presented to company stakeholders, the impact of the plan on the company, and if the plan had been presented to the company's employees. Results from Table 17 revealed that 65.6% of participants have a formal document that describes their environmental plan; just over half of non-participants (52.6%) responded that they have one.

Table 18 showed that 68.9% of participants and 66.7% of non-participants had presented the plan to shareholders and/or stakeholders, and 75% of participants and 72.2 % of non-participants had presented their plan to their employees.

Table 17: Documented Environmental Plan; Participants vs. Non-Participants

		Participants		Non Participants	
		Absolute Frequency	**Absolute Frequency**	**Absolute Frequency**	**Relative Frequency***
Do you have a formal document that describes your plan?	No	22	34.4%	9	47.4%
	Yes	42	65.6%	10	52.6%
	Total	**64**	**100%**	**19**	**100%**
	Not Answered	18	-	5	-

Table 18: Presentation of Environmental Plan; Participants vs. Non-Participants

		Participant		Non Participant	
		Absolute Frequency	**Relative Frequency***	**Absolute Frequency**	**Relative Frequency***
Have you presented the plan to shareholders and/or stakeholders?	No	20	31.2%	6	33.3%
	Yes	44	68.8%	12	66.7%
	Total	**64**	**100%**	**18**	**100%**
	Not Answered	18	-	6	-
Have you presented the plan to your employees?	No	16	25%	5	27.8%
	Yes	48	75%	13	72.2%
	Total	**64**	**100%**	**18**	**100%**
	Not Answered	18	-	6	-

*adjusted

The results of Table 19 show that 86.6% of all respondents stated their company's environmental plan has had a positive impact on their company. Of this, 87.5% of participants and 83.3% of non-participants stated their environmental plan has had a positive impact on their company (Table 20).

Table 19: Impact of Environmental Plan; All Respondents

		Absolute Frequency	**Relative Frequency***
What would you say the impact of your company's environmental plan has been on your company?	Positive	71	86.59%
	Neutral	11	13.41%
	Negative	0	0
	Total	**82**	**100%**
	Not Answered	24	-

*adjusted

Table 20: Impact of Environmental Plan; Participants vs. Non-Participants

		Participant		Non Participant	
		Absolute Frequency	**Relative Frequency***	**Absolute Frequency**	**Relative Frequency***
What would you say the impact of your company's environmental plan has been on your company?	Positive	56	87.5%	15	83.3%
	Neutral	8	12.5%	3	16.7%
	Negative	0	0	0	0
	Total	**64**	**100%**	**18**	**100%**
	Not Answered	18	-	6	-

*adjusted

The "Environmental Management Practices" section also contained questions that asked respondents whether their company had undergone any other green initiatives, if there were other voluntary environmental programs that the company has taken part in, and if the company participated in other voluntary energy programs. Table 21 shows that 77.7% of respondents are from companies that have undertaken green initiatives. Of this, 73.4% of participants and 91.3% of non-participants said their companies have undertaken green initiatives (Table 22).

Table 21 also shows that 52.9% of respondents said their company participated in other voluntary environmental programs. Of this, 54.4%, of participants and 47.8% of non-participants said their company participated in other voluntary environmental programs (Table 22). Table 21 indicates that 52.5% of respondents said their company participated in other voluntary energy programs. Of this, 53.8%, of participants and 43.5% of non-participants said their company participated in other voluntary energy programs (Table 22).

Table 21: Companies and Green Initiatives; All Respondents

		Absolute Frequency	Relative Frequency*
Has your company has undertaken any green initiatives?	No	23	22.3%
	Yes, please specify	80	77.7%
	Total	**103**	**100%**
	Not Answered	3	-
	Total answered: 103		
Are there other voluntary environmental programs company partakes in?	No	48	47.1%
	Yes, please specify	54	52.9%
	Total	**102**	**100**
	Not Answered	4	-
	Total answered: 102		
Does your company participate in other voluntary *energy* programs?	No	50	48.5%
	Yes, please specify	53	52.5%
	Total	**103**	**100%**
	Not Answered	3	-
	Total answered: 103		

*adjusted

Table 22: Green Initiatives Undertaken by Company; Participants vs. Non-Participants

		Participant		Non Participant	
		Absolute Frequency	**Relative Frequency***	**Absolute Frequency**	**Relative Frequency***
Has your company has undertaken any green initiatives?	No	21	26.2%	2	8.7%
	Yes, please specify	59	73.8%	21	91.3%
	Total	**80**	**100%**	**23**	**100%**
	Not Answered	**2**	**-**	**1**	**-**
	Total answered: 103				
Are there other voluntary environmental programs company partakes in?	No	36	45.6%	12	52.2%
	Yes, please specify	43	54.4%	11	47.8%
	Total	**79**	**100%**	**23**	**100%**
	Not Answered	3	-	1	-
	Total answered: 102				
Does your company participate in other voluntary energy programs?	No	37	46.2%	13	56.5%
	Yes, please specify	43	53.8%	10	43.5%
	Total	**80**	**100%**	**23**	**100%**
	Not Answered	2	-	1	-
	Total answered: 103				

Appendix D lists some of the green initiatives, voluntary environmental programs, and voluntary energy programs those participants and non-participants have undertaken. The

majority of initiatives undertaken are LEED, waste recycling, and the installation of energy efficient equipment such as lighting and HVAC equipment. Energy programs that these companies have undertaken are also similar to the green initiatives listed. These include the Race to Reduce Greening Toronto initiative, hydro incentives, and converting to energy efficient equipment.

When asked whether the interviewed companies participated in other voluntary programs, all 10 respondents in the participant group indicated that they had. When asked whether the companies interviewed in the non-participant group participated in other voluntary energy programs, three respondents indicated they have, while one respondent stated that they did not participate in other voluntary programs due to the associated costs. For example, Participant 2 said:

> Participant 2: "No. Due to the associated costs, we are in the very early stages of energy conservation. I have worked with consultants for incentive programs such as lighting retrofits. I also do a broad range of environmental work within the company and also participate in range of environmental groups."

When asked whether their company participated in green initiatives, all 10 respondents in the participant group have participated in them, with three respondents specifying waste diversion as a primary method. The other green initiatives done by the respondents in the participant group were BOMA BESt, LEED, initiatives with Enbridge, BBP, LED technology and the Go Green programs. For example, Participants 4 and 8 stated:

> Participant 4: "We have done many other environmental initiatives such Go Green and BOMA Best. We are very interested in sustainability such as LEED certifications, and in the design phase we were focused on LEED certification and sustainability."

> Participant 8: "We have done other green voluntary programs such as Go Green, BOMA Best 2 and 3 as well as in LEED."

Only one respondent in the participant group revealed that their company does not take part in any other environmental initiatives and are not interested in environmental practices:

> Respondent 7: "We are not trying to be environmentally friendly; we are a printing company and we use a lot of trees."

When asked whether the consultants interviewed recommended other energy programs, many in the consultant group indicated they had. While the consultants recommended the program, other programs were recommended as well, such as ASHRAE (the American Society of Heating, Refrigerating, and Air-Conditioning Engineers) and Save On Energy (the energy program subsequently following BOMA's). Regarding ASHRAE, even though it was recommended to their clients, it was very costly to do, which in turn drove up participation rates for Save On Energy. For example, Consultants 2 and 6 said:

> Consultant 2: "We advise programs that are out there and the companies take advantage of these programs if they suit their needs. Having province-wide energy programs that are distributed by LDCs like Toronto Hydro and award incentives for energy-saving equipment such as lighting is great."

> Consultant 6: "ASHRAE is a level 2 study. You have to do a report on lighting and heating but it is costly. To recommend this study would cost them about $50 K (or 5 cent a square foot) just to do the report. The program we usually recommend is Save on Energy with the OPA, in cooperation with Toronto Hydro. Companies use Save on Energy and it is popular among their clients."

