Adapting the Energy-Camp Renewable Energy Program to the Conservation Authority Campground Context

by

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ABSTRACT

ADAPTING THE ENERGY-CAMP RENEWABLE ENERGY PROGRAM TO THE CONSERVATION AUTHORITY CAMPGROUND CONTEXT

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The evolution of campground experiences associated with small-scale camping (tents), to those accommodating larger, fully equipped recreational vehicles, motor homes etc. is challenging the Conservation Ontario’s (CO) mandate and the Conservation Authorities (CA) camping industry. This research explores obstacles and opportunities to adopt available “green” techniques and programs into the CAs camping industry. Using the case study of the Energy-Camp model in Austria as a precedent, a semi-structured questionnaire was designed in order to collect data concerning Ontario's CAs camping trends, and its current status. It was determined that renewable energy programs such as those incorporated within the Energy-Camp support CO’s “Strategic Direction Report,” help sustain a character of a small-scale camping by “greening” their current offers and allow new learning opportunities, and opens the possibility for a new tourism group. Potentially useful new outdoor activities incorporating innovative approaches for environmental stewardship contribute to user experiences and reinforce CO’s mandates.
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Chapter 1 Introduction

Public campgrounds in Canada are popular tourist destinations for vacationers (Jobs, Tourism and Skills Training - Province of British Columbia, 2008; 2013 American Camper Report, 2013). Visitors base their choices on campground locations, services, and facilities present at a site (Eagles, 2013; Hammitt, 1998). Conservation Authority (CA) large-scale camping in Ontario, similar to the provincial, national and private sector, pursues common trends and invests in the expansion of campsites for comfortable accommodations (Brooker, 2013; Jobs, Tourism and Skills Training - Province of British Columbia, 2008; Eagles, 2013). A higher number of serviced sites, the popularity of RVs and subsequent customer demands has resulted in increased electricity use and CO$_2$ emissions that if not managed properly negatively impact the environment.

Problem Statement

For the purpose of this thesis it is important to distinguish small-scale and large-scale camping. Regardless of the scale, camping is a nature-based recreation and definitions for small-scale and large-scale camping could be as follows. Small-scale camping is specified as a nature-based recreational activity with the use of impromptu or dedicated campsites for tenting which is characterized by low-impact on the environment (energy and water use, waste deposition). Small-scale camping lacks the capacity, serviced sites and infrastructure to compete on the same level
with large campgrounds and it is not yet known if their demand will grow in the same direction. In contrast, large-scale camping is understood as a nature-based camping which requires developed accommodation infrastructure and is associated with intensive exploitation of environmental and/or natural resources. Its trend towards accommodating high-energy demand RVs can shatter the potential for nature appreciation by providing amenities that are typical to urban environment households such as washers, air conditioning, TVs, fireplaces, inside toilets etc.

Currently, camping has become more focused on accommodating RV use and less on small-scale, nature focused camping, which challenges the mandates of Conservation Authorities. There is a lack of new infrastructure and innovation, no accurate numbers of visits, problems with funding allocation and not enough emphasis on environmental education and public health (Hanna, Clark, & Sclocombe, 2008; Thompson & Joseph, 2011; Baldin, 2004). In efforts to address these issues, CAs can help to encourage community collaboration and to re-think local businesses for future growth.

Mandates of Conservation Authorities in Ontario emphasize a “Green Economy” approach in which new products related to green infrastructure are utilized to benefit the environment, communities and stakeholders (MacEachern, 2013). Typically, the mission of Conservation Ontario is to serve as an “umbrella organization” for CAs to become involved in the holistic approach of protecting natural resources within provincial jurisdiction (Conservation Ontario, 2012a). Emphasis is placed on protecting watersheds and their integral ecological system, linking people to green spaces,
encouraging biodiversity, educating the public about environmental issues, and preventing depletion of natural resources. (Conservation Ontario: Nature Champions, 2011c).

To address increasing energy demands in camping, many of which are currently generated by the popularity of RV use, renewable energy sources can become an important consideration when designing and renovating campgrounds. Addressing energy needs, among other environmental oriented programming, could be integrated in order to enhance campground operation and use. It may also aid the targeting of new market opportunities such as campers involved with ecotourism. Properly utilized elements in regards to location on the landscape can effectively contribute to the conservation of energy while maximizing campground use in a sustainable manner.

This thesis explores opportunities and challenges to integrate a renewable energy program as adapted from a 'green camp' model (Energy-Camp, Austria), into Ontario's Conservation Authorities' campgrounds. This model could also provide visitors and local communities with experiences that strengthen nature appreciation and fulfill the mandate of the CAs. The findings presented in this thesis will provide facility designers, such as landscape architects, campground operators and managers, with a resource that describes how renewable technologies related to green infrastructure can create a strategy for rural areas in supporting and promoting CA mandates and potentially strengthening demand for camping at their
campgrounds.

Research Questions

The following questions guided this exploratory study:

- Which aspects of the renewable energy program of the Energy-Camp model can be adapted to support CA mandates?
- What opportunities/challenges exist for integrating a renewable energy program into CAs campgrounds?
- Can a renewable energy program increase user demand within a CA campground?

Goals and Objectives

The goal is to explore if a renewable energy program such as that found in the Energy-Camp can support small-scale camping in Ontario's Conservation Authorities' mandate.

There are several objectives:

1. To explore the Energy-Camp renewable energy program;
2. To establish the definition and current camping market in CAs;
3. To identify adaptability variables for selected Energy-Camp programing in accordance with CA camping;
4. To define green infrastructure in the form of a renewable energy program and its relation to CA campgrounds;
5. To investigate current opportunities and challenges related to Conservation Authority camping;

6. To explore aspects of increasing participation rates and growing the activity;

7. To identify differences and similarities between the Energy-Camp and Conservation Authority campgrounds; and

8. To identify areas of future research related to renewable energy in CA camping industry.

**Thesis Organization**

This thesis is organized into six chapters. The first chapter includes an introduction to the topic followed by a problem statement and research questions. The second chapter describes the literature review relevant to the study. Chapter Three addresses the research process, and describes interview and questionnaire methods. Chapter Four reveals the results and analysis. Chapter Five discusses what this information means for the profession of landscape architecture. Chapter Six concludes the thesis and outlines areas for future research.
Chapter 2 Literature Review

The literature review explored the current status of tourism in relation to growing environmental concern, the role of governments and their policy on green economy, connection between green infrastructure and renewable energy, application of renewable energy techniques in a new attraction in the CA camping context, and camping trends with respect to associated with high energy demands, environmental awareness and outdoor recreation. As technology is advancing and tourists become interested in new trends, the aim was to understand how the landscapes that support recreational activities are impacted. Green Economy and Green Infrastructure initiatives in Canada were explored, as well as the potential to shift to more sustainable behaviour through outdoor recreation, particularly camping.

Tourism: and Environmental Concern

Tourism is one of the largest industries in the world and it has been a fast growing phenomenon in the international market. It has been predicted that a 3.3% increase in tourism beginning from 2010 will continue each year until 2030 (UNWTO, 2013). This increase is due in part to the development of new technologies and infrastructure that have presented more opportunities and increased mobility for travel. In addition, new tourism offers provide a wide variety of recreational activities and comfortable accommodations for tourists (UNWTO, 2013).

The growing tourism industry has benefited international trade through the creation of jobs; however hosting countries and local communities have been
experiencing growing environmental concern as the industry expands and develops in these regions (Mehmetoglu, 2010). To address environmental issues, each type of tourism activity or service that involves the consumption of natural resources should be managed in a sustainable way. The policy orientated towards “sustainable tourism” was first expressed by the United Nations World Tourism Organization in the action plan titled: “Agenda 21 for the Travel & Tourism Industry: Towards Environmentally Sustainable Development” in which such priority areas such as “energy efficiency, conservation and management” and “design for sustainability” were emphasized (UNEP, 2003). This and many other initiatives associated with climate change envision concepts towards increasing sustainable development.

**Tourism and Green Economy in the Canadian Context**

Canada has ranked 8th in terms of competitiveness in the Travel & Tourism Competitiveness Report out of 140 countries according to the report released in April of 2013 (Blanke, 2013). Contributing to this ranking is Canada’s air transportation infrastructure and the natural, human and cultural resources that attract both international and domestic tourists. However, according to the same report the country’s position has fallen in environmental sustainability from 35th to 41st since 2011. In addition, Canada is in 24th place for environmental regulations, and 128th for CO₂ emissions per capita, which would present challenges at different governmental levels (Blanke, 2013). Results of this report show that economical and environmental concerns are not only limited to the tourism and transportation industry, but also factors such as extraction of natural resources, energy production and climate
change that are the main drivers for environment and economy in Canada (Environment Canada, 2012).

In order to maintain prosperity and to address issues concerning economic and environmental challenges, federal, provincial and local governments and private organizations in Canada recently started to adopt principles for “greening” the economy (University of Ottawa. Sustainable Prosperity, 2012; Thompson & Joseph, 2011; Green Analytics, 2013). The “green economy” in Canada is focused on “increasing resource productivity; identifying ecological limits; improving competitiveness and innovation; and, increasing resilience to climate change and other shocks” (University of Ottawa. Sustainable Prosperity, 2012, p. 6). The term “green economy” itself does not have one widely used definition, however; it shares common goals to reach sustainable development, and operate within well-understood ecological limits. As these initiatives develop, “the green economy approach is an attempt to unite under one banner a broad suite of economic instruments relevant to sustainable development” (UN Secretary-General, 2010, p. 2).

The Role of Governments in the Green Economy

Government agencies in Canada often share common goals; however, their areas of expertise and focus are usually different. Actions and activities that are within the role of Conservation Authorities differ from municipal, provincial and federal governments and world organizations (University of Ottawa. Sustainable Prosperity, 2012). For example, at the provincial level, Ontario’s “Green Energy Act”
(GEA) is one of the first projects currently using “green economy” amendments in Canada. The goal of the GEA is to replace coal-fired power energy generation with the use of renewable energy technologies (wind, solar, bioenergy, hydroelectricity etc.), to promote conservation of energy, and to create new jobs with a clean energy focus (Scott, 2013).

In addition, there are programs that aim to contribute to the greening of the economy within CAs and GEA and include solar and wind renewable energy technologies incorporated in CAs like Central Lake Ontario Conservation Authority, Mattagami Region Authority and North Bay Mattawa Conservation Authority. Other outcomes for “greening” of the economy include watershed report cards, habitat compensation scheme, fleet management, the Quite Conservation initiative, naturalization program, CA forest management initiative etc., which aim to minimize the use of fossil fuel and enhance the strength of natural systems (Green Analytics, 2013). Examples of municipal programs include the Partnerships for Climate Change Protection, the Green Municipal Fund, and the ecoEnergy program (Thompson & Joseph, 2011). Such initiatives help identify leaders in emerging renewable energy markets, and participation and coordination with all levels contributes to a strong position in the international market (Thompson & Joseph, 2011).

Federal and provincial governments, in comparison to smaller agencies, struggle to communicate and promote initiatives associated with the “green economy.” More emphasis is placed on the role of municipalities and Conservation Authorities, as they better understand characteristics of their area (Green Analytics,
2013). The Federation of Canadian Municipalities (FCM) is empowered by their rights in decision-making, and currently plays a key role in the implementation of green economy initiatives in Canada. Its policy is oriented towards environmental health, business growth and job creation. Efforts to “act locally, make value for money and work with market where the market can work” (Thompson & Joseph, 2011, p. 5) help deliver new products of the “green economy” to the cities and people.

Programs such as the Green Municipal Fund (GMF) allow collaboration between governments and municipalities to better target infrastructure investments that profit environment and economy (Federation of Canadian Municipalities, 2014). In addition, agencies such as Conservation Authorities strive to make re-adjustments in their programs and activities to improve coordination with other government and private sectors (Green Analytics, 2013). Working together, but with an independent focus, creates new avenues for innovation in each sector.

**The Role of Conservation Authorities**

The Guelph Conference held in 1941, in which recommendations were made to address depletion of natural resources, initiated the conservation movement in Ontario (Krause, Smith, Veale, & Murray, 2001). The innovators behind this movement had reached the realization that efforts needed to be coordinated in order to address the negative impacts of land use activities (Bullock & Watelet, 2006). The exploitation of resources and lost productivity of the previous 100 years were a focus
of these recommendations in order to establish management practices that balance both private and public interests (Krause, Smith, Veale, & Murray, 2001).