6.9 Topic 6: General Information

The final component of the survey contained general information on the respondents and his or her company. Results from Table 23 show that just over half of the respondents (52.8%) have been working at their place of employment for more than 10 years. About 35% of participants are companies comprising of 100 to 499 employees; the numbers for the non-participants were too small to deduce any conclusions (Table 24).

Results from Table 25 show that 76% of participants did not sell final goods to its consumers; the numbers for the non-participants were too small to deduce any conclusions. 74% of participants indicated that they were in close contact with their consumer base; this is contrast to non-participants, where 96% of respondents said they were in close contact with their consumer base. Regarding whether the respondent's company has a Research and Development (R&D) department, 71% of respondents stated that they did not contain one. Because this factor was not relative to the objectives of the study, it was not examined further.

Table 23: Length of Employment; All Respondents

	Length of Employment	Absolute Frequency	Relative Frequency
How long have you been employed by your company?	Less than 5 years	26	24.5%
	5 to 10 years	24	22.6%
	More than 10 years	56	52.8%
	Total	**106**	**100%**

Table 24: Size of Company; Participants vs. Non-Participants

		Participant		Non Participant	
		Absolute Frequency	**Relative Frequency***	**Absolute Frequency**	**Relative Frequency***
How many persons are employed at your company?	Less than 50	18	22.2%	6	25%
	50 to 99	12	14.8%	3	12.5%
	100 to 499	28	34.6%	6	25%
	500 to 999	5	6.2%	3	12.5%
	More than 999	18	22.2%	6	25%
	Total	**81**	**100%**	**24**	**100%**
	Not answered	1	-	0	-

*adjusted

Table 25: Selling of Final Goods, Contact with Consumer Base, and Presence of R&D Department; Relationship with Consumers; Participants vs. Non-Participants

		Participant		Non Participant	
		Absolute Frequency	**Relative Frequency**	**Absolute Frequency**	**Relative Frequency**
Does your company sell final goods to consumers?	No	62	75.6%	12	50%
	Yes	20	24.4%	12	50%
	Total	**82**	**100%**	**24**	**100%**
	Not Answered	0	-	0	-
Is your company in close contact with its consumer base?	No	21	25.6%	1	4.2%
	Yes	61	74.4%	23	95.8%
	Total	**82**	**100%**	**24**	**100%**
	Not Answered	0	-	0	-
Is there a Research and Development (R&D) department in your company?		**All Respondents**			
	No	75		71.4%	
	Yes	30		28.6%	
	Total	**105**		**100%**	

*adjusted

6.10 Interviews with Experts Regarding Voluntary Energy Programs

The final interest group consisted of five energy efficiency industry experts that were interviewed. Because this group is involved in program design, and may have different thoughts about what they feel motivated businesses to join the CDM program, their questions were structured in a different manner than the other interest groups. As previously stated in the Methods section, the questions in the interview guide for the expert group were arranged in three sections: program design, program implementation, and energy programs and behavioural change. The results highlight several of the significant findings in each section.

6.10.1 Section 1: Program Design

Regarding what experts focused on when designing incentive programs, Respondents 3 and 4 stated that many factors were considered, including who the target for the program was, the goal that was trying to be reached, the technologies used to reach that target, and the potential barriers that would have occurred:

> Respondent 3: "When you're designing a program there are a bunch of different factors that you're looking at, such as your goal for energy savings are you going for, your vision of the customer, and of your market sector. You also need to think about the barriers to the energy savings you need and the barriers to your qualitative vision. What you then want to do is design a program that responds to customer needs if it's a customer-based program, or if it's a supplier program/capability program, what their needs are, and then responding to the barriers."

> Respondent 4: "It depends on what the target is, how to decide what technologies you need to reach that target and who the customers are that the technology is applicable for. So if your target is to reduce 100 MW during peak time, you need to figure out which customers are contributing to these peaks and which technologies are the ones that are driving the peak, and you design the program based on that."

On the subject on what they felt discouraged companies from joining the CDM program, two respondents felt that it was not effectively marketed and designed:

> Respondent 1: "Programs run the way they're designed to run. If they're not designed well they won't run well. If you don't have the business systems in place to do the verification and do the process payments, then they don't get processed. They sit somewhere on somebody's desk and that's not excusable."

> Respondent 5: "It was a very difficult sell. Although the money was very good, it wasn't sufficiently promoted. It was thought that having a contract with the BOMA would be enough; they would do a good job and the people would eventually come, but they never really did. Everyone thought that because it was such a good and logical proposition, and that BOMA was dealing with all the right people that the program did not need to be actively marketed. The truth is that it needed to have been. It was not successfully marketed. Just because there's an incentive doesn't mean people are going to hear about it or even act on it, it needs to be promoted and I don't think it was effectively promoted at the OPA. It won't fly off the shelf just because it makes sense."

One respondent felt that that the BOMA Toronto CDM program was not in place long enough to establish itself, and that may have also played a role in decreased participation:

> Respondent 5: "I think it just took them (the participants) a while to hear about the program. Once they heard about it and were comfortable with it, a few people finally started to use it and were much more active with it. It just takes a bit of time for it to sink it, for people to hear that the program will be around, that it makes sense, that it's not overly bureaucratic. It being around for only a few years didn't give the program a chance to plant roots with its customers"

Two respondents acknowledged similar deterrents that were also found in the participant group, which were the financial position of the company and the cumbersome nature of the program:

> Respondent 2: "We thought that this would be a 'slam dunk'. Why wouldn't someone want something that will last for 5-10 years, get their money back in a year, and for the next 4-9 years get pure bottom line savings? The problem was we went into a recession. They (the companies) still had to come up with the $40,000-$50,000 to get the project started and get it finished. Even the lighting, which is the fast payback, they weren't doing, simply because 'hey it's not broken. We are in a recession, so there's nothing wrong with our lighting. Yeah maybe it's not efficient but it still works and we can still see what we're doing'. Why aren't they doing it? They don't have the initial capital and it's the money they have to use to make up a difference."
>
> Respondent 4: "I think it's the state of the economy, the complexity of some of these programs, and the continuity in energy policy, there are some of the factors in deterring people from joining."

The complaints most frequently heard from businesses/companies that participated in incentive programs were:

- The program was complex and cumbersome; and
- The payback for incentives was too long.

Many respondents pointed to the cumbersome nature of the program. As an example, Respondent 1 said:

> Respondent 1: "We (as participants) like incentives. We don't like programs. The implication of a program is a conservation program designed and delivered by the OPA or the distribution company in Ontario so it's heavily contracted, and complex. They require evaluation measurement and verification. They require a preliminary technical review before the OPA will even approve it and sign the contract. Getting projects approved is the big issue."

Four respondents indicated that long payback periods were also a major complaint from companies participating in energy incentive programs. For example, Respondent 1 stated:

> Respondent 1: "I've heard word from customers here contractually obligated owed payments, either from the utility or the Ontario Power Authority that are over a year late and who have contemplated litigation to get the payment for the contract that they had to enter. If you're that energy manager that got that company into that deal, and that senior management team is talking about litigation, because it would have to go there to get approval, you're going to bring a program back any time soon? No, of course not!"

Concerning what they thought drove businesses and encouraged the most participation to join incentive programs, several respondents listed some of the motivators that were also found in the participant group, such as it making good business sense and improved energy efficiency. A sense of moral fulfillment and environmental awareness were also listed, but were stated that they were not primary drivers. For example, two respondents stated:

> Respondent 4: "I think that companies see it as an environmental thing and demonstrate their commitment to social responsibility and the environment and sustainability. But these things make good business sense. The bottom line is, everyone is trying to find ways to cut costs and if you can reduce your energy budget in an investment in conservation, then they're making those investments, that's one of their main drivers. The second driver is the environment. It's not the top one, it's the second one. It's all about business in the commercial and industrial space."

> Respondent 5: "I think that people, both individually and in businesses, make investments in energy efficiency because they want to do the right thing. They'll also do it because it'll save money but I don't think that's the main motivator. People who look at energy efficiency as purely operational savings don't tend to do as much as they could. Those who do it at a strategic level do it because it's the right thing to do, it's right for their family; they want to be able to brag to their competitors, they want to tell their kids what they're doing at their offices, it's much more comprehensive. Some people are purely financially motivated, but I think that more people are motivated by it being the right thing. There's more to it than just the money."

When asked if it was important to include incentives within energy programs, four respondents agreed with this statement; however, only one felt financial incentives were the primary motivator for company participation:

> Respondent 3: "We've seen a lot of research telling us that financial incentives aren't really the most important thing, that upfront capital cost isn't the biggest barrier. Certainly in our programs, what we have are incentives, support for key account managers to sell the programs, and funding for customers to hire energy managers that are skilled within the organization (to identify the project and manage the risk). We've got incentives for commissioning, but it is looking at how you manage your building. So it's therefore information and tools as well as capital incentives. That's where it becomes really important to understand your market and to understand what the barriers are."
>
> Respondent 5: "I think it is and I'm leery about incentives for a number of reasons. They need to be put in place with a clear understanding of why they're there. They're there to spark interest and get initial attention."

When asked how to get people to focus on other areas of energy conservation beyond lighting, one respondent stated that it was very difficult, since lighting is constant and is one of the easiest methods of technologies to retrofit:

> Respondent 3: "We've done a few things. We've got the incentives for lighting are lower than they are for HVAC in the commercial program; there are a number of LDCs right now that are providing incentives to the supply chain to bring in projects, and again, the bigger the project the bigger the incentive; so it's really an incentive to get deeper projects. In our commercial program we put together a portfolio approach to projects again to try to create an incentive to put the low-hanging fruit as well as the deeper tougher-to-get projects."

The design of voluntary programs is therefore important, especially since they are the tools necessary to complement regulations. Energy programs have been shown to focus on lighting retrofits because they are less intensive and therefore less costly for programs. Experts in

energy demand reduction are aware of what entices companies to join programs; they have also acknowledged that there are challenges in designing energy programs that are effective in delivering both energy savings and incentives in an appropriate amount of time.

6.10.2 Section 2: Program Implementation

On the subject of finding the balance between offering the appropriate incentive to encourage participation, and implementing regulation to ensure the program ran effectively, two respondents stated that it was difficult:

> Respondent 3: "It's a tricky one. We're struggling with this when we first created the participant agreement. They were long and quite legal because we were seeking to balance and protect the ratepayer. We've now gotten feedback so we're now trying to seek a better balance between customer usability and protecting the ratepayer. It's definitely a constant challenge and you're constantly tweaking because you need people in and you need people who aren't really looking for this. You know people aren't clamoring for this; you have to convince them to come in. At the same time you need to make sure you're responsible using ratepayer funds. So it's a juggling act."

> Respondent 4: "There is a fine balance in there but what you're trying to do is be prudent of spending, because when you're providing incentives for energy efficiency, you're basically saying this is the equivalent to building a generation plant. Conservation is put in place so you don't have to build a generation plant, so when you cost out generation, and you cost out conservation, conservation's got to be a lot cheaper than generation, and conservation has to have certainty to it."

Three respondents also stated that evaluation, measurement and verification are necessary in finding the correct balance between incentives and regulation. As an example, Respondent 4 stated:

> Respondent 4: "When you think about rules and regulations that you have to put around the incentive program, you want to have a proper and very rigorous evaluation, monitoring and verification program that proves that the savings is there and is sustainable, that is has persistence. And it is far cheaper than, and just as effective, as building generation to meet the supply needs. That's the critical element to the approach of the program and what kind of governance you put around it. The deeper it gets, the more certainty you want, the more governance you want to build over it to get the results you want."

Regarding whether the subsidies were used effectively and, if not, whether the remainder were transferred to other programs, two respondents said it occur in certain circumstances:

> Respondent 3: "It depends - but we've got a block of money for four years, so it's early days now. It has been allocated and our Board has approved a budget, so if we want to reallocate our funds that's the kind of thing that has to go back to the Board. It is standard, we have a budget and we keep track of all of our decisions."
>
> Respondent 4: "In certain cases, it is transferred to other programs, yes."

6.10.3 Section 3: Energy Programs and Behavioural Change

Regarding whether they felt that incentive programs have helped companies change their behaviour toward energy consumption, three respondents agreed that it had, whereas one stated that preferences change depending on who is in power at the time:

> Respondent 1: "In this business in some ways you (the consumer) play along. You find out who makes the big decisions that affect your business, and play along with them, and in Ontario it's the Ontario government that makes those big decisions, so you play along. If they (the government) say you want support for conservation you support conservation, but you still want money, so there's all these incentive programs."

Concerning whether there had been improvement in the rates of program participation in Toronto or Ontario in the last 5-10 years, opinions varied. For example, Respondents 3 and 4 stated:

> Respondent 3: "Programs didn't exist 10 years ago. Ontario Hydro had programs that were dispatched in the 90's, so we joined in during the 2005-06 time period. I know we have the potential. I don't see any reason why we shouldn't be on par with other jurisdictions. Some of the key things from what we're hearing from places like California and British Columbia, which has been consistently in the game for the last 10-15 years, are that you really need to be in the market consistently. You need to have a presence; people need to get used to you and get used to the idea, so the longer in market, the better for performance. Certainly news is spreading about joining, so word of mouth is spreading."
>
> Respondent 4: "I wouldn't say we are progressing as well as we want to, but I know Toronto is leading in the industry. We always have been because we have the resources and the support from the Board to do that. The more complexity the regulatory/provincial mandate becomes, however, the harder it is to reach the target, the support gets challenging and it's hard for the company to meet those obligations. We're trying to do everything we can to make it easier for the customer, but it's challenging. It's working, but it could be working a lot better. It's a positive step but we need to make sure that we're calling on customer feedback and trying our best to meet the customer's needs because without the customer, we have nothing."

Two respondents felt that Toronto is not faring pretty well compared to other jurisdictions. For example, respondent 5 stated:

> Respondent 5: "In the commercial sector, probably not. This was one of the programs that I'm disappointed with, it didn't do better. I thought having BOMA as a delivery partner would've overcome a lot of barriers; we thought it would've been adopted a lot faster. There was a target of 100 MW, for the first 3 years, and I don't think we were anywhere near it. You live and learn, and the lesson is that just because it's a good program, doesn't mean that it's going to fly off the shelf and even with BOMA as a delivery partner it still needs to be promoted. People still need to hear about it; they need to be comfortable with it, they need to see their competitors doing it, and it just never got that buzz when it first started off. The logical thing to do was to learn from it and try to do better next time."

One respondent also mentioned that one of the difficulties in energy conservation was that it was hard to see and therefore hard to measure the savings:

> Respondent 5: "I think one of the real challenges with conservation is that it's hard to see. It's a real challenge with conservation. It's also ironic because the other part of the OPA's work is doing supply contracts for new generation such as gas plants and wind turbines. Those are facing huge opposition because they are so visible. Everybody focuses on the supply because it's tangible, whereas with conservation, it's much less visible and harder to measure. You've got, within the OPA, some things that people don't like because they're visible, and then there are some things, because they're invisible, people don't know about them. Because conservation is hard to see, all you can do is bring forward studies and compare it to what would've happened, and hope that people will begin to look into it a bit more."