In the recent years Conservation Ontario (CO) and Conservation Authorities (CAs) have undertaken actions in building resilient and healthy environments while benefitting the local economy. The “Strategic Directions Report” for the years 2011-2015 is an essential document that confirms the role of CAs, and their goals and objectives, and envisions CAs as the “partner of choice for managing and adapting to climate change and growing the green economy” (Conservation Ontario, 2011a, p. 2). Initially, the role of CAs was important for enhancing environmental protection, watershed management and the ability to pass this information to the local communities (Sheikheldin, Krantzberg, & Schaefer, 2010). However, with a new focus on the “green economy,” their decision-making ability has increased, and so have the opportunities.

Green Economy and Renewable Energy: The Connection

Conservation Authorities support proponents of the renewable energy sector within the agenda of Ontario’s “Green Energy Act” (Conservation Ontario, 2012b). Development within regulatory jurisdictions of CAs may need to be approved by CAs, as they are entitled under Section 28 of the “Conservation Authority Act,” to provide holistic solutions to watershed and adjacent land by management, control and protection (Service Ontario, 2011). These initiatives are approved by the Minister of Natural Resources in order to promote healthy land, stewardship and prevent future implications such as flood, erosion or pollution (Conservation Ontario,
Renewable energy programs such as those associated with the “Green Energy Act” aim to increase energy use from renewable sources, promote energy conservation, improve watershed management, and serve Conservation Authorities to save on operation (Conservation Ontario, 2013).

Renewable energy sources for electricity production today include biomass, solar electricity, geothermal electricity, hydropower, ocean electricity and wind turbines (UNEPa, 2011). Widely adopted and emphasized in Ontario are solar electricity, wind turbines and hydro electricity that once utilized, in built form, can address, enhance and engage community knowledge on electricity production and raise energy literacy (Government Ontario, 2013).

In the approach for connecting people to the green economy and energy generation from renewable energy sources example of “green infrastructure” (GI) plays a significant role. GI can be defined as a linkage of natural space, undisturbed by development, that sustains and connects the needs of social and ecological systems (Schäffler & Swilling, 2013). GI is associated with land conservation and land development that serves the needs of people and nature through multifunctional unbuilt areas, that support either urban or rural environments (Vandermeulena, et al. 2011). In GI, biological diversity can be used to gauge ecosystem health, and protecting and providing ecological networks can prevent habitat loss or fragmentation (Tzoulas, et. al, 2007). Street trees, gardens, parks, riparian areas, ridges, and urban agricultural spaces can also be considered examples of green infrastructure (Schäffler & Swilling, 2013). Amongst many benefits, Its purpose is important to storm water management practices because
plant material aids in the infiltration and evaporation of rainfall charge (Spatari, Yu, & Montalto, 2011). Green infrastructure programs and projects play an important role in the enhancement of air quality, the reduction of runoff, and the enrichment of native biodiversity (Felson, Oldfield, & Bradford, 2013).

Bill Clinton’s Council on Sustainable Development first articulated the idea of green infrastructure in the 1990’s (William A. L., 2012). GI was described “as a network of open spaces, watersheds, woodlands, wildlife habitat parks and other natural areas that provide many vital services that sustain life and enrich quality of life” (PCSD, 1999). The features of the concept can also be traced back to Frederick Law Olmsted’s design and written work, and the evolution of both landscape architecture and urban planning (Eisenman, 2013). Olmsted emphasized the connection between ecosystem health and human well-being in planning and design, and the 19th century parks movement began to address the damaging effects of urban development (Eisenman, 2013). The greenways movement, which began in the early 20th century, then aimed to connect urban and rural areas while making green spaces more accessible to people (William A. L., 2012).

In the past ten years, green infrastructure initiatives have intensified within several disciplines and have become a focus for politicians seeking to protect and establish versatile and sustainable landscapes (Roe & Mell, 2013). Infrastructure can address issues at the global scale through practices at the local level (Boris, 2012). Green infrastructure has communities and human well-being as a central focus to landscape planning, but the effect that land use has on ecological systems and wildlife habitat and movement is rooted in this perspective (Roe & Mell, 2013).
GI networks need to work in unison and be viewed and valued similarly to built infrastructure (Schäffler & Swilling, 2013). In order for this to occur, governments must focus on education and innovation in order to inform developers and the public, and help planners shape policy for design and management (Hostetler, Allen, & Meurk, 2011).

The approaches and ideas connected to green infrastructure have become a focus for local governments because of the potential to decrease risk of flooding and protect environmental integrity, for example (Kousky, Olmstead, Walls, & Macauley, 2013). Conservation and restoration efforts require innovative thinking at multiple scales and policy formation should occur in a way that does not limit the effectiveness of green infrastructure strategies (Roe & Mell, 2013).

Green infrastructure is perceived as an investment into the green spaces that accommodate land use (rural, urban, conservation area). GI can now become a universal application for planning departments and landscape architects to create intergovernmental coordination and cooperation where there is an opportunity for its implementation. In Ontario, GI policy was officially launched in 2010 and consists of many organizations, businesses and agencies such as Conservation Authorities, or the Ontario Association of Landscape Architects (Cirillo & Podolsky, 2012).

Both "the Green Economy" and "Green Infrastructure" carry vision for the future. The former creates new avenues for the latter to be implemented, for the benefit of people and the environment. GI can be perceived as a tool used and promoted by policy makers where "greening" the economy can play a major role. Green infrastructure can be used to help reach the goals of the green economy. GI
creates community engagement that helps better target and prioritize future
development, protect the environment, spark enthusiasm and encourage
participation. Its presence can encourage its further use, and performance can be
crucial for people to believe in its effectiveness.

The Challenges

Greening of the economy needs to be communicated in a way that helps to
gain public support. Studies show that even if people have understanding and
interest in the benefits of a new “green” product, they may not have complete
confidence in its effectiveness (Makower, 2009). Partnering with local stakeholders
in public education efforts and programs that promote renewable energies and
address environmental issues are important, but not always successful. While the
green economy is currently broadly discussed, a poll by IBM in 2007 found that two-
thirds of energy consumers expressed willingness to purchase “green” products, but
only a quarter followed through and invested in renewable energies (Makower,
2009). Despite the fact that the data is relatively old in the technology market, there
are other limitations such as lack of direct relationship between users and the
product, and the disconnection from nature that technology can create. These topics
will be discussed further in the subsequent chapters.
Application of Renewable Energy as a New Attraction

Parks consisting of wilderness spaces are focused on low-impact development that protects ecological integrity. However, development due to growing populations, urban sprawl or the expanding tourism industry can have negative effects. In order to maintain the balance between population growth and the health of the environment, Parks Canada argues that there is a need for new nature-based outdoor recreation activities focused on infrastructure that would “appeal to more urbanized Canadians who are not interested in ‘traditional’ park activities.” (CPAWS, 2012, pg.9). New products respond to current market trends and allow for abundance of choice. There is not only demand for new infrastructure at the national and provincial levels, but also locally (Thompson & Joseph, 2011). The green economy involves innovative ideas that require innovative solutions and new products to strengthen environmental, social and economical frameworks. Priority should be given to ecological health, low-impact GI, renewable energy and maintaining natural heritage in regulated conservation areas.

Camp and Camping

Thomas Hiram Holding was the originator and tailor of what is now known as modern camping (Holding, 1908). He was a founder and a pioneer of organizations such as the “Bicycle Touring Club,” the “Cycle Camping Club,” known as Camping and Caravanning Club, and the “National Camping Club.” Holding is an author of “Camper’s Handbook” and “Cycle and Camp” where he shared his ideas with fellow club members and camping enthusiasts (Parsons & Rose, 2009). Holding is one of
the precursors for introducing leisure and outdoor recreation to camping, in opposition to the mandatory military service camp (Carter, 2007). He was also an innovator of camping equipment such as the tent and was the first one to use it. Holding supported sport activities such as canoeing, cycling, hiking etc. (Holding, 1908; Parsons & Rose, 2009). Today camping is a popular outdoor attraction amongst all ages and groups from youth summer camps to families with children, adults and the elderly. Merriam Webster Dictionary defines camp as:

“a place usually away from urban areas where tents or simple buildings (such as cabins) are erected for shelter or for temporary residence (as for laborers, prisoners, or vacationers)”; also “a place usually in the country for recreation or instruction often during the summer (..); also: a program offering access to recreational or educational facilities for a limited period of time.”

Camping as an activity in the context of this study means “to live temporarily in a camp or outdoors —often used with out” (Merriam-Webster’s online dictionary, 2014).

Camping in Canada originated due to regionalization and political subdivision for cottages in the 1950s’ and 1960s’ in provinces like Ontario (Campbell, 2010). During that time, scholars focused on the knowledge provided by camping supervisors, and led to conceptualizing of the benefits that nature-based leisure and recreation have impact on both children and adults development. At the same time there was a growing public concern on “nature-deficit disorder” affected by urbanization, industrialization and technology advancement (Campbell, 2010; Makower, 2009; Louv, 2006). Such challenge has led to theories of the educational and psychological value of wilderness land and green spaces for the benefit of people. Today it is widely recognized that camping as a nature-base activity can
provide escape from an urban environment, has a positive effect on human’s health, strengthens nature appreciation and enhances environmental awareness (Louv, 2006).

As wilderness land became more political, creation of carefully arranged and “controlled” nature spaces such as campgrounds became popular (Campbell, 2010). The safety and character of campgrounds depends on the natural setting. Campgrounds were mostly tent-based before the evolution of RV industry. According to the American Camping Research, tent camping is still the most popular type of shelter 81%, leaving RV on the second spot with only 16% of users (2013 American Camper Report, 2013). Currently, there are many campgrounds operating tents or/and RVs, and are found to be either private or public.

In Canada, private campgrounds are focused on high density and provide campsites for the highest number of RV users (Eagles, 2013). They are the most equipped campgrounds that offer a vast number of amenities and services that support contemporary trends in comfortable camping. In contrast, public campgrounds generally provide visitors with more environmental related attributes and outdoor activities (Shrestha, Stein, & Clark, 2006; Cottrell & Graefe, 1992).

Currently the most premiere of wilderness campgrounds in Canada are federal and provincial parks (Eagles, 2013). In Ontario, Conservation Authorities collectively offer the second largest number of campsites in the province after federal and provincial parks (Baldin, 2004). There are approximately 8400 campsites within 19 conservation authorities that operate 42 campgrounds in Ontario (Ontario Conservation Areas, 2012; Eagles, 2013; Green Analytics, 2013). Public, federal
and provincial campgrounds are located near natural and/or significant features where visitors are given several opportunities to explore the uniqueness of natural attributes present within the site. Camping at these sites might involve a temporary stay or a more permanent visit. Large parks consist of sites with unique nature experiences that are attractive to many visitors, but smaller campgrounds are not always able to offer the same opportunities. Similarly to the large public sites, Conservation Area campgrounds engage in environmental protection efforts; however, further investigation into new comprehensive opportunities is needed to present visitors with new types of play, along with traditional activities such as fishing, hiking, climbing etc. As local authorities are working towards a green economy, investments into environmentally oriented infrastructure that potentially attracts user attention and participation are becoming a step towards future growth.

Conservation Area camping in Ontario plays an important role in exposing Conservation Areas to visitors who are looking for nature experiences (Baldin, 2004). Ecotourism is predicted to be the fastest growing tourism sector in the world, along with nature-based recreation activities such as camping (Benedict & McMahon, 2006). In addition, “The World Tourism Organization predicted that international travelers would remain interested in visiting and maintaining environmentally sound destinations” (Benedict & McMahon, 2006, p. 73). Several studies completed in the United States have focused on attractive natural settings as a major motivation for travelling to a destination (Benedict & McMahon, 2006). Camping presents an ideal nature-based experience and has the potential to provide a significant boost for the local economy.
Campground Trends and Environmental Impact

The modern evolution of the camping industry has been noted to lean towards more comfortable accommodations like cabin homes and recreational vehicles (Brooker, 2013). Development of new trends in camping has created new challenges for campground operators that diminish nature appreciation. Today, smaller-scale campgrounds in Conservation Authorities struggle to meet market demands without sacrificing environmental integrity. More equipped campgrounds do not help the environment but support visitors’ needs.