Finally, two respondents expressed that programs would only work, and energy would only be efficient, if there was a change in cultural and societal behaviour towards these tools of energy conservation. For example, Respondent 5 said:

> Respondent 5: "One interesting challenge with conservation is that it's not going to be solved by governments. It's not a matter of regulation; it requires engagement by all sectors of society. It is a challenge that you need to have all in. It's not going to be solved by regulations, or with one or two people in a head office making a decision. It really needs to be quite comprehensive and so that's why we are calling for, and are still calling for at the OPA, is a culture of conservation. It's not just a matter of changing your light bulbs and looking at your HVAC system, it's really adopting a cultural conservation so that it becomes second nature to you."

7.0 Discussion

The objective of the BOMA Toronto Conservation and Demand Management (CDM) program was intended to influence business energy decisions by offering a financial incentive to reduce the cost of building retrofits with newer energy efficient equipment. Its target was large commercial buildings 25,000 square feet or greater, with a focus on office buildings. The goal of the program was to reduce energy by 100 MW by the end of 2010, and its results came primarily through lighting retrofits. The CDM program was able to reduce over 52 MW of energy through more than 850 retrofit projects by more than 500 businesses, with the majority of energy savings occurring in its final year (Table 26). It fell significantly short, however, of reaching its target goals of 100 MW, which, in a city this size, should be achievable.

Table 26: Cumulative Demand Reduction (kW) of the BOMA CDM Program

Year	Cumulative Demand Reduction (kW)
2007	5,323
2008	12,341
2009	21,629
2010	52,494

Source: Building Owners and Managers Association (BOMA) Toronto Conservation and Demand Management Program, 2011.

7.1 Factors Influencing Participation

The purpose of this study was to reveal the factors that motivated businesses to participate in this voluntary energy program. Given that businesses were awarded an incentive to reduce their energy consumption, it was of interest to evaluate whether the incentive was the primary motivator for joining, or whether there were other influencing factors. Results from this study point to the significant influence financial incentives have on volunteer participation in energy programs. Qualitative data gathered during the interviews with participants, non-participants, consultants and experts also substantiate the empirical findings. Results from the surveys, as reported earlier, found that companies participated in the program primarily because of financial incentives, as this factor was indicated as "*very important*" to the company (with a weighted mean of 6.8). Environmental improvement was listed as the second major influence on

a company's decision to join the CDM program in the survey, with this factor also listed as *"very important"* to the company (with a weighted mean of 6.4).

Results from the interviews varied from the results of the survey, citing financial incentives, cost effectiveness and sufficient return on company investment as the primary drivers for joining. It seemed that without the rebate, these (and other) participants would not have joined the CDM program. Although environmental improvement was listed quite clearly and indicated as a major reason for joining the program in the survey, interview results showed little evidence of this. Seeking environmental improvement was not the primary motivator in joining the program. Indeed, environmental improvement was only regarded as an added benefit to cost effectiveness, which could be used for green marketing purposes. While two respondents stated that their focus was on environmental improvement for their businesses, the overwhelming majority revealed that financial incentives and cost effectiveness were the principal motivators for joining.

Results from the survey, as was reported earlier, also found that both participants and non-participants viewed the high cost of equipment as an *"important"* challenge in their decision to join the CDM program (with a weighted mean of 5.8 and 5.6, respectively). In the interviews, the high level of importance these challenges had in the company's decision to join (or not join) were made abundantly clear, which were not clearly evident in the survey. It was also very difficult to penetrate the non-participant group in gathering information about why they did not join. They stated the reasons for not joining were principally resource restrictions, either because of the high cost of equipment, or because they were not in a financial position to join the program. Capital cost concerns are consistent with the literature, as Lyon and Maxwell (1999) noted that businesses having better access to financial resources are more likely to join environmental programs. Although the program distributed incentives to assist companies with the cost of their retrofits, many non-participants felt that the initial cost was a barrier in joining. Participants whose companies were financially viable also voiced this concern. It was not a matter of a reluctance to adopt new energy technologies, but rather the cost associated with implementing that technology that dissuaded companies from participating in the program.

As stated previously, the survey found that, excluding lobby groups (who had a 4.7 weighted mean on the scale), all the listed internal and external factors played an *"important"* or

"somewhat important" role in influencing company decisions about environmental programs. Efficiency gains were the most significant factor on a company's decision, as this factor was indicated as "very important" to both participants and non-participants (with a weighted mean of 6.8 and 6.6, respectively). This finding was also present in the interviews, where both participants and non-participants conveyed their company's desire to reduce its energy consumption and increase gains in energy efficiency, although not for environmental improvement. Company suppliers were listed as a second "very important" factor for participants, with a weighted mean of 6.8, whereas a company's customers were listed as a second important factor for non-participants, with a weighted mean of 6.3. Managerial pressures, although cited in the survey as being *"important"* on a company's decision (with a weighted mean of 6.4 and 6.3 for participants and non-participants) were not found to be significant in the consideration of environmental issues for businesses when respondents were interviewed. Respondents were also motivated to seek energy programs that were funded by recognized organizations, such as the OPA.

7.2 Experiences with the BOMA Toronto CDM Program

Results from the survey, as reported previously, revealed that participants were *"satisfied"* with the CDM program (with the weighted mean of 6.02). If there was such a high level of satisfaction with the program, then its underachievement at attaining its target goals is a mystery. Detailed discussions and investigations with senior managers showed that this was not the case, as participants expressed their disappointment and dissatisfaction with the CDM program. The two most common complaints from participants were the amount of time it took to receive the incentive, and administrative difficulties experienced with the program. They felt that the application procedures were too complex and cumbersome, and that the payback period was too long, contrary to the superficial satisfaction mentioned in the survey.

Results from the interviews showed that participants were generally satisfied with the level of incentives they received, although the time taken to process and distribute the incentives were the biggest challenges, expressing their concern over the CDM program's failure to deliver their incentives in a timely manner. These challenges point to the difficulty of arriving at an

effective and efficient incentive. When considering joining energy incentive programs, companies try to determine what the overall energy savings are to their business and what the fixed cost is of doing the retrofit. Businesses have stringent timelines for turnaround and are reliant on the program to deliver their incentives in a timely manner. The sooner the company is able to invest the incentive, the better it is for both the company and for the reputation of the program. Better communication about the payback period and better communication about timelines for both parties (the business and the incentive program) are significant areas of improvement. Maintaining the delivery of incentives but with better payback periods are also areas to improve upon in future energy programs.

On the topic of administrative difficulties, results showed that the CDM program was cumbersome and difficult to navigate through. Participants also stated that the application process was time consuming. Several interview respondents stated that the program rules were not clearly communicated, and the program was slow in responding to information queries or concerns. Many participants felt that the lack of communication, administrative difficulties and the length of time to receive their incentives were areas that needed significant improvement if they were to continue to join future incentive programs. These oversights left participants frustrated with the program. Managers reflected that they would have to see whether future programs will differ from current ones if they are to participate further in corporate energy conservation. If there are to be similar administrative problems, those businesses would not join the programs if it meant having to handle inconsistencies and the associated costs of waiting for their incentive. Concerns about the reliability of the CDM program indicate a lack of trust in the general efficacy of energy programs and their negative experience could deter a company from participating in future programs.

Remedying administrative problems, such as inadequate bureaucratic oversight, a more streamlined application process, timely payback and easier accessibility to program information will increase participation, since the program process is easier to deliver and customer satisfaction will be improved. Increasing the allocation of time and resources to the education of potential participants will reduce feelings of confusion on the part of the participants.

7.3 Recommendations: The Design of Future Energy Conservation Programs

There are a number of areas that could be considered in improving the design of future energy programs. As made evident earlier, upfront capital is a major challenge in energy program participation. These barriers could be reduced if financially-constrained companies were given an option of receiving a portion of their estimated incentive at the beginning stage of the retrofits as a subsidy. The remaining incentive could be given at the end when the project is completed and the costs were calculated, thereby increasing the participation rates of businesses with smaller budgets.