The wilderness aspects of camping remain as an attractive element of the campground experience; however, changing trends direct attention away from nature appreciation (Thayer, 1994). The motivation for camping experiences in order to escape one's daily routine is becoming more focused on the facilities and amenities offered at a campground rather than its landscape or natural features. Abundant technological advancements and their popularity among society in general and travel groups specifically, can create a disconnection between the user and the natural environment. Therefore, the industry will seek to adjust to the new trends and balance this with nature appreciation and environmental health (Thayer, 1994).

Recent campground services are typically associated with power hook-ups, the access to potable water, showers, toilets, a sanitary dump, and the presence of shelters, among other amenities. All of the services affect the comfort of tourists visiting the campground but at the same time they can impact the environment. Depending on the camping activity, the importance (or a specific ranking) of those services may differ in relation to their specificity in environmental impacts. For
example, in tent camping the fuel or power (electricity) consumption (and associated green house gas emissions) is relatively low and often its use is not necessary for activities such as forms of bivouacking, scouting, wilderness camping, backcountry survival camping, etc. But electricity is required to supply other services such as campgrounds at sport events or open-air festivals. In contrast, camping activities associated with the use of powered vacationer’s cottages or recreational vehicles require a relatively high amount of energy, mostly in the form of electricity. In North America, there is an increase in RV users looking for comfort while travelling long distances.

All public and private campgrounds provide facilities and amenities that support visitors to a certain extent. Tents, cars and RV groups are the most common when visiting campgrounds. According to the American Outdoor Foundation’s “Outdoor Recreation Participation Topline Report 2014” in the last three years there has been a tendency for a slight contradictory in RV use by ages (6+) is -2.6% (Outdoor Participation, 2014) and an increase in backpacking overnights by 4.0%; however, from the environmental point of view, backpackers and tents are more desirable. RVs are a growing industry by a compounded annual rate of 1.9% from 1980s (Curtin, 2011), and are factors contributing to environmental degradation.

In order for campgrounds to stay competitive in the market, they need to meet current trends in technology (Jobs, Tourism and Skills Training, 2008). For example, in the frequent upgrade of electrical power 'hook-ups' due to increasing demands associated with increased equipment found in newer RVs. Currently, industry demand has grown from 15 to 30 and 50 amp service to supply electricity needs and
correspondingly:

- 15 amp hook-up service requires 1800 watts (15 amps x 120 volts)
- 30 amp hook-up service requires 3600 watts (30 amps x 120 volts)
- 50 amp hook-up service requires 12000 watts (50 amps x 240 volts)

Competitiveness motivates campground operators to act and invest in infrastructure. The private sector is the highest in rank to provide energy needs associated with electric hook-ups for campgrounds in Canada (Praxis Group, 2009).

From the design point of view, camping activities and services that involve the consumption of natural resources should be managed towards increasing sustainability. These priorities may be considered in the design of sustainable solutions for campground energy consumption, as well the promotion of energy generation from renewable sources. Such approaches will contribute to efficiency of energy use and reduction of GHG emissions at campsites. In addition, contributions could be made to public awareness of the relationship between energy use and the environment, which is currently highly encouraged by the mandate of Conservation Authorities (Green Energy Act 2009).

**The Rise of RV Use**

The interest and sales of RVs is currently increasing in North America due to the comfort trend in the tourism industry and the economy, and the appeal they have to a wide variety of demographics (Jobs, Tourism and Skills Training, 2008). Approximately 20 million people in the United States chose to travel in RVs in 2007 (Home on the Road, 2012). Interest has continued to increase and in Canada, the province of Alberta represents one of the highest rates of RV ownership, with 18%
households having purchased a recreational vehicle (Praxis Group, 2009). In British Columbia, it is estimated that the number of RV users will rise 30% from 2008 to 2015 (Jobs, Tourism and Skills Training, 2008).

The Recreational Vehicle Industry Association's “RV Consumer Demographic Profile” states the average age of RV users was shown to be 48 in 2011 and the average income is $62,000 (RVIA, 2014). RVs are also appealing to many families, and 41% had children age 18 and under, indicating that current RV owners are more likely to have children. “The presence of children as stakeholders in the RV vacation market is an important educational marker for efforts to modify energy use behaviour at RV parks” (Harvard University Extension School, 2010, p. 6). Camping tourists spend a significant amount of money on rental vehicles and they produce the highest levels of CO₂ emissions (Becken & Simmons, 2008).

People are attracted to this type of camping because with current advancements in technology, RV’s can offer services such as cable, wireless Internet, air-conditioning, and other luxuries that require 30-50 amp services from a campground, instead of typical 15 amp services (Jobs, Tourism and Skills Training, 2008). With these comforts and conveniences attracting attention away from natural environments, tourists should be aware of the impact they can have on their surroundings. Tourists direct their energy demands to their destination of choice and their accommodations and activities can contribute to degrading environmental change (Gössling, 2002).

All of these new products that the tourism industry offers may be attractive to campers, but they depend upon the features of the landscapes they encourage people to visit (Kuo & Chen, 2009).
The Issue of Energy Use in Current Camping Trends

In North American countries, the growing population of RV users, who are more likely to choose campgrounds with convenient hook-ups on-site, has resulted in a concern for an energy use (Harvard University: Extension School, 2010; Praxis Group, 2009). In addition, the growing demand for high quality accommodation when camping in vacation cottages or bungalows is influential on energy use. Internationally, more than 80 different categories of accommodation, including RV and holiday cottage camping have been reported (UNWTO, 2008).

Energy use, and the resulting CO$_2$ emissions, varies substantially in the different types of campground services. The average energy use by a tourist per night in campgrounds is estimated to be 50 mega joules (MJ), and in holiday villages it amounts to 90 MJ, which is roughly 38% and 69% of the average energy used for hotel accommodation. The relevant greenhouse gas emission per tourist was estimated to be 7.9 kg CO$_2$ in camping and 14.3 kg CO$_2$ in holiday villages (Gössling, 2002). The research on energy use and CO$_2$ emissions from campground services is currently very scarce. Becken and Simmons (2008), for New Zealand conditions, discuss sustainable tourism saying that it “delivers maximum benefit – economic, social, cultural, and environmental – with as few unwanted effects as possible.” The authors conclude by stating that camping tourists produce the most CO$_2$ emissions followed by the backpackers and coach tourists (Becken & Simmons, 2008). In Taiwan, the average energy use in campgrounds and GHG emissions was estimated to be 25 MJ and 1364 g GHG per night, respectively, which is 1/6 of energy use and GHG emission in hotel accommodations (Kuo & Chen, 2009).
Encouraging Environmental Awareness Through Outdoor Recreation

Global environmental concern has been increasing, but a shift in behaviour that reduces negative impacts of human land use has not yet occurred to a significant extent (Halfpenny, 2010). A major challenge for policy makers is achieving widespread use of renewable energy technologies (Devine-Wright, 2011). In addition, people are not always willing to change their lifestyle, and current trends are not generally contributing to a more sustainable society (Hedlund-de Witt, de Boer, & Boersema, 2014). Awareness of environmental issues, reduced energy use and sustainable methods of travel could be encouraged if people are more connected to their natural surroundings (Scannell & Gifford, 2010).

More exposure to nature tends to be experienced in places that people choose to visit outside of the landscapes connected to their daily lives (Kamitsis & Francis, 2013). Tourist destinations and outdoor recreation programs could potentially be used to encourage attitudes of care that include more environmentally aware choices. Studies have indicated that these attitudes can be inspired by ecological experiences (Witt & Duerden, 2010). A consideration for education is involving people in activities that allow them to apply knowledge of environmental education later in lives (Witt & Duerden, 2010). Beyond simply providing people with information, education that involves people in pro-environmental actions can help people to understand how to integrate sustainable behaviour into their lifestyle (Halfpenny, 2010).
Summary

Currently campground operators seek to minimize negative impact caused by tourists’ related activities by providing information boards, a regular maintenance schedule and the careful monitoring of carrying capacity (Hammitt, 1998). Combined with renewable energies, these ideas could constitute a comprehensive way of thinking for the future. There is limited information in the literature regarding the growing energy demand around campground areas. However, increased consumption of energy is known due to the growing demand for RVs, vacation homes and cottages. Concerns related to climate change trigger exploration into how alternative design and careful planning can have a positive influence on natural systems. The research methods that were used to explore this gap in knowledge are described in the following chapter.
Chapter 3 Research Methods

Overview

The research process has been designed to aid in the collection of information related to the design, opportunities, challenges and potential for renewable energy programs suited to small campgrounds operated by Conservation Authorities in Ontario. In order to achieve this, an energy-efficient campsite model in Austria, the Energy-Camp has been selected as a case study of a renewable energy program to provide inspiration for the research questions and provide essential comparison to this study. In addition, a face-to-face interview with Academics from the BOKU University in Vienna gave a thorough understanding of vital points to cradle of Energy-Camp in the context of sustainable tourism. In the exploration of the possibility for adapting concepts of the Energy-Camp to Conservation Authority campgrounds, an online survey was conducted to establish the potential context for implementing renewable energy programs into CA camping. An online survey and description of the CA mandate supported by the literature review constitutes the governmental framework policy that supports “greening” of the camping program in CAs. Understanding the Austrian model is an important example for Conservation Authority camping, as it provides characteristics of a new type of tourism that contributes to the holistic strategic planning for the growth of sustainable tourism in the “energy regions” found in Austria. The procedures followed in this Research Method Chapter are as shown in Figure 1 (Methodological Outline), an outline of the procedures used in this chapter
Case Study Approach

A case study approach is a widely known method used in the research, education, and practice of landscape architecture, business, medicine, engineering etc. (Francis, 2001). It helps to describe, explore and explain (Yin, 2012) complex
correlations between human and biophysical settings that are evident in landscape architecture. Moreover, it is appropriate for this study as it provides information regarding future practice and policy research (Francis, 2001). A case study method is used in this exploratory study to gain a thorough understanding of the Energy-Camp renewable program.

The case study of the Austrian model was selected to provide an example of the Energy-Camp to inform CAs camping industry about the potential and possibilities presented in the unique Energy Camp’s renewable energy program offer. Energy Camp renewable energy program as a part of the “energy regions” context supports the holistic strategic plan in Austria. Using an exploratory research strategy, a case study was chosen to learn the process for creating the Energy-Camp as a new topic in the context of Conservation Authority campgrounds (Deming & Swaffield, 2011). It provides potential for practical solutions to address growing energy demand in CAs camping.

The Energy-Camp case study research was conducted using key-informant interviews, and information provided in articles and online databases such as concept design of the Energy-Camp and program elements. Key informant interviews are common to landscape architecture research as the characteristics of the discipline focus on the consideration of many factors affecting studied phenomenon (Deming & Swaffield, 2011).
Site Selection

- The Energy-Camp was chosen based on its existing criteria characteristics:
- It is a pioneer model for hands-on learning opportunities about renewable energies used in the camping industry;
- The Energy-Camp is located in the “energy regions” in Austria, which is recognized for its world leading sustainable tourism and tourism infrastructure;
- Energy-Camp’s renewable energy program is incorporated to benefit the local economy and the environment and supports a holistic strategy plan for the regional development growth, which depends on the tourism industry; and
- It is a demonstration site that shows learning opportunities for expert-oriented and experience-oriented visitors.

The Energy-Camp: BOKU – University of Natural Resources and Life Sciences, Vienna, Austria

“The World Economic Forum Travel & Tourism Competitiveness Report” ranks Austria as first place for tourism infrastructure and third overall in economical rankings (World Economic Forum, 2013), which creates a strong foundation for its world-renowned sustainable tourism. The Austrian model of niche tourism, called the Energy-Camp, was used as a case study for this research. The Energy-Camp is a form of new tourism that originated at the University of Natural Resources and Applied Life Sciences in Vienna, Austria as a part of the European Union-funded Central Europe Project “Listen to the Voice of Village” (Jiricka, Salak, & Pröbstl,
The first test phase of the Energy-Camp was completed in 2011. Energy-Camps are currently located in two “energy regions” in two different federal states in Austria: Lower Austria, in the Pielachtal Valley, and the Burgenland with a natural park in Weinidylle located in the city of Güssing.

“Energy regions” are defined as the “effective development of dispersed renewable energy in combination with conventional energy in Regions” (Central Europe Programme, 2012). They are funded by the Central Europe Programme initiative and co-financed with the European Regional Development Fund project. Further “energy regions” are a practice of ”Innovative and sustainable solutions for sustainable energy supply and efficiency” (Jiricka, Salak, & Pröbstl, 2010, p. 57), that aims to develop a guiding vision for the future sustainable development of the region’s energy and its implementation (Spätha & Rohracherb, 2010). Political districts, administrative jurisdictions such as regions and municipalities within countries with German-speaking areas (Austria, Germany, Switzerland, the northern part of Italy), Poland, the Czech Republic, and Slovenia are currently partners in the Central Europe Project (Central Europe Programme, 2012).