Lighting retrofits contributed to most of the CDM's program's energy savings, yet it was not the main energy equipment used by companies that did not participate in the program. It is understandable why energy conservation is focused on lighting, as it is constant, easy to retrofit, least costly, and programs can offer less of an incentive to participating businesses. Incentive limits also drive the program to adopt simpler conservation technologies, and lighting falls within that category. The difficulty of these programs is retrofitting energy-efficient technologies whose savings are harder to measure. Focusing more on energy-efficient technologies other than lighting, such as HVAC systems or solar technologies, would not only encourage more companies to join, but would tap into under-used energy markets and would provide higher energy savings on more energy-intensive equipment. HVACs, however, are more expensive, and will have more punishing upfront capital costs, thus subsidies given during the beginning stages would be beneficial. If alternative technologies are the targets then the level of incentive should be reconsidered. Another area of interest could be in awarding higher incentives to those companies who reinvest in green technologies, which could encourage more businesses to invest in alternative sources of energy.

Better access to program education could also alleviate some of the current transparency issues. A central website could be created listing the different energy programs available to businesses throughout Ontario. Having a description of each specific energy program and its application processes (along with a written description of both company and program administrative deadlines) would make the programs much more transparent and alleviate the frustration of participants. Simplifying the application forms, creating a more useful website, as well as providing detailed information brochures would also decrease current information and

communication barriers. Knowing the status of the application at any given stage of the process could also be an area of consideration.

A more collaborative effort between program administrators could also increase participation rates. Energy incentive programs not only vary from province to province but also within provinces. Businesses in Toronto that participated in more than one program cited the difficulties faced in each individual program, such of a lack of standardized information. The programs done across the province should thus be more streamlined and similar in nature administratively. Having one type of organization run the program, which LDCs are now doing, instead of multiple types, would help streamline programs and alleviate the lack of communication that was present in the CDM program. Since respondents also seek incentive programs with recognized organizations as a level of trust, the continuation of programs backed by recognizable and authoritative organizations like the OPA or Toronto Hydro would prove beneficial in a successful program. Continuing to market the programs face-to-face is another important step in establishing trust for potential respondents, which has been decreased due to administrative oversights and previous negative feelings. Advertising the program as a green marketing tool could also encourage participation.

8.0 Conclusions

From 2006, Ontario has recognized the need to reduce energy consumption and had thus introduced a suite of energy incentive programs through differing organizations in the commercial sector. Four of these major energy programs were funded by the OPA. The BOMA Toronto CDM program was one program in this category that targeted large office buildings in Toronto by awarding participating companies with a financial incentive. The organization also took over control of the program and therefore had more flexibility in its design and in administration. Overall, while it was partially successful in reducing energy consumption, it was proportionally the least successful of the four mentioned. It also failed on many administrative aspects. Participants are driven by cost-effectiveness: for businesses, the bottom line is what is most important in its success. One challenge of this program was in how the program was run, such as in the delivery of incentives and in its confusing application processes. A major finding of this study was that financial incentives were a primary motivator for joining. Given that finding, its slow administration and apparent lack of transparency were issues that were easily avoidable.

Based on the responses, with few participants joining for environmental reasons, the results confirm the findings of other researchers of voluntary environmental programs such as Koehler (2007), Lyon and Maxwell (1999), and Segerson and Miceli (1998), in that incentives are an essential element, and that the size of incentive is a factor and strong influence on participation. The motive to join the program is for the financial incentive; thus, the lack of specific information on the size of the incentive given and the time it would be received were detrimental to businesses that depend on this financial information for their budgets.

Several studies indicated in the literature, Henriques and Sadorsky (2008), Howard-Grenville et al. (2008), Lyon and Maxwell (2003), Khanna (2001), Videras and Alberini (2000), and Arora and Cason (1996), examined the reasons companies were motivated to join voluntary environmental programs, but few studies evaluated the reasons companies did not join them. The non-participant population was difficult to infiltrate, yet this study is one of the few efforts to penetrate this group. For non-participants, the challenge of this program was not in the motivation to join, but rather in the type of retrofit the program concentrated on, and in producing the upfront capital to do the retrofits, since they were not in a financial position

capable of doing this. Citing their reasons for not joining enables program designers to reassess their program goals and allow for improvements in areas previously thought foolproof for recruiting potential participants. Broadening the appeal of energy programs by addressing these areas of concern, such as concentrating on energy technologies other than lighting, such as solar power or HVAC, would also tap into a neglected market of businesses that are willing to participate but do not meet the criteria outlined in the energy program. Future studies should aim to obtain larger sample sizes to further investigate the motivations for both joining and not joining energy incentive programs.

Programs are designed to balance the allocation of incentives, the administration of program requirements, and the encouragement of participation. The study found that it has been difficult for those involved in the design process to achieve the right balance in offering incentives for participation, and implementing the minimum regulations to ensure compliance. Incentive funds should not go to programs that do not produce the best outcomes in sustainability; however, funds should also not be allocated to programs that are unlikely to be successful. If the incentives were given with few strings attached to the recipients, they would have been undoubtedly taken. The problem then arises in awarding incentives with enough conditions to still entice the business to take them, yet also reach the goals of the program. Programs must unfortunately go through the process of trial and error with incentive programs in order to evaluate the outcomes and consequently become effective in the long term.

Program incentives are also a valuable tool in transitioning companies from a desire to reduce energy use, to actively improving energy efficiency. It is important to include incentives with energy programs to encourage participation and to reach targeted energy savings. Voluntary energy programs are inexpensive alternatives, but they should complement current regulations, not be their replacement. These programs make a substantial contribution to energy conservation, but they should not be permanent fixtures. They should be implemented with the intention to shift the market towards energy conservation, and then be tapered off and replaced with regulations. Regulations that aim to reduce energy and invest in renewable technologies are needed to encourage the appropriate energy conservation. These will guarantee that energy conservation stays at the centre of changing environmental policies. The threat of regulation is

therefore the most important feature in motivating businesses to increase their environmental responsibilities.

The timeliness of incentives and ease of program navigation are what differentiates a successful energy program from an unsuccessful one when contending with commercial office buildings. Managers were primarily motivated by incentives and transparency (clear and efficient paperwork) when deciding to participate in these programs. In this study, businesses participated in the CDM program but were discouraged by its pragmatic problems. Long payback periods resulted in businesses not sustaining their investment and will likely deter them from participating in future programs. Streamlining these processes through effective program design will help programs achieve designated energy savings targets. Holding the program accountable for not achieving these targets will also expedite their levels of transparency and clarity, and would encourage them to more aggressively pursue their energy targets. The challenges in the program resulted from how the program was run rather than its structure; addressing these concerns when designing future programs can also assist in increasing the participation rate.

Appendices

Appendix A: Letter of Introduction

Dear member of the Toronto Commercial Sector community:

My name is Catherine Mulé and I am a Masters student in the Environmental Applied Science and Management Program at Ryerson University. I would first like to commend your company on your efforts at reducing the energy consumption of buildings in the Toronto area. Your contributions in reducing Toronto's energy footprint through your program have undoubtedly benefitted Ontario's plan to help better our environment.

I am currently conducting a study with BOMA Toronto that examines the participation in voluntary energy programs, specifically the Conservation and Demand Management (CDM) Program (a voluntary energy program to reduce energy demand in commercial buildings). My research has also been mentioned in the Tuesday September 27th BOMA newsletter, and I also have been working with the CDM Program managers.

With your participation, this research involves a short survey or an interview that will be conducted at your own convenience. The names and the companies of those who participate will be kept confidential, and responses will only be used in aggregate. The research will ask you a few questions your views on the program and on energy programs in general. BOMA Toronto will not know the individual responses given or by whom, and your responses will be treated with the upmost respect.

The survey link can be found at:

https://survey.ryerson.ca:443/s?s=1987&i=[ID]&k=[KEY]&ro=[REOPEN]

I hope you will participate in the study. If you know someone in your office that is better suited to complete the survey, please forward them this email. If you have any questions or concerns, please feel free to email me at cmule@ryerson.ca, or you can also contact Chris Conway, President of BOMA Toronto, at cconway@bomatoronto.org. Thank you very much for your consideration and I look forward to receiving your responses.

Sincerely,

Catherine Mulé

Graduate Student, Environmental Applied Science and Management, Ryerson University; Honours Bachelors of Science in Environmental Science and Human Biology, University of Toronto.

Reminder Email

Dear members of the BOMA Toronto community:

My name is Catherine Mulé and I am a Masters student in the Environmental Applied Science and Management Program at Ryerson University. I have recently contacted you about your potential participation on a study with BOMA Toronto that examines the participation in voluntary energy programs, specifically the Conservation and Demand Management (CDM) Program. With your participation, this research involves a short survey that will be conducted at your own convenience. The survey should take about 5-7minutes to complete. The names and the companies of those who participate will be kept confidential, and responses will only be used in aggregate. The research will ask you a few questions about your membership and your views on the program. BOMA Toronto will not know the individual responses given or by whom, and your responses will be treated with the upmost respect.

The survey can be found at:

https://survey.ryerson.ca:443/s?s=1987&i=[ID]&k=[KEY]&ro=[REOPEN]

I hope you will participate in the study. If you know someone in your office that is better suited to complete the survey, please forward them this email. If you have any questions or concerns, please feel free to email me at cmule@ryerson.ca, or you can also contact Chris Conway, President of BOMA Toronto, at cconway@bomatoronto.org.

Thank you very much for your consideration and I look forward to receiving your responses.

Sincerely,

Catherine Mulé

Graduate Student, Environmental Applied Science and Management, Ryerson University;
Honours Bachelors of Science in Environmental Science and Human Biology, University of Toronto.

Appendix B: Survey Questions

Page 1

1. What is the position/title at your company?
2. How long have you been employed by your company?
    a. Less than 5 years
    b. 5 to 10 years
    c. More than 10 years
3. How many persons are employed at your company?
    a. Fewer than 50
    b. 50 to 99
    c. 100 to 499
    d. 500 to 999
    e. More than 999
4. What business does your category fall under?
    a. Entertainment/Recreational
    b. Hotel
    c. Industrial Building
    d. Mixed Use
    e. Office
    f. Private Institution
    g. Retail Store
    h. Warehouse
    i. Other _____
5. Does your company sell final goods to consumers?
    a. Yes
    b. No
6. Is your company in close contact with its consumer base?
    a. Yes
    b. No
7. Are you, or is your company, aware of the BOMA Toronto Conservation and Demand Management Program?
    a. Yes
    b. No
8. Did a representative from your company attend an Information Session regarding the BOMA Toronto Conservation and Demand Management Program?
    a. Yes
    b. No
9. Did your company participate in the BOMA Toronto Conservation and Demand Management Program?
    a. Yes – continue on Page **2**
    b. No – continue on Page **3**

Page 2

10. Please indicate how important the following reason(s) were for your company's participation in the BOMA Toronto Conservation and Demand Management Program:

	Not Very Important	**Not Important**	**Indifferent**	**Somewhat Not Important**	**Somewhat Important**	**Important**	**Very Important**
Financial incentives/ sufficient return on investment							
Public relations							
Corporate policy, culture and awareness							
More flexible regulation standards							
Environmental improvement							
None							

11. Are there other reasons for your participation in the BOMA Toronto Conservation and Demand Management Program that were not listed in the previous question?
    a. Yes, please specify _____
    b. No
12. Did your company submit applications for more than one building owned/managed by your company in the BOMA Toronto Conservation and Demand Management Program?
    a. Yes, please specify how many _____
    b. No
13. How would you rate your satisfaction with the Conservation and Demand Management Program?
    a. Very satisfied
    b. Satisfied
    c. Somewhat satisfied
    d. Somewhat not satisfied
    e. Not satisfied
    f. Not at all satisfied
    g. Indifferent

Page 3

14. Please indicate how important the following challenges were for your company's decision to join/not join the BOMA Toronto Conservation and Demand Management program:

	Not Very Important	**Not Important**	**Indifferent**	**Somewhat Not Important**	**Somewhat Important**	**Important**	**Very Important**
Lack of information, knowledge or communication							
Lack of available new and improved energy technology							
Lack of skills or personnel							
High cost of equipment							
Lack of financing							
Regulatory and Policy barriers							
None							

15. Were there other challenges your company faced when making the decision to join/not join the BOMA Toronto Conservation and Demand Management Program?
    a. Yes, please specify _____
    b. No
16. Has your company formulated a plan for dealing with environmental issues?
    a. Yes – continue on Page **4**
    b. No – continue on Page **5**

Page 4

17. Do you have a formal document that describes your plan?
    a. Yes
    b. No
18. Have you presented the plan to shareholders and/or stakeholders?
    a. Yes
    b. No
19. Have you presented the plan to your employees?
    a. Yes
    b. No
20. What would you say the impact of your environmental plan has been on your company?
    a. Positive
    b. Negative
    c. Neutral

Page 5

21. How would you rate the importance of the following factors on your company's decision to consider environmental issues?

	Not Very Important	**Not Important**	**Indifferent**	**Somewhat Not Important**	**Somewhat Important**	**Important**	**Very Important**
Your company's customers							
Your company's suppliers							
Your company's shareholders							
Your company's employees							
Cost of controls							
Efficiency Gains							
Government Regulations							
Competitive Pressures							
Managerial Pressures							
Environmental Organizations							
Research and Development							
Neighbourhood /community							
Other lobby groups (church, political groups, etc.)							

Page 6

22. Please indicate the importance you feel your senior management places on their:

	Not Very Important	**Not Important**	**Indifferent**	**Somewhat Not Important**	**Somewhat Important**	**Important**	**Very Important**
Moral responsibility to protect the environment							
Support in protecting the environment if costs will be incurred							
Belief that their consumers and stakeholders care about the environmental impact of your company's products							
Belief that improvements in environmental performance will improve your company's long term financial performance							
Recognition of its company's environmental risks to customers, suppliers, partners							

23. What kind of impact have current environmental standards had on your company's competitive position both in Canada and abroad?
    a. Positive
    b. Negative
    c. Neutral

Page 7

24. Is there a Research and Development (R&D) department in your company?
    a. Yes
    b. No
25. How important do you expect environmental issues, in general, will be to your company in the next 5 years compared to today?
    a. Very Important
    b. Important
    c. Somewhat Important
    d. Indifferent
    e. Somewhat Not Important
    f. Not Important
    g. Very Unimportant
26. Does your company perform in-house environmental compliance audits to identify potential problems with monitoring and other environmental equipment?
    a. Yes
    b. No
27. Does your company train its employees to more effectively identify potential environmental problems?
    a. Yes
    b. No
28. Has your company undertaken any other green initiatives?
    a. Yes
    b. No
29. Are there other voluntary environmental programs that your company partakes in?
    a. Yes, please specify _____
    b. No
30. Does your company participate in other voluntary energy programs?
    a. Yes, please specify _____
    b. No

Appendix C: Interview Guides

Interview Guide: Participating Businesses in the BOMA Toronto CDM Program

1. What is the position/title at your company?
2. How long have you been employed by your company?
3. How many persons are employed at your company?
4. What service do you provide for your customers/consumers?
5. Is your company in close contact with its consumer base?
6. Did your company participate in the BOMA Toronto Conservation and Demand Management Program?
7. What was the primary incentive for your company's participation in the BOMA Toronto Conservation and Demand Management Program?
8. Were there other factors in your decision to join the BOMA Toronto Conservation and Demand Management Program?
9. How was your experience with the CDM Program?
10. Were you satisfied with the Conservation and Demand Management Program?
11. Were there any challenges for your company in deciding to join the BOMA Toronto Conservation and Demand Management program?
12. How much influence do consumers and stakeholders have in your company's environmental performance?
13. Do you feel your senior management places importance on your company's environmental performance?
14. Do you feel senior management feels a moral responsibility to protect the environment?
15. Do you feel that improvements in the environmental performance will improve your company's long term financial performance?
16. How has current environmental standards affected your company's competitive position both in Canada and abroad?
17. Is there a Research and Development (R&D) department in your company?