In Austria, the city of Güssing is of particular importance as an example for this exploratory study because of its advancement in the development of renewable energy technology and energy self-sufficiency. The city of Güssing was then a driver for creating “energy regions” and showed challenges that were overcome during this process. Austria is a part of the European Union and within the European Regional Development Fund (ERDF) certain issues began to be addressed in the early 1990’s, including energy use (Seidler, Burghart, & Burghart, 2011). It is now
considered energy autarkic because it strives to depend only on the renewable energy sources available within that region (Muller, Stampfli, Dold, & Hammer, 2011). Sustainability in this sense involves addressing current needs without impeding the ability of future generations to do the same (Solomon & Krishna, 2011).

Güssing is a city of 3,800 inhabitants in the Burgenland State, situated in southeast Austria. Of its land, 46% consists of forested areas and 40% is used for agricultural purposes. Historically, the city lacked transportation connections and the economy was negatively affected by the reliance on fossil fuels. Conditions took a positive turn in 1990, however, when municipal authorities began to focus on the use of solely renewable energy sources – with an emphasis on wood. These efforts were important in recovering from economic decline (Muller, Stampfli, Dold, & Hammer, 2011).

The process began with an analysis of the energy demand, the sources used, and the availability of renewable resources in the region (Koch, Hacker, Aichernig, Hofbauer, Rauscher, & Fercher, 2006). As this process demonstrates, local authorities at the community level are highly influential in helping energy autarky initiatives gain momentum. Local energy production has the potential to positively affect the economy and the health of the environment, and benefits can include lower risk of increase in energy prices, protection of cultural landscapes, and decreased distances for the transportation of energy resources (Schmidt, et al., 2012).
Key Informant Interviews

Data collection in the form of researcher self-administered, face-to-face key informant interviews were conducted to examine the origins of the Energy-Camp. Sampling was based on four academics involved in developing the concept of the Energy-Camp found on the “energytourism” website (energytourism, 2011). Two weeks before the interview, an example of the semi-structured questionnaire was emailed to the respondents so that they could become familiar with the questions (Babbie, 2010). Participants were asked only to share general, public knowledge and they had the option not to answer any of the questions.

The interviews were conducted at the University of Natural Resources and Applied Life Sciences in Austria on December 18th, 2013, where the respondents work. Two out of four academics were recorded with the “Quicktime” voice recording application while notes were taken. Important observations from the interview were also noted (Babbie, 2010). The number of interviewed participants was subject to their availability. This kind of key-informant interview was the most appropriate due to the small sampling size and the uncertainty regarding the form of communication between the researcher and respondents. The semi-structured, open-ended questions were posed to encourage further explanation of the topic (Andres, 2002). The interview was approximately two-hours long and revealed details regarding the Energy-Camp and its origins. The interview was conducted in English, which is considered a second language for both respondents, and the interviewer. Following the recording, the data was reviewed three times and further notes were required in
order to gain a thorough understanding (Babbie, 2010). See Appendix A for the interview script.

**Conservation Areas: The Connection**

In the City of Güssing, local actors in tourism, regional development, politics, education and the private sector were influential in the implementation of the Energy-Camp idea. The concept is centered on education through exercise and interactive activities that were inspired by the efforts of the region. The goal is to help people understand what it means to be energy self-sufficient through facilities such as biogas plants, solar panels, and photovoltaic systems. The importance of creativity is emphasized in addressing current issues while considering future generations, and their mission is to reach a common vision for 2050 (energycamp, 2011).

CAEs in Ontario fulfil a similar regional role; The data on CA camping was collected based on the information gathered from the survey respondents. Other documentation such as web documents, websites and reports also added information to the industry characteristics of CA camping. Determinants, target groups, motivations, demographics, behaviour, differences, location and scale, attractions, energy-efficient solutions, camping infrastructure, funding, challenges and opportunities were examined for the potential of adopting a renewable energy program in a CA camping context.
Online Survey

On March 26, 2014 the University of Guelph’s Research Ethics Board approved the structured-questionnaire in the survey research activity, which was then transcribed to the online format for the benefits of its distribution (Blair, Czaja, & Blair, 2014). In the last two decades, the use of online surveys has grown in popularity due to the development of the Internet and World Wide Web applications that are relatively easy to use for self-administered questionnaires (Andres, 2002; Babbie, 2010). Structured-questionnaires are a common method used in survey research (Babbie, 2010). Online surveys, over other forms of questionnaires, are noted to have a fast return rate of responses and can be administered at a relatively low cost (Blair, Czaja, & Blair, 2014). Creating a survey using the online method allows for a wide variety of options in layout design, which helps to format a clear and user-friendly virtual environment to encourage more responses (de Leeuw, Hox, & Dillman, 2008). Also, the Conservation Ontario Communication Manager made a suggestion for using an online survey method, in particular Survey Monkey, (SurveyMonkey, 1999) to simplify distribution and receiving responses. Disadvantages of online surveys may include lack of access to the internet, no control over returns, a higher ratio of “do not know” responses and the higher-level education of the participant might mean a stronger bias (Blair, Czaja, & Blair, 2014). Crucial to the survey is also limiting bias and amount of errors, which translates to consistency and adequacy of the questions in order to achieve the study objective (Blair, Czaja, & Blair, 2014)
Structure of the Survey

A structured-questionnaire used in the form of an online survey was used to gather information about campgrounds in Conservation Areas in Ontario, Canada. The survey asked 27 questions of each respondent, divided into three categories related to the goals of the study. Within the first section, the questions asked for the experience of the respondent and general information about the campgrounds in conservation areas of the campground. The next section was focused on the facilities and services provided at the campground(s) and information about the groups of visitors. Finally, questions about the potential for application of green infrastructure approaches, and respondents’ attitude towards these ideas concluded the survey. See Appendix B for the survey format.

The type of questions used in the survey varied. Some questions were structured as closed-ended, multiple choice, dichotomous, followed by an open-ended question “other,” allowing participants to express themselves if the answer was not satisfying (Babbie, 2010). Matrix questions used a Lickert scale that rated topics from very low to very high. Other questions included open-ended responses and check boxes. Due to the Internet format, questions were clear and concise with simple/moderate complexity (Blair, Czaja, & Blair, 2014).

Delivery of the Survey

On April 9, 2014 the survey was forwarded to 54 members from 36 Conservation Authorities (CAs) by the Conservation Ontario (CO) Communication Manager, who contacted the respondents on a regular basis during the data
collection process. A follow-up e-mail was then sent a week after, on April 17, 2014 which resulted in a total of 3 responses. Due to challenges associated with controlling the response rate, typical to online surveys, and in addition, to help reaches a higher response rate, reminders were sent via e-mail and phone calls.

The researcher phoned Conservation Authorities and followed up with an e-mail linking the participant to the survey. When a receptionist answered a phone call, the researcher asked to speak with a manager, operator, Conservation Authority official or a person with an extensive knowledge related to camping information. The contact list during this phase was based on the Camping Activity webpage on the Conservation Area website (Ontario Conservation Areas, 2012) which helped to select conservation areas that accommodate camping. Respondents were encouraged to participate in the study and were offered the opportunity to read the completed thesis.

Data Collection

The survey targeted campground managers, operators and CA officials. These focused groups were selected as respondents because they have extensive knowledge related to the facilities, organization, operation, and management of Conservation Area campgrounds. This means that they could have access to information related to Conservation Authority mandates, the visitors that campgrounds attract and the current green infrastructure and renewable energy programs initiatives. The purpose of this process was to gain insight into how
campgrounds are evolving, and the potential opportunities and constraints that would arise in the application of findings from the Energy-Camp model.

The combined effort of the Communication Manager and phone calls by the researcher resulted in a total of 10 responses. The respondents who completed the survey were from 9 different Conservation Authorities, and 11 Conservation Areas were discussed in the answers they provided. The Conservation Area website lists 42 Conservation Areas with campgrounds; however, the responses indicated that there could be more since two campgrounds that were described were not listed on the website. Baldin (2004, p.1) suggests that there are “21 Conservation Authorities that operate 61 campgrounds.” The results of the data collection process and how the data were analyzed are described in the subsequent chapter.
Chapter 4 Results and Analysis

This chapter presents the results of the data collection process. Findings from the interviews conducted at BOKU University in Vienna, Austria are first outlined, followed by descriptions of the information obtained from the survey completed by managers and operators from Conservation Authorities. The results were analyzed in order to determine the elements of the Energy-Camp concept that could be applied to small-scale camping in the CA context.

Energy-Camp: The Potential for Adaptation

The purpose of the key informant interviews was to explore aspects of the Energy-Camp in Austrian settings, and its potential for adaptation in other locations. When asked about the profile and transferability of the concept to other non-energy oriented regions, the academics who created the Energy-Camp identified the importance of key stakeholders including governments, communities, private and public sectors and geographical factors related to landscape location. No clear definition currently exists for the Energy-Camp, but central to the initiative is the use of “energy regions,” and tourism strategies that link local communities in Austria. As described by the academics, the Energy-Camp is a demonstration site suited to the context of an energy-oriented theme.

Further information revealed that the Energy-Camp is a seasonal installation incorporating active participation and use of equipment to experiment and supply energy demand during camping stays through solar panels, solar cookers, solar
backpacks, solar showers and wind turbines. Renewable energy technologies supply needs for electronic devices such as e-bikes, lighting and computers, and limit electric waste with batteries. Participating camping groups set up camping gear and renewable energy technology equipment on their own, to derive and supply electricity needs. For example, one group of the campers positioned solar cookers and photovoltaic panels towards the South where sun exposure is the highest to learn that this position harnesses maximum efficiency of solar energy. After the camping trip was over, the same group had to disassemble the camping infrastructure. According to the respondents, learning to assemble and disassemble the equipment themselves was a crucial element of the stay, as the participants learned how to be self-sufficient with the renewable energy technologies. There are presently facilities used for storing Energy-Camp equipment during the off-season time.

There are two types of tourism groups that are a target for energy tourism: “expert-oriented tourism” and “experience-oriented tourism.” The former applies to special focus groups or individuals whose purpose for visiting is mostly based on knowledge-based experience for their communities, enterprises or businesses. The latter is more leisure and recreation-based where practical knowledge is based on creative types of activities using renewable infrastructure that targets groups and families (Jiricka, Salak, & Pröbstl, 2010).

The location of the Energy-Camp dictates the characteristics and attractions, which are influenced by the features of the landscape (natural landmarks). For example, as one respondent described, “in one region there are 5 locations of the
Energy-Camp with different site characteristics such as lakes or climbing sites." The Energy-Camp is divided into programming specifically designed for school groups, vacationers and adults, that differ in the activity theme and the time spent. For example, one group may be more focused on natural aspects of the location while another is more focused on technology. A one-day stay is usually an introduction to the renewable energy products that the Energy-Camp uses. Over-night stays ranging from 3-5 days are more focused on the utilization of these products through hands-on education. Participants from either group are actively involved in the process of setting up the Energy-Camp, use of e-products for supplying their own energy and education about regional landscapes and culture (energycamp, 2011). Roles and responsibilities are divided into smaller groups and the knowledge that each individual group acquires during a day from their activity is shared with the rest of the group. Several guides are trained to assist with the specific activities and lead discussions on natural issues. " Also present are activities associated with typical campgrounds such as climbing walls, trails, or playing within nature.

Water on the campgrounds is provided by nearby tap water or portable cans. Hot water is extracted from solar showers and cookers that incorporate solar panels and energy oriented devices are supplied with the energy gathered at the site. The specific locations are within natural parks and within the energy region and rural areas. In addition, it should be noted that the size of the campsite in relation to the energy region which is relatively small, and it is just one component of the tourist attraction. Visitor groups include school groups of ages 20 and higher, vacationers
age 12 and higher, companies and organizations and experts interested in renewable energies.

The interviews revealed that without financial support from public, private and community groups, projects such as this would struggle to exist. Once the financial issues during the implementation of the model were solved, several issues arose with the planning process that required new staff that were not available. The Energy-Camp then needed a marketing strategy that would help to promote the idea. Issues at the campsite are mostly associated with energy and water-hookups, quality of water from the solar-showers, hygiene, and lack of alternative accommodations other than tents. These issues are of significance because they are influential to the decisions of potential visitors. Lastly, the technology is constantly changing and that requires more funding to continuously retrofit the campsites. The cost of the stay varies on the duration, and for one day is € 59,-/Person, three days € 189,-/Person, five days € 299,-/Person. The revenue from the Energy-Camp fees pays for maintenance, guides and training.