18. How important do you expect environmental issues, in general, will be to your company in the next 5 years compared to today? Would it be meaningful to your clients? Shareholders?

19. Does your company train its employees to more effectively identify potential environmental problems or to encourage proactive environmental behaviour?

20. Has your company undertaken any other green initiatives?

21. Are there other voluntary environmental programs that your company partakes in?

22. Does your company participate in other voluntary energy programs?

Interview Guide: Non-Participating Businesses in the BOMA Toronto CDM Program

1. What is the position/title at your company?

2. How long have you been employed by your company?

3. How many persons are employed at your company?

4. What service do you provide for your customers/consumers?

5. Is your company in close contact with its consumer base?

6. Is it true your company did not participate in the BOMA Toronto Conservation and Demand Management Program?

7. What was the primary reason why your company didn't participate?

8. Were there any other reasons why your company decided not to join?

9. Does your company participate in other voluntary energy programs?

10. How much influence do consumers and stakeholders have in your company's environmental performance?

11. Do you feel your senior management places importance on your company's environmental performance?

12. Do you feel senior management feels a moral responsibility to protect the environment?

13. Do you feel that improvements in the environmental performance will improve your company's long term financial performance?

14. How has current environmental standards affected your company's competitive position both in Canada and abroad?

15. Is there a Research and Development (R&D) department in your company that pertains to environmental issues?

16. How important do you expect environmental issues, in general, will be to your company in the next 5 years compared to today? Would it be meaningful to your clients? Shareholders?

17. Does your company train its employees to more effectively identify potential environmental problems or to encourage proactive environmental behaviour?

18. Has your company undertaken any other green initiatives?

19. Are there other voluntary environmental programs that your company partakes in?

Interview Guide: Industry Experts

Program Design

1. What do you focus on when designing incentive programs?

2. What are the chief challenges you encounter when designing a program?

3. How do participants locate energy incentive programs, or do programs come seeking them?

4. What proportion of the business population do you capture that participates in these programs?

5. What do you think drives them to join? What deters them from joining?

6. How has your experience been in trying to promote energy incentive programs to businesses, especially in the commercial sector?

7. In your mind, what factors encourage the most participation from companies/buildings?

8. In energy programs, how important is it to include incentives within the program? Do you feel financial incentives are the primary motivator for company participation?

9. Given that there are incentives, why do you think there's reluctance in businesses joining these programs? Why do you think there are not more businesses trying to take advantage of it?

10. In your experience, how do you get people to focus on other areas of energy conservation beyond lighting?

Energy Programs and Behavioural Change

11. Do you feel that incentive programs have helped companies change their behaviour towards energy consumption?

12. In your opinion, have you seen an improvement in the rates of program participation in Ontario in the last 5 years? How do you feel Toronto fares with other Canadian cities in regards to reduction in energy consumption from businesses?

Program Implementation

13. How do you find the medium between offering enough incentive to encourage participation and enforcing program rules to run the program effectively?

14. For businesses/companies that do decide to participate in incentive programs, what complaints do you most frequently hear from? How do you try to solve these?

15. Do you know how the communication unfolds at the ground level between the program administers and the participants? Are you aware or have you heard of any problems that may exist at the ground level? Are there any reports?

16. Was the subsidy/incentive that is set aside for companies used effectively? If it wasn't used effectively what do you do with the remainder?

Appendix D: Frequency Tables from Survey Results

Table 6: Please indicate how important the following reason(s) were for your company's participation in the BOMA Toronto Conservation and Demand Management Program.

Influence	**Value Frequency**						
Level of importance from 1=very unimportant to 7=very important	**1 VU**	**2 NI**	**3 SNI**	**4 IN**	**5 SI**	**6 IM**	**7 VI**
a. Financial incentives/sufficient return on investment	0	0	0	1	1	13	67
b. Public relations	2	6	0	9	22	20	23
c. Corporate policy, culture and awareness	2	2	0	6	13	22	37
d. More flexible regulation standards	2	6	1	13	15	19	26
e. Environmental improvement	0	0	0	3	10	17	52
f. None	9	10	1	23	0	2	37

Total answered: 82

Table 7: Satisfaction of CDM Program

		Absolute Frequency	**Relative Frequency***
Q13. How would you rate your satisfaction with the Conservation and Demand Management Program?	Very Satisfied = 7	36	43.9%
	Satisfied = 6	28	34.2%
	Somewhat Satisfied = 7	13	15.8%
	Indifferent = 4	0	0
	Somewhat dissatisfied =3	1	1.2%
	Dissatisfied = 2	2	2.44%
	Very Dissatisfied = 1	2	2.44%
	Sum	**82**	**100%**
	Not answered	0	-

Total answered: 82

*adjusted

Question 14; Participants: Please indicate how important the following challenges were for your company's decision to join the BOMA Toronto Conservation and Demand Management program.

Level of importance from 1=very unimportant to 7=very important	**1 VU**	**2 NI**	**3 SNI**	**4 IN**	**5 SI**	**6 IM**	**7 VI**
a. Lack of information, knowledge or communication	0	15	0	9	12	18	28
b. Lack of available new and improved energy technology	1	15	2	13	7	16	28
c. Lack of skills or personnel	0	8	6	13	11	13	31
d. High cost of equipment	0	4	3	7	13	17	38
e. Lack of financing	4	15	4	4	11	7	37
f. Regulatory and Policy barriers	3	13	2	14	8	12	30
g. None	7	9	2	25	0	0	39

Total answered: 82

Question 14; Non-participants: Please indicate how important the following challenges were for your company's decision to not join the BOMA Toronto Conservation and Demand Management program.

Level of importance from 1=very unimportant to 7=very important	**1 VU**	**2 NI**	**3 SNI**	**4 IN**	**5 SI**	**6 IM**	**7 VI**
a. Lack of information, knowledge or communication	1	4	1	2	2	6	8
b. Lack of available new and improved energy technology	1	3	0	6	5	0	9
c. Lack of skills or personnel	1	7	1	1	1	5	8
d. High cost of equipment	1	0	1	3	4	5	10
e. Lack of financing	1	2	0	5	6	2	8
f. Regulatory and Policy barriers	2	3	0	6	4	1	8
None	1	0	0	10	0	0	13

Total answered: 24

Responses to Q.21: Importance of the following factors on company's environmental decisions; participants

Level of importance from 1=very unimportant to 7=very important	**1 VU**	**2 NI**	**3 SNI**	**4 IN**	**5 SI**	**6 IM**	**7 VI**
a. Your company's customers	0	2	0	4	5	15	56
b. Your company's suppliers	0	6	1	13	12	13	37
c. Your company's shareholders	2	4	0	7	7	10	52
d. Your company's employees	1	2	0	4	12	16	47
e. Cost of Controls	0	26	1	4	9	15	51
f. Efficiency Gains	0	0	0	0	2	14	66
g. Government Regulations	1	1	1	7	14	9	49
h. Competitive Pressures	0	1	1	9	21	18	32
i. Managerial Pressures	2	4	1	10	18	18	29
j. Environmental Organizations	1	5	2	16	19	10	29
k. Research and Development	2	6	2	20	14	13	25
l. Neighbourhood/ Community	1	3	3	14	17	11	33
m. Other lobby groups (church, political groups, etc.)	4	14	5	23	9	3	24