**Conservation Area Camping: Connecting Concepts**

For the CA survey, managers, operators and officials provided 80% of the responses, and site supervisors, superintendents, and administrative assistants supplied the remainder. The level of experience that the respondents represented was between 7 and 35 years, with the exception of one respondent who had 1 year of experience. Much of the insight provided by the participants was therefore based on extensive experience.
Conservation Areas are measured in hundreds of hectares; however, actual camping sites (based on the responses received) vary from 1-10 hectares. It was more accurate to distinguish the size by number of campsites within a Conservation Area and the responses varied from 30 in Baxter and Foley Mountain to 380 in Byng Island. Table 1 lists the type of campgrounds in Conservation Areas by size.

<table>
<thead>
<tr>
<th>Conservation Area</th>
<th>Type of campground</th>
<th>Capacity for number of people in group camping</th>
<th>Number of Group camping</th>
<th>Un-serviced sites</th>
<th>Un-serviced sites</th>
<th>Serviced sites</th>
<th>Total</th>
<th>Visitors per season (appr.)</th>
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</thead>
<tbody>
<tr>
<td>Byng Island</td>
<td>Small</td>
<td>246</td>
<td>134</td>
<td>380</td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>Holiday Beach</td>
<td>Small</td>
<td>171</td>
<td>171</td>
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<td></td>
</tr>
<tr>
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<tr>
<td>Valens</td>
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<td>125</td>
<td>225</td>
<td></td>
<td></td>
<td>200,000</td>
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<td></td>
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<tr>
<td>Pinehurst Lake</td>
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<td>166</td>
<td>237</td>
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<tr>
<td>Chippawa Creek</td>
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<td>100</td>
<td>150</td>
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</tr>
<tr>
<td>Beavermead</td>
<td>Small</td>
<td>46</td>
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<td>98</td>
<td></td>
<td></td>
<td></td>
<td>12,858</td>
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<td></td>
<td></td>
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<td>4</td>
<td>52</td>
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<td></td>
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</tr>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Ken Reid</td>
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</tr>
<tr>
<td>Baxter</td>
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<td>30</td>
<td>4</td>
<td></td>
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</tr>
<tr>
<td>Foley Mountain</td>
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</tr>
</tbody>
</table>

Table 1. The structure of campgrounds in Conservation Areas according to survey data.

**Large and Small Scale Camping**

The results of the survey indicate trends that distinguish large-scale and small-scale camping. According to respondents, currently, many large-scale campgrounds are expanding their RV capacity, as the high number of visits this form
of camping attracts helps to generate revenue. These sites also have more facilities, amenities and services that appeal to communities and draw tourists’ attention. In addition, results show that the large-scale camping brand is more developed, which allows for opportunities to actively remain competitive in the market. In contrast, small-scale campgrounds lack the capacity, serviced sites, funding and infrastructure to compete on the same level with large-scale campgrounds. Moreover, small-scale campgrounds are not always interested in pursue of the large-scale camping trends.

**Addressing Trends in Technology**

All large-scale camping respondents were interested in accommodating new trends in camping such as large RV sites and more comfortable accommodations. The survey suggests that most of the large-scale campgrounds already use renewable energy sources. In contrast small-scale campgrounds use it less (but also needs less energy). However, both models are looking to expand on renewable energy technology use in the near future.

In the example of Chippawa Creek, a camping model that is growing towards a large-scale, it has become less focused on the use of tents, with current attention being drawn to the formation of business plans that address visitor demand for RVs and other comforts such as WiFi and tent campers with electricity. Warsaw Caves is an example of developed small-scale camping with a high focus on tents, renewable technology and promotion of the environment.
On the other hand, Warsaw Caves shows a high demand of tent use and has no current plans to increase the RV capacity. Recently, due to the site and infrastructure improvements, RV visits increased. Despite the higher RV visits, there are no present electric hook ups at the site and campsites remain un-serviced. An array of renewable energy technologies and energy efficiency techniques are used to support energy demand and visitor comfort such as hot water, LED lights, and even building design for passive sunlight. The steady growth of visits is supported by diverse and unique recreational experiences that provide special tourism attractions for visitors. Therefore, Chippawa Creek and Warsaw Caves demonstrate different patterns for creating convenience and comfort accommodation.

**Motivations and Attractions for Campsite Visitors**

Results show that motivations for camping are gaining access to nature, and active and passive recreation. Supporting these motivations are site amenities, location of the campground, facilities, services, special natural features, and landforms. Surveys have confirmed that most common attractions while camping are fishing, hiking trails, sight-seeing and natural landscape (Lang Research Inc., 2006; 2013 American Camper Report, 2013) that draw visitors and provide revenue for the CA (Benedict & McMahon, 2006). The majority of the respondents noted the presence of un-serviced campsites, fireplaces, toilets and potable water at their campgrounds. The larger sites were more equipped and had showers and serviced sites with 15 and 30 Amp hook-ups, and emphasis on public amenities such as swimming pools and playgrounds. The presence of 45 Amp hook-ups, yurts and
garbage collection were rather rare. Figure 4-1 illustrates the campground infrastructure at the respondents’ campsites.

![Percentage of responses graph]

**Conservation Area Campground Visitors**

Respondents to the survey identified that camping in conservation areas mainly targets families and groups (schools, scouts, friends, guiding, churches, corporations etc.). Other visitors that were listed are retirees, special events and young groups. The survey revealed that 40% of the campgrounds possess statistics related to the number of visitors, and these respondents were from campgrounds.
that accommodate RVs. While the majority of CA campgrounds did not provide data on seasonal visitations, those who did respond reported tourists per season varying from 200,000 in Byng Island and Valens to 9,000 in Warsaw Caves (see table 1. p. 42).

An increase of visits was noted by 53% of the respondents; however, independent variables such as weather and dependent variables such as marketing were limitations. While unpredictable weather conditions can be a problem for some visitors, 46% of respondents still noted a demand in tent site camping; however, the revenue return is much less compared to serviced sites. The responses indicated that the RV sector is growing in popularity due to infrastructure improvements, comfort, and the fact that RV users are far less affected by weather. The necessary capacity and facilities to accommodate RVs is already available at large-scale camping sites, and the majority of responses claim their goal is to increase the capacity for RVs. However, acquiring enough funding is a significant challenge for those campgrounds seeking to expand.

When asked about developing a new type of tourism program in camping within the CA mandate for ‘green economy’ to attract more visits, 49% of the respondents felt that there would be a public interest. Campground representatives resisted the idea of creating a new form but were open to increasing their facilities or using nature settings to attract new visitors. Figure 4-2 below illustrates responses related to the opportunity for a new form of tourism.
Campground Characteristics

The second section of the survey was focused on the characteristics of Conservation Area campgrounds. The results indicate that there is an insignificant increase in the number of tent sites and a significant increase in the demand for RVs. In this part of the survey, 60% of the respondents pointed out that there were no problems within their campground; however, there are several challenges that CA campgrounds are facing.

One respondent expressed that it is challenging to stay “competitive and offer the customer a good product.” This is because funding for development, advertising, and operating costs is difficult to generate due to cutbacks and the political landscape. There is also an increase in urbanization and the demand for serviced sites. Current infrastructure is aging and there is a lack of funding that could be used...
to upgrade campgrounds based on the demands for power and large trailers. Additionally, lack of trained staff for group camping, misuse of site, garbage and noise were also noted to problems. As indicated in the survey, respondents are interested to hear of new products and niches that fit into the context of the CAs' funding programs and camping. Furthermore, it has been noticed that there is an increase in public interest in the environment.

**Green Infrastructure: Renewable Energy Sources in Conservation Area Campgrounds**

The purpose of the last part of the survey was to understand attitudes towards green infrastructure (GI), and in particular, renewable energy technologies. All the respondents agreed that GI should be embedded into the CO mandate and that it already is; however, some of the comments suggest that these initiatives should be led by examples of good practices and that funding is a problem.

Currently, 40% of the campgrounds apply renewable energy sources to different degree and 100% are interested in incorporating renewable energy on the campgrounds. Types of renewable energy sources that currently exist in Conservation Areas include geothermal energy use, green roofs and physical structures incorporating passive energy-conservation design. Renewable energies also are used to heat water, power solar lighting and store energy in batteries for power conservation or use for LEDs and fans. These positive responses indicate that there is a growing interest in developing GI and the use of renewable resources. To help educate the public, respondents suggested that demonstration sites incorporating high quality renewable energy systems could communicate the
benefits to communities. The responses suggested that these initiatives would need to be funded by external sources, because developments of such undertakings are cost sensitive and the community would not be interested in investing their own money.

In addition, 70% of the respondents felt that the current camping market would not change due to the use of GI, and renewable energy sources. One respondent said, “… green infrastructure is nice, but it won’t influence camping. However, there may be a niche market for the development of, say, solar electric arrays at remote locations to provide improved amenities.” Another noted that the camping market is most focused on “creating high quality experiences.”

**Energy Consumption**

When asked about energy consumption most of the respondents answered either “not applicable” or “unknown.” One person expressed that because of the rural location, their campsite experienced brownouts on hot/peak days and solar generation would help address this issue. Furthermore, the majority of respondents listed electricity as the highest energy demand on the campground, and that RVs and trailers are the biggest consumers. In fact, electrical components (such as RV equipment) are the main reason for high-energy demands due to features such as air conditioning, microwaves, refrigerators etc. Current market trends show that RVs can also facilitate fireplaces, TVs, and washing machines and dryers, which in the household environment are the highest energy consumers. In addition, several
responses listed hot water, workshops, gatehouses, pumps for drinking water and cars coming in and out as contributing factors to energy consumption.

**Heightening Visitation**

According to the respondents, in order to heighten the number of visitations, increasing serviced sites and improving infrastructure would be beneficial. In addition, new opportunities for high quality recreational experiences, promotion of the specific site, new non-organized groups, WiFi, low campsite pricing and the resolution of drainage issues would also help to attract more visitors.

**Comparative Analysis of Two Models of Camping**

The results of the key-informant interviews and online survey have been organized into a comparative analysis format. This table demonstrates elements that were categorized to analyze the results of two models of camping and constitute the basis for research questions for this study (See Appendix C).
Chapter 5 Discussion

Introduction

In order to learn from the Energy-Camp renewable energy program, this study sought to identify important characteristics between the Energy-Camp and CAs. The camping program in Conservation Areas and the Austrian model each have unique characteristics, but similarities were also discovered. Unification of the results were categorized through the comparable analysis table (Appendix C), which helped to extract essential information on large and small-scale camping, and the Energy-Camp. Most of the categories were anticipated due to the goals of this research. The primary focus of the study was to understand what Energy-Camp and CA camping are, and to apply this knowledge to how CA camping can benefit from the Energy-Camp renewable energy program. Results revealed that both camping models and their programs share a nature-based focus; nevertheless, they also show differences to a certain extent. Small-scale camping has more in common with the Energy-Camp, and large-scale camps show a trend towards more comfortable accommodations, with an emphasis on RV, motor homes etc. However, the challenge might be that both models are hard to compare. Several opportunities and challenges were defined in creating the potential of new tourism in a form of the Energy-Camp renewable program in the CA context. Information documented from the literature review and the online survey about motivations, demographics and behaviours do not directly identify major trends towards raising numbers of participants in CA camping, and there is no motivation to attract this new type of
tourism or is not seen yet. In contrast the Energy-Camp renewable program in the context of “energy regions” in Austria has noted an increase in number of visits. Considering this development, the Energy-Camp renewable program has the potential for heightening participation rates in CA campgrounds, especially if a similar program with local community input was implemented in the CA.

**Determinants and Target Group**

Small-scale and large-scale are the two types of camping in CAs. Although the Energy-Camp does not operate with “scale” categorization we can suggest similarities to the small-scale camping discussed further in the subsection “location and size.” Special to the Energy-Camp is the “expert-oriented tourism” target group, the focus of which is placed on available renewable technologies specific to the camping industry and the whole “energy regions.” “Experience-oriented tourism” is another way to understand camping tourism in CAs. Different from all the models is also large-scale camping that targets proponents of comfortable accommodation such as that found in the urban environment.

**Motivations, Demographics, Behaviours**

Motivation for camping is still accessing nature and escaping from the urban environment. Although camping is an all-age group attraction, heightening visitors’ demand requires further effort in developing new programs for groups of children and youth, as they are the biggest driver for the camping industry. General emphasis on nature-based tourism requires more attention on environmental issues, which the
renewable energy programs presented in the Energy-Camp already address. There might be a new group of tourists seeking to explore energy tourism in CAs as several factors and initiatives indicate that this is a future direction for camping growth, in particular in small-scale campgrounds. Encouraging this type of camping to adopt new programs helps define its brand, make it a destination point, provide especially children and youth with richer experience during their stay, and attract new types of visitors. In contrast, the RV industry trend remains unchanged but “greening” the offer of large-scale camping can be a demonstration site open to a larger public.

Program Attractions

Both the Austrian and CA camping models stand as a gateway to nature-based outdoor activities supported by natural landforms (rivers, lakes, mountains, land cover etc.), but much more crucial to the Energy-Camp is the renewable energy program and the context of its location, which is the “energy regions” within Austria. CA camping only utilizes natural landscape attributes for leisure and recreation activities. In contrast, the Energy-Camp, similar to the “energy regions” shares the same purpose of promoting of the renewable energy programs along with hands on learning through physical interaction with the renewable energy equipment in the landscape. Both models, CA camping and the Energy Camp, offer environmental education where children are their primary target groups (camping groups, families with children, RVers with children). In the context of the “energy regions,” it is the “expert-oriented tourism” visitors who are more likely to participate in “do-it-yourself”
experiments and “knowledge transfer” learning initiatives in the Energy-Camp for a short period of time (1-2 days). However, the “experience-oriented tourism group,” whose destination point is an Energy-Camp stay of longer (up to 5 days), experiences much more learning on renewable energy applications. The Energy-Camp offer is advertised through an “energytourism” website. So far, since 2011 with its first pilot project program, up to today, the Energy-Camp program has received positive reviews and a increased number of visits.

Large-scale camping emphasis is placed on supplying larger parks and private campgrounds for leisure and activity infrastructure. CA camping attracts visitors based on landscape features, and its large-scale camping component is more focused on providing facilities, amenities, playgrounds, and swimming pools, mostly for “experience-oriented tourism.” Other forms include nearby cities or national museums that constitute the identity of a given location and the local communities. CA camping, unlike the Energy-Camp, offers all season activity. An important asset in all CA camping is a lot of energy use potential due to its all-season offerings, therefore creating a potential need for a program similar to the Energy Camp. In contrast, attractions of the Energy-Camp renewable energy program are crucial for making it a destination point. From the context of learning from the energy program the perspective of, CA managers, operators and officials’ perspective is crucial to how the energy program can benefit camping in the CA and become the subject for creating a better future.
Location and Size

Although the scale and size of Ontario, its municipalities, Conservation Authorities, and Conservation Areas are hard to compare with Austrian federal states, municipalities and regions, there are some similarities between camping at the Energy-Camp and camping in CAs. The carrying capacity of the small-scale campgrounds in the CAs are similar to the carrying capacity of the Energy Camp, while large-scale camping in the CAs has larger carrying capacity than the Energy Camp. Information about the group size of the Energy-Camp and group size of small-scale camping in the CA is shown in Table 1. The Energy Camp presents us with an approximate number of participants in groups of a minimum of 20 people, while, the examples of small-scale campgrounds in the CA, such as Mt. Foley, has a capacity of 60 people; Baxter, a capacity of 100 people; and Ken Reid, with a group camp area of 1 hectare, has a capacity of 70 people, which all overarch the carrying capacity and size of the Energy-Camp. Results reveal that both CA models (large-scale, small-scale) range in size from 1-10ha and that possibly overarch the size of the Energy-Camp campground for groups of 20 and higher. The Energy-Camp is a seasonal, temporary installation that offers maximum stays of 5 days. There is no sufficient information on what is the maximum group size or if the Energy-Camp hosts many groups of 20 and more in one particular location at the same time. For this reason, as there is no direct comparison between the maximum carrying capacity of the Energy Camp, and the minimum carrying capacity of the small-scale CA campgrounds, no direct comparison can be made between true location and size of the campgrounds. However, the general sizes of CAs' small-scale camping
models are usually bigger than the Energy-Camp and this might be due to more established camping and capacity growth within a permanent location and infrastructure. Moreover, the Energy-Camp is a demonstration site, which potentially can physically fit in the CAs camping. From the adaptation point of view, small-scale camping is more suited to accommodate renewable energy programs and is more similar to the one found in the Energy-Camp.

**Energy-Efficiency Solutions**

While both models present visitors with unique nature-based experiences, the role of renewable technologies is different. The Austrian model is focused on electricity production and an approach for sustainable tourism development where the ‘tourist’ experience is deepened by “do it yourself.” activity. Participants use devices such as portable solar panels, and wind turbines etc. to create the electricity. In contrast, CAs have a wide array of renewable energy installations due to electricity saving goals and high customer demands. The aspect of “do-it-yourself” is crucial to the renewable energy program in the Energy-Camp, but would require sensitive integration into current interpretive-related programming for large-scale camping patrons, whom typically focused on “convenience and comfort” desires and less on “do it yourself” activities.

CAs have an opportunity to re-think their camping industry by “greening” their offer and attracting and/or increasing different groups’ interest. Results from the survey revealed that any application of renewable energy in CA camping was clearly done for the benefit of electricity purposes and we do not know if the renewable
energy infrastructure has a positive or negative effect on viewer’s perception. The energy-Camp renewable program enhances clean electricity production in an unique way which is not known in the CAs yet.

**Funding and Supporting Organization**

The Energy-Camp and CA models are focused on environment, local economic and social benefit, and sustainable development. Ontario’s “Green Energy Act” and the “Green Economy Act,” and the initiatives of the energy region in Austria, show high interest in investing in clean energy. Both present holistic approaches towards the strategy for building a better future but the Austrian regional development is more advanced in the socio-technical configuration found in the example of the Energy-Camp. In other words, renewable energy is more embraced by Austrian society.

Both models show that funding does not come from one direct source and that it is an effort of all local, regional, and national players. Currently, Conservation Authority mandates are in support of innovation and are open to new markets for renewable energy. Providing the example of the Energy-Camp may be helpful to reconfigure some strategies for camping in CA but funding still might be an issue.

**Differences, Similarities, and Special Features**

The camping program in Conservation Areas and within the Austrian model each have unique characteristics, but similarities were also discovered. The Austrian camping model shows interdependency on technology and nature where
participants learn about the benefits of utilizing technology in an environmentally sensitive manner. Its electricity needs are self-sustained at the site, and do not require additional electricity from the grid. Similar in CAs to the Energy Camp is the aspect of nature based-activity; however the exception can be made in large-scale camping, as it tends to disconnect participants from nature by providing the convenience of an urban household. CA camping also is dependent on electricity from the grid despite its current use of renewable energy sources and energy efficiency techniques.

Conservation Authority campgrounds and the Energy-Model show different infrastructure trends. The Energy-Camp is a temporary installation and subject to seasonality, while CA camping can present all-season offerings including winter activities. Canadian camping, especially large-scale camping, has more permanent facilities and amenities to support both tent campers and RV users. The desire for comfort has resulted in higher electricity demands, which leads to higher prices and operation costs – particularly if capacity is extended to accommodate more RVs. The Austrian model is focused on tent camping and energy-efficiency where visiting groups engage in energy production for their own use.

Large-scale camping is looking to private, provincial, and national parks in responding to the RV camping trend. In contrast, Warsaw Caves (small-scale camping) suggests that because CA camping is often mistaken for the Ontario Parks, it suffers to some degree from following big park trends instead of building its own identity. Warsaw Caves is also a good example of how renewable energy sources are integrated into high-demand tent camping and that no need for
expanding RV sites is currently needed. CAs’ camping, utilizing permanent infrastructure, and as an established brand, might be amenable to adopt new forms of tourism. Moreover, the effort for attracting new types of visitors can be easier due to exposition of the new form of tourism to much higher number of visitors found in the large-scale camping.

The Energy-Camp in CAs as a niche market has potential to reach new groups of tourists due to its new offer. Convenience of the “communication age” can help to transfer the information and reach selective individuals who would be interested in this particular form of camping. The information can be easily distributed in mass scale through the World Wide Web tools, and it was already proven to work in the context of Austrian “energy regions” market.

Camping in CAs is an established industry, and the direction in which camping is evolving today (trend) is similar to what is shown by the tourism industry trend. It is the negative impact on the environment that appears to be controversial to CO adopting policies, which aim to minimize environmental impact and preserve local identity, and is crucial to the whole concept of nature-based camping. CA camping will require time to learn from the Energy-Camp and it may focus on the “energy regions” to re-think their own strategy plans.

Small-scale camping is more likely to use the renewable energy program due to its potential to provide new experiences that will enhance its position as a destination point for travelers. In contrast, the renewable energy program in large-scale camping could be ignored, amongst other attractions. Large-scale camping can accommodate large numbers of visitors annually, where demonstration sites
such as the one presented by the Energy-Camp can help to shape stronger environmental awareness.

**Opportunities and Challenges**

The majority of campground representatives doubt that the market will change in CA camping, and preferences are given to addressing the growing popularity in RVs and comfortable accommodation. Growing demands are causing the industry to re-think and readjust in order to provide more equipped and serviced sites, which results in an increase in capacity and environmental degradation. Responses from the survey show that the RV market is more stable due to the interest and demand within CAs, and as a result there is a growing electricity demand.

Results revealed that the biggest challenge amongst all camping is funding. Currently there is a lot of emphasis on the energy sector in Canada to invest in new technologies; however the challenge has been in practical problems such as planning and design, project management, policy, and collaboration and partnership between government and local businesses. Although CA camping struggles for sustainable funding at adequate levels, perhaps building bigger RV sites is not exactly what the CA should be investing their money in. Currently, expenditure demand in CAs is assigned for operations, special projects, source water protection, and Latornell Leadership Awards (Conservation Ontario, 2013). These funds are important to protect and prevent challenges associated to climate change such as depleting natural resources and high fossil fuel consumption.
Aging infrastructure, not only in camping but elsewhere, is another big concern. Much current infrastructure requires retrofitting or replacement. Sometimes it is a business decision as to whether investment will go into either ‘greening’ or ‘greying’ the economy.

Tent camping is also dependent on the weather conditions. Some of the small-scale camping sites do not advertise to the public, which minimizes their chances to grow. Other challenges include family commitments and lack of time to go camping. However, camping is important to children and youth in particular, as they learn from doing and participating in activity and experiments. "In learning, it is said that students retain 10% of what they read, 15% of what they hear, but 85% of what they do" (Conservation Ontario: Nature Champions, 2011c, p. 26). Camping plays an important role in outdoor recreation and there is an opportunity to incorporate new tourism that offers not only benefit to youth but to all the local stakeholders.

Traditional camping activities and new trends are strong influences for potentially building the Conservation Area camping brand. The energy program in Austria presents a new alternative, as a good example of how Conservation Areas can utilize energy saving programs to attract new types of visitors. Building a new brand such as the one of the "energy-tourism" in Austria can take decades and the Energy-Camp may be the first attempt to do so. In order to help establish new programs, funding should be sought from interested stakeholders who may see future investment.
Chapter 6 Conclusion

Summary of Research

The primary research goal was to explore if the Energy-Camp renewable energy program in Austria is applicable to the CA camping context in Ontario, Canada, and to determine the opportunities and challenges for increasing the rate of visits. Information on tourism, the camping industry, renewable energy and governmental initiatives was collected through the literature review. Key-informant interviews and surveys revealed the current status of the Energy-Camp and Conservation Authority (CA) camping that constitute the base for results. As a consequence, information was categorized and analyzed using variables that fit into the context of the research questions and goals. The study revealed that there is generally support from the policy makers and community for new technology, which was then reinforced with the concept of “greening” the CA camping offer. From the literature review and results sections, there emerged a discussion of opportunities and challenges that by comparison have indicated that small-scale camping is the closest in size and characteristics to the Energy-Camp precedent. However, both models, small-scale and large-scale camping, could be incorporated, new programs, but the outcome might be different. Finally, based on the key-informant interviews and data collected on the Energy-Camp, it was established that there is a new tourism group such as “expert-oriented tourism” that together with visitor groups could raise the rate of visits to camping in CA. Limitations and future research were identified.
Adapting to Locale

Government agencies from global to regional levels in Canada are engaged in the process for “greening the economy,” where securing clean energy is one of its focuses. In Ontario, it is mostly evident by a role of provincial strategies such as the (Green Energy Act) and smaller authorities such as municipalities and conservation authorities actively engaged in a “green economy,” whose strength lies in the ability to address local communities' needs. The “green economy” initiative is based on the pursuit towards sustainability. There are many definitions of the “green economy.” However, Conservation Ontario states that the “green economy” “seeks to re-configure businesses and infrastructure to deliver a better return on natural, human, and economic capital, while using fewer resource inputs, reducing waste outputs, and improving social well-being.” This is the most accurate definition for this study.