Total answered: 82

Responses to Q.21: Importance of the following factors on company's environmental decisions; non-participants

Level of importance from 1=very unimportant to 7=very important	**1 VU**	**2 NI**	**3 SNI**	**4 IN**	**5 SI**	**6 IM**	**7 VI**
a. Your company's customers	1	0	1	0	1	5	16
b. Your company's suppliers	0	3	1	4	3	2	11
c. Your company's shareholders	0	1	1	3	0	2	17
d. Your company's employees	0	1	0	3	1	4	15
e. Cost of Controls	0	1	1	0	2	7	13
f. Efficiency Gains	0	1	0	0	1	3	19
g. Government Regulations	0	0	1	1	5	1	16
h. Competitive Pressures	0	0	2	4	3	4	11
i. Managerial Pressures	0	3	1	4	2	5	9
j. Environmental Organizations	0	2	1	4	5	4	8
k. Research and Development	0	2	0	6	2	3	8
l. Neighbourhood/ Community	0	0	0	4	4	3	13
m. Other lobby groups (church, political groups, etc.)	0	5	1	7	2	2	7

Total answered: 24

Responses to Q.22: Rating the importance participants feel senior management places on their:

Level of importance from 1=very unimportant to 7=very important	**1 VU**	**2 NI**	**3 SNI**	**4 IN**	**5 SI**	**6 IM**	**7 VI**
a. Moral responsibility to protect the environment	0	1	0	1	8	18	54
b. Support in protecting the environment if costs will be incurred	0	1	2	0	12	18	49
c. Belief that their consumers and stakeholders care about the environmental impact of your company's products	0	0	0	3	11	18	50
d. Belief that improvements in environmental performance will improve your company's long term financial performance	1	0	0	3	5	22	51
e. Recognition of its company's environmental risks to customers/suppliers/partners	0	2	0	5	7	16	52

Responses to Q.22: Rating the importance non-participants feel senior management places on their:

Level of importance from 1=very unimportant to 7=very important	**1 VU**	**2 NI**	**3 SNI**	**4 IN**	**5 SI**	**6 IM**	**7 VI**
a. Moral responsibility to protect the environment	0	0	0	1	3	6	14
b. Support in protecting the environment if costs will be incurred	0	0	0	1	6	3	14
c. Belief that their consumers and stakeholders care about the environmental impact of your company's products	0	0	0	1	4	6	13
d. Belief that improvements in environmental performance will improve your company's long term financial performance	0	0	0	3	4	1	16
e. Recognition of its company's environmental	0	0	1	3	1	1	18

risks to customers/suppliers/partners							

Question 25: Importance of environmental issues in the next 5 years compared to today

		Participant		Non Participant	
		Absolute Frequency	**Relative Frequency***	**Absolute Frequency**	**Relative Frequency***
Q25. How important do you expect environmental issues, in general, will be to your company in the next 5 years compared to today?	Very Important	38	46.3%	12	52.2%
	Important	34	41.3%	8	34.8%
	Somewhat Important	8	9.8%	1	4.4%
	Indifferent	1	1.2%	2	8.7%
	Somewhat Unimportant	1	1.2%	0	0
	Unimportant	0	0	0	0
	Very Unimportant	0	0	0	0
	Sum	**82**	**100%**	**23**	**100%**
	Not Answered	0	-	1	-

Total answered: 105; *adjusted

Question 29: Has your company undertaken any other green initiatives?

Green initiatives	**Participants**	**Non Participants**
LEED	8	1
many	5	2
Waste recycling	14	4
Water recycling	4	-
Process waste reduction	5	2
sustainable seafood, local proteins and produce	1	-
Reduce water consumption	3	1
Natural Gas	2	1
KWH reduction, monitoring and conservation controls	4	-
Reduce paper use for copier	2	1
Energy efficient vehicles	1	-
green energy purchasing and renewable energy	6	1
FSC	2	1
energy teams	2	1
volunteering in the community	1	-
Idling car enforcement	1	1
blue box participation,	1	-
BOMA BESt	2	1
landfill reduction etc	1	-
Pollution prevention	3	-
Overall sustainability strategy	1	-

Improved insulation in buildings	1	-
lighting	3	4
Energy efficient equipment 1. Central chiller, electric motors and HVAC	7	4
4-Green Keys	-	1
Energy and waste audits	-	1
CDM	-	1

Question 30: Are there other voluntary environmental programs that your company partakes in?

Green initiatives	**Participants**	**Non Participants**
Race to reduce	1	1
LEED	5	1
Partners in Project green	2	1
BOMA BESt	2	-
Internal recycling	2	3
Green Keys	-	1
ISO	1	-
Waste reduction	1	1
Enwave Deep Lake Water Cooling	1	1
Emission reduction	1	-
Eco Office and Eco Schools	-	1
Many	2	1
same as q.29	2	1
FSC	2	-
virtualization studies	1	-
reduce manufacturing waste,	1	-
Earth Hour	2	-
CIPEC	1	-
Nature Conservancy of Canada	1	-
Energy Audits	1	-
Carbon Disclosure Project	1	-
Realpac,	1	-
Not sure	1	-
commuter travel	3	-
Capturing rainwater for gardening.	1	-
EBOM.	1	-
reduced water consuming toilets + faucets	1	-
Habitat for Humanity	1	-

Question 31: Does your company participate in other voluntary energy programs?

	Participants	Non Participants
Many	3	-
Unsure	1	-
FIT- solar program	1	1
Same as 29 and 30	1	1

Save Ontario	1	-
Race to reduce –Greening Toronto initiative	3	-
Save Ontario,	1	-
Energy Star,	1	-
NRCAN	1	-
DR3,	1	-
CHP,	1	-
Gas savings	2	-
Voluntary Demand Management	1	-
Demand Response,	1	-
partners in project green	1	-
CIPEC	1	-
Canadian Industrial Program for Conservation	1	-
20 by '15 Challenge	1	-
REALpac, GGT	1	-
Waste audits from Waste Management	1	-
Hydro incentives	3	1
Earth Hour	-	2
BIP	-	1
OPA - ISO 50001 pilot	-	1
Energy efficient equipment • HVAC • roof • lights • boilers • compartment fans • energy audits	2 7 1 3 1 1 1	- 1 - 2 - - -

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Glossary

ASHRAE: The American Society of Heating, Refrigerating, and Air-Conditioning Engineers

BAPs: Board-Approved CDM Programs

BBP-EB: Better Buildings Partnership - Existing Buildings

BESt: Building Environmental Standards

BIP: Business Incentive Program

BOMA: Building Owners and Managers Association

CDM: Conservation and Demand Management

DR: Demand Response

ECAP: Energy Conservation Assessment Program

EMSs: Environmental Management Systems

EPA: Environmental Protection Agency

EPR: Extended Producer Responsibility

ERIP: Electricity Retrofit Incentives Program

FIT program: Feed-in-tariff program

GDP: Gross Domestic Product

GEGEA: Green Energy and Green Economy Act, 2009

GWh: Gigawatt hour

HVAC: Heating, Ventilation, and Air Conditioning

IPSP: Integrated Power System Plan

ISO: International Organization for Standardization

kW: Kilowatt

kWh: Kilowatt hour

LDCs: Local Distribution Companies

LED: Light-emitting diode

LEED: Leadership in Energy and Environmental Design

MW: Megawatt

OEB: Ontario Energy Board

OPA: Ontario Power Authority

PJ: Petajoule

R&D: Research and Development

TIP: Tenant Incentive Program

TWh: Terawatt hour

VEPs: Voluntary Environmental Programs

WDA: Waste Diversion Act