Similar to the City of Güssing and the “energy regions,” Conservation Ontario (CO) is open to the idea of bringing local stakeholders together in the process for “greening” the economy. CAs play a key role in the transition towards a “green economy” and examples already exist (Green Analytics, 2013). Green Economy initiatives seek opportunities to allocate funds to infrastructure that is assumed to benefit future sustainable growth. This thesis concludes that the Energy-Camp renewable energy program concept applies to CO’s “green economy” initiative, which is mandated in “Strategic Direction Plan” (Conservation Ontario, 2011a, p. 4) Strategy “2.3 Advance and promote innovative technologies, programs and perspectives for the strategic development of the green economy.” The promotion of
innovative technologies that support greening the economy presents opportunities to apply findings from this research. Other strategies that may support the Energy-Camp model include the following, which referenced to the section numbers in the “Strategic Direction”:

- Utilization of technology tools (1.3).
- Enhancing CA’s brand through demonstration sites incorporating renewable energy sources (green infrastructure) to active play and encouraging the connection between people and green spaces (4.3).
- Using partnerships to promote healthy living through programs (such as energy-camp), where all the stakeholders can benefit (4.1).
- Presenting direct connections between technology and the environment, social goals within health, tourism and economic development framework (4.2) (Conservation Ontario, 2011a).

Similarities between Conservation Authorities and the Energy-Camp can also be seen in the CA’s focus on the ways that natural resources should be protected. Furthermore, the Energy-Camp can be understood as green infrastructure program, which would appeal to the local and distant communities, and build a socio-technical bond.

Ontario is a province with abundant possibilities for solar generation of electricity, and invests a lot of money into hydroelectricity and wind turbines to move away from energy extracted from burning fossil fuels. This creates new markets and provides new jobs in the clean energy sector. The camping industry, which is known for its natural benefits and rural tourism, is in fact, an opportunity in which programs
for environmental education with renewable energy sources can play an active role in the promotion of sustainable lifestyles. The Energy-Camp renewable energy program demonstrates how to use technology in an educational manner, without sacrificing enjoyable experiences with nature-based outdoor recreation and present an example of sustainable tourism to CA camping.

**Markets and Trends**

Opportunities for incorporating new types of technologies to support sustainable tourism industries are important investments for governments in providing and securing future growth. The “Energy Act” in Ontario and the “Green Economy” effort, contribute to the creation of clean energy and the shift away from behaviours that deplete natural resources. However, further understanding of this vision is needed in order to establish its success, and this can be accomplished over time and through monitoring. New “green” products need to be tested before being endorsed, as people usually have doubts and prefer to invest in products with proven effects (Makower, 2009).

Large-scale camping in CAs is mostly established and its traditional activities might be hard to replace with new ones; however small-scale camping has a more back-to-nature experience, with no desire to accommodate RVs, and its status as not being as established may hold the most potential for successful renewable energy technologies sites. Small-scale camping with a new Energy Camp program can help building a stronger and more competitive brand with a savvy environmental focus. Although, the small-scale camping scenario contradicts the trend towards the
growth of the RV sector, motor homes, cottages etc., the Energy-Camp in large-scale camping might be not as effective due to popularity of amenities resembling much of those in urban environments. There is a strong potential for CAs to transition to renewable energy program but the interpretation or education program might need to be adjusted to serve the purpose of each individual camping. In comparison to the Energy-Camp, the CA camping advantage might be in existing infrastructure that already uses different forms of renewable energy sources such as solar passive devices that could be integrated into interactive play.

The majority of campground representatives do not see the camping industry changing, but they remain open to suggestions such as those presented in the Energy-Camp renewable energy program. Campground officials, managers, operators and site supervisors view RV users as more desirable due to the profit they help generate, and because there is an increase in booking behaviour for these types of sites. The majority of respondents from larger campground in CAs expressed that RVs will provide a higher number of visits and these sites have become more appealing than more weather-dependent tent users. This means that the market is shifting towards higher energy demands, which is in opposition to what the “Green Energy Act,” energy saving initiatives, the “green economy” and the Energy-Camp advocate.

Overall, Conservation Area camping can learn from the Energy-Camp renewable energy program and incorporate their own interactive demonstration sites for people and present an example of how to “green” the economy by building a stronger socio-technical bond. Moreover, as learned from the research, Energy-
Camp is a component of “energy regions” that support policy of the holistic strategy plan in Austria. Similar idea is the one presented by the COs’ “Direction Strategies Plan” for the future growth within “green economy”; however is not as advanced.

**Opportunities and Challenges**

Realistically, Conservation Areas and the Energy-Camp in Austria address different demands through their goals. The Austrian model is established in the context of a tourism-oriented region and the mandates for innovation and new technologies are conducive to the growth and sustainability of the region. Established plans for creating a sustainable urban realm in the City of Güssing have created a strong example for regional development. Austrian regions have more established branding and sustainable tourism, and these could be informative for CA camping. Both models support results in the report of the World Economical Forum on Tourism Competitiveness. However, as noted by the (World Economic Forum, 2013, p. xix) “Canada has lost some ground in terms of price competitiveness and environmental sustainability and there is a “decline in perception of the enforcement of environmental regulations.” Austria, however, is a leader in tourism infrastructure and demonstrates more success in reaching environmental sustainability based on the example of “energy regions.”

Another challenge that may arise is to provide the funding in CAs that will allow for investment in green infrastructure - particularly renewable energy sources. However, to adopt new niches, first we need to understand the current status of the market, and in the case for energy-efficient applications, we need to know first how
energy is required to solve the problem. Better information on electricity consumption in CA camping would help to tackle these issues. This paper is intended to encourage such data collection, especially as there is a growing energy demand and several CA campgrounds are seeking to expand their capacity to accommodate RVs, yurts etc. We need to know first what are the real demands and identify the problem before we can solve it.

The camping experience is different in both models; however, both provide nature-based activities and environmental education and protection. This is why CAs can learn from the Energy Camp by building their own comprehensive programs incorporating renewable energy solutions into local camping. Moreover, it creates a reason to allocate government funds into an activity and interactive play that benefits local stakeholders, communities and tourism in rural areas. These ideas can help to share knowledge while providing enjoyable experiences for children, youth and adults (Jiricka, Salak, & Pröbstl, 2010) and boosting the local economy.

Alternatively, trends might mean that technology draws a line between nature appreciation and camping. CAs are challenged by the demand for comfortable accommodations, where campground experiences are undermined by home devices equipment including TV, AC, fireplaces, microwaves, videogame equipment, washers etc. New trends shatter what camping is known for- an escape from urbanization. Those devices in fact are the highest consumers of electricity, and by building a higher demand we need to also manage them in a sustainable manner.

Elements of the Energy-Camp’s renewable energy program can be implemented to Conservation Area camping as a demonstration of how technology
can link people to nature, which falls in the broad context of the definition purpose and of the “green infrastructure” trend and definition. Green infrastructure is an attempt to enhance promotion of sustainable development currently incorporated in green spaces and link it with people.

There is a need to support environmental ecology, as our qualities of life depend on the healthy natural systems. Research confirms that the community is interested in seeing green infrastructure (GI) and that it can connect people to green space. Emphasis on community engagement is important during decision-making, and without local supports making these changes will be difficult. As ecotourism becomes the fastest growing tourism opportunity with benefits shown in both health and social research, the Energy-Camp renewable program could also provide these benefits if applied in the Ontario campground context.

Any outcome from adopting the Energy-Camp renewable energy program to CAs will remain unknown until the test sites and comprehensive data will be available. The challenge to understanding how successful the Energy-Camp renewable energy program would be in the CAs is that these two models are hard to compare or are not comparable. This study revealed the insight about the Energy-Camp renewable energy program, and showed that CA camping can learn about the context of the “energy regions,” and the idea for building socio-technical relationship in the camping programs. CA camping is well suited to take on the Energy-Camp program as a complement and overlay to other existing programs being offered. If implemented, can strengthen the initiatives of the “green economy.”
There are also opportunities for attracting more tourists to Conservation Areas by providing a new type of program overlay to current offers such as the Energy-Camp renewable energy program. However, first, CA camping needs to have comprehensive data and be able to find a problem while considering the CO “Strategy Direction Plan,” “Green Energy Act,” and many small initiatives before solving it. Special emphasis needs to be placed on the motives, behaviours and barriers as important factors for heightening visitation numbers (2013 American Camper Report, 2013) first to establish and address data lacks.

**Visitor Satisfaction**

Smaller campsites in CAs are particularly challenged by a lack of data on demographics, qualified staff, funds or business cases that could open new opportunities for reconstructing and “greening” small-scale camping. In addition, as described by a survey respondent, they can create opportunities for advertising and building their brand. One of the biggest differences between camping in CA and Energy-Camp is the type of visitors. What the EC refers to as an “experience-oriented visitor” is much more established in the CAs, and “expert-oriented visitors” are only evident in the Energy-Camp. This is because the Energy Camp is located within an “energy regions” and there is more permanent and established infrastructure in the CA camping. However, offering new programming opportunities that build on “experience” utilizing opportunities related to greening, coupled with an understanding of the ecotourism market, would likely benefit utilization rates and subsequent visitor satisfaction.
Energy-Camp in Conservation Authority Context

Due to lack of details regarding the Energy-Camp, this thesis proposes a definition for Conservation Area camping within the scope of what is known from the Energy-Camp. The Energy-Camp definition in the CA context could be as follow:

The Conservation Authorities’ “Energy Camp” Program is a new tourism opportunity based on sustainable ideas that originated at the University of Natural Resources and Applied Life Sciences in Vienna, Austria. Inspired by the many stakeholder partnerships/sponsorships and the energy region initiatives of the Austrian model, CAs aim to offer an overlay creative program to current offers incorporating “e-products.” These technologies are mostly solar passive and active and examples of hydroelectricity and wind turbines that are integrated into interactive types of outdoor activities in attractive natural locations. The participants’ role is to engage in a creative recreation, and experiment with the use of renewable energy devices that supply electricity for their own needs, with possibility to minimize energy waste and conserve electricity in batteries. Stored electricity can be then distributed between participants and their use of available camping and electronic devices This supports the Conservation Ontario “Strategic Directions Report for the year of 2011-2015,” which describes CAs as “the partner of choice for managing and adapting to climate change and growing the green economy.”

Currently, the renewable energy program of the Energy-Camp is applied to the energy region in Austria, while CAs are limited for now to well-established “experience- oriented tourism.” This thesis presents information that can benefit future research and improve camping programs within CAs. In addition, this study can inform the funding process, designers, managers and policy makers aiming to adopt new solutions that benefit the health and well-being of local communities.

Limitations of the Research

Limitations are related to the application of some elements of the model because site specificity may present a challenge. This study focus was based on Conservation Authorities located in Ontario. There are many climate zones in Canada and application of the renewable energy program might be different. For
example, on the West Coast of Canada, the Vancouver area will not be able to adapt the exact same renewable energy programs due to different climatic conditions. However, other activities can be explored based on devices of hydroelectricity or wind electricity. In addition, a potential limitation of this research was that the survey focused only on campground representatives instead of users. Further examination of campground visitors' preferences could help address the issue of heightening visitation.

Due to the uniqueness of the Austrian model, extensive literature could not be found and some publications were written in German, a foreign language to the researcher. The Energy-Camp did not offer specific information regarding their design guidelines or specific products used particularly in this tourism. However, the data gathered did help to establish a framework and explore its transferability to CA context. Some information was also drawn from American and larger Canadian camping sites which might be a limitation because it is focused on possibly a different market than the CA.

The online survey generated a response rate of 19%, even after follow up e-mails and phone calls. If the response rate was higher, the study could benefit by looking at a higher variety of cases and establish a stronger evidence-based definition on small-scale/ large-scale camping. The information from the Conservation Area website and older publications showed a small inconsistency which might have resulted in misleading comments.
The online survey was distributed during the opening of the camping season, which might have affected the rate of responses. If the survey was distributed during the winter period, the results might have been different.

The lack of precise data on the number of visits and electricity demand are limiting exploration to possible challenges in heightening the numbers of visits and solving the electricity demand. Further, this thesis has not presented information on booking behaviour, which could have aided an information in providing better understanding of the type of groups, trip planning, and accessibility for booking, which might have resulted in additional insights to heightening participation rate.

Lastly, the limitations are that we do not know yet what is the exact description of technologies used in the Energy Camp. However, these issues are already being addressed and we can soon expect guidelines and recommendations that can have a crucial value to the design of such sites.

**Future Research**

Future research could help to formulate more detailed data sets regarding the energy production and consumption within the Energy-Camp and overall CA camping. This would allow for more accurate energy calculations, and offer the campground visitors further educational insights. These results will also help to envision new avenues and create new benchmarks to measure healthy growth.

In addition, future research should encourage data collection of energy consumption and offer information for future business ventures. Further examination into small-scale camping versus large campsites in CAs needs to be examined to
better understand where a new camping program fits best. A case study and trial demonstration sites could be useful research methods.

Generating more data on energy consumption and its growing demand needs to be addressed in order to build energy plans. Furthermore, accurate information about demographics, behaviours, barriers and motivations can help seek solutions for heightening the number of visits. We need to address global issues to have small niche energy markets embedded into the existing market to improve high fossil fuel consumption sectors like tourism.

Ontario presents initiatives that are aiming to reach goals of becoming leaders in clean energy production and greening the economy. The scale of the Conservation Areas and the jurisdiction of Conservation Authorities show how different the operability of government agencies is in comparison to Europe, where these efforts are carried out at a smaller scale. CA camping lacks data, especially related to small-scale camping; however, the roles of municipalities and Conservation Authorities are growing and continue to be addressed. Specific campgrounds that are the best fit for these ideas could also be identified.

Lastly, New children’s and youth renewable energy programs can be discovered to suit individual campground needs. Possibilities here could be endless since the programs tend to have creative and educative character. CA camping also allows for all season-activities, which could open new opportunities for exploration towards integration of renewable energy into winter activities.
References


http://www.kortright.org/


Appendix A: Key Informant Interviews

“Adapting Green Infrastructure Renewable energy program Associated with “energy-camp” to the Conservation Authority Campground Context.”

Thank-you for your willingness to take part in the interview regarding the Energy-Camp. This interview is anonymous and no records of the interview will be kept with your name on them. All of the responses will be confidential and used only for this thesis project. You may choose not to answer a question at any time. Do you have any questions or concerns? May we proceed?

This interview assumes that the design team shares a common knowledge with the interviewer and does not need ethics board approval.

1. What is the Energy-Camp?
2. Do you think it is a transferable idea? Do you think it is only for your market?
3. Is it profit driven or public?
4. What is the motivation for Energy-Camp?
5. Were there any issues when choosing the site?
6. Where did the idea of energy efficient campground originate? Where did you first hear about the concept? What were the challenges?
7. What kind of research and what tools were used to reach the concept for the Energy-Camp?
8. Did you receive any advice regarding the concept for the Energy-Camp?
   What thoughts or ideas were you following?
9. What are the main functions of the Energy-Camp?
10. What type of tourist activities does the camp provide and what tourists are you aiming to attract?
11. What is the size/scale of the Energy-Camp in comparison with the whole region?
12. What was the reason for the choice of location? Is the only option considered as stationary or some variant associated with the mobility of tourists?
13. What were the criteria for the selection of energy technologies?
14. What were the problems during construction and are they any that have yet to be solved? If you had to go through the process again what would you change?
15. What has been the public reaction (interest, intensity of use, etc.)?
16. Can you describe the up-keep of the camp? (maintenance, operability)
17. What type of research can add value to this concept (e.g. winter)?

Thank you for taking the time to help me with this research. Is there any aspect of your experience that has not been covered in these questions?
Appendix B: Online Survey

Green Infrastructure development at the campgrounds – it means implementation of sustainability measures into landscape architectural designs (establishing new campground activities, “greening” of present offers)

The Conservation Authorities’ “Energy Camp” Program is a new tourism opportunity based on sustainable ideas that originated at the University of Natural Resources and Applied Life Sciences in Vienna, Austria. Inspired by the many stakeholder partnerships/sponsorships and the energy region initiatives of the Austrian model, CAs aim to offer an overlay creative program to current offers incorporating “e-products.” These technologies are mostly solar passive and active and examples of hydroelectricity and wind turbines that are integrated into interactive types of outdoor activities in attractive natural locations. The participants’ role is to engage in a creative recreation, and experiment with the use of renewable energy devices that supply electricity for their own needs, with possibility to minimize energy waste and conserve electricity in batteries. Stored electricity can be then distributed between participants and their use of available camping and electronic devices This supports the Conservation Ontario “Strategic Directions Report for the year of 2011-2015,” which describes CAs as “the partner of choice for managing and adapting to climate change and growing the green economy.”

The following questions guided this exploratory study:

- Which aspects of the renewable energy program of the Energy-Camp model can be adapted to support CA mandates?
- What opportunities/challenges exist for integrating a renewable energy program into CAs campgrounds?
- Can a renewable energy program increase user demand within a CA campground?
Interview Questions:

Interview plus CA characteristics
Characteristics of campground- description trend and size
Knowledge of green infrastructure

1. Please state how many years of experience you have with campgrounds?
2. Are you a manager/operator or Conservation Authority official?
3. Please provide the location of the campground (Conservation Area, name of campground and size [ha])
4. Are Conservation Authorities interested in accommodating new trends in Camping? (Bigger RV sites, more comfortable accommodations etc.)
5. What are the most common motivations for campers on your campground? (attraction?)
6. Who is the camping for?
7. Campground infrastructure:

<table>
<thead>
<tr>
<th>No</th>
<th>Question</th>
<th>Y/N</th>
<th>Number of present campsites</th>
<th>Comments</th>
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<tbody>
<tr>
<td>1</td>
<td>15 Amp hook ups</td>
<td></td>
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<tr>
<td>2</td>
<td>30 Amp hook-ups</td>
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<tr>
<td>3</td>
<td>45 Amp hook-ups</td>
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<td>4</td>
<td>Gas hook-ups</td>
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<td>5</td>
<td>Un-serviced campsites</td>
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<td>6</td>
<td>Backpacker campsites</td>
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<td>7</td>
<td>Potable water on the site</td>
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<td>8</td>
<td>toilets</td>
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<td>9</td>
<td>Sewer system</td>
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<tr>
<td>10</td>
<td>Garbage collectors</td>
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<td>11</td>
<td>Showers</td>
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<td>12</td>
<td>Fire places</td>
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<td>13</td>
<td>Other</td>
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<th>No</th>
<th>Questions</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Have visits on your campground a tendency to increase? Please give your comment?</td>
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<td>2</td>
<td>Is there a tendency to increase in tent sites visitors?</td>
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<td>3</td>
<td>Do you have the intent to accommodate the RVers or to extent the RVs capacity?</td>
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<td>4</td>
<td>Do you feel that there is a public interest in development of new forms of tourism in order to</td>
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9. Capacity

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<tr>
<th>No</th>
<th>Question</th>
<th>Number</th>
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<tbody>
<tr>
<td>1</td>
<td>Tourists/season</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Spaces for tents</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Spaces for RVs</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Spaces for backpackers</td>
<td></td>
</tr>
</tbody>
</table>

10. Have visits on your campground generally increased or decreased? Why? (Y/N)
11. Is there an increase or decline in tent sites? (Y/N)
12. Is there an increase or decline in RV sites? (Y/N)
13. Do you have the intent or desire to accommodate more RVers? (Y/N)
14. Are there any problems with the campground? (Y/N)
15. What are the challenges that Conservation Authority campgrounds face today? (open-ended)
16. Do you feel that there is a public interest in the environment and Conservation Authorities in general? (open-ended)
17. Do you possess any statistics on the number of visitors coming to your campground annually? (Y/N)
18. Do you currently use any sort of green infrastructure (solar panels, solar cookers, solar showers, wind turbines, geothermal energy, hydroelectricity, stormwater management facilities) within your campgrounds?
19. If there were opportunities to incorporate green infrastructure would you be interested in doing so on your campground?
20. Do you think that the community would be interested in green infrastructure?
21. Do you feel that there is a public interest in development of green infrastructure?
22. What is the energy consumption during the camping season?
23. What in your opinion consumes the highest amount of energy on the campground?
24. What in your opinion will heighten number of visitations to your campground?

List of Conservation Authorities that provide camping:

1. Central Lake Ontario
2. Quinte
3. Saugeen
4. St Clair
5. Halton
6. Long point region
7. Maitland Valley
8. Niagara Peninsula
9. Nattawasaga Valley
10. Raisin Region
11. Toronto and Region
12. Grand river
13. Hamilton
14. Lake Simcoe Region
15. Lower Thames Valley
16. Otonabee
17. Rideau Valley
18. South nation
19. Upper Thames River
## Appendix C: Comparative Analysis

The comparative analysis of CA camping and the EC. Energy-Camp information based on (Jiricka, Salak, & Pröbstl, 2010).

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<tbody>
<tr>
<td></td>
<td>large-scale camping tourism</td>
<td>small-scale camping tourism</td>
<td></td>
</tr>
<tr>
<td>Target group</td>
<td>Tent campers, RVers, trailer parks, group camping(^1), families, children, retirees, groups of friends, youth.</td>
<td>Tent campers, organized camping groups, children and youth.</td>
<td>Expert-oriented energy tourism include “Communities (mayors, relevant stakeholders, regional managers), enterprises, universities, (school groups).”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>– Experienced-oriented energy tourism include: “Individual tourists especially families, children and youth groups.”</td>
</tr>
<tr>
<td>Motivation for camping</td>
<td>Family vacations, youth camping, groups of friends camping, natural environment, location(^2), outdoor recreation(^3), special features, old tradition to go camping, convenient for communities, larger and safer sites, heritage sites and places, facilities and amenities supporting recreation, winter interest, sport and festival events etc.</td>
<td>Availability to large groups at the low cost, organized group camping, adult groups, natural environment, availability of trail networks, environmental education</td>
<td>– School groups larger then 20, holiday groups larger then 12, adult groups including companies and organizations.</td>
</tr>
<tr>
<td>(visitors were not asked)</td>
<td></td>
<td>– “Work, Information. – Further education”</td>
<td>“Leisure, recreation and informal education (edutainment), practical knowledge.”</td>
</tr>
</tbody>
</table>

\(^1\) organized camping groups in CAs means scouting, guiding, cadet, school, church, adult groups etc.

\(^2\) location means the campground is close to landscape attributes that support the outdoor activities

\(^3\) outdoor recreation means trail activities (hiking, biking, environmental education trails etc.), fishing, wildlife observation, special landscapes, boating, swimming, water bodies, sports field, conservation education, playgrounds, environmental education courses, picnicking, horseshoe pits,
### Appendix C: continuation

<table>
<thead>
<tr>
<th>Determinants</th>
<th>CA</th>
<th>small-scale camping tourism</th>
<th>Energy-Camp</th>
<th>Energy-Camp</th>
<th>Experienced-oriented energy tourism</th>
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<td>large-scale camping tourism</td>
<td>Energy-Camp</td>
<td>Expert-oriented energy tourism</td>
<td>Energy-Camp</td>
<td>Experienced-oriented energy tourism</td>
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**Demographics**
- All-age groups.
- Majority have tracked number of visitors.
- Tent sites visitation trend implies instability
- RV is a big factor for increase in number of visitations.

**Behavior**
- RVers are usually educated people in the average age of 48, and the average income $62,000.
- RVs are also appealing to many families and 39% had children age 18 and under.
- Travel for Nature-based recreation.
- High demand electricity.
- Children are a crucial driver in camping industry.
- Stay can have a character of temporary or more permanent.

- Organized groups.
- Travel for Nature-based recreation.
- Low demand-electricity.
- Children are a crucial driver in camping industry.
- Stay usually from 1 day to over 2 weeks.

- Often educated people that seek information opportunities from renewable technologies.
- Short-stay behaviour usually 1-2 days.
- Low demand-electricity.
- Energy self-sufficient.

- Organized school groups age 12-16 years old,
- All-age groups.
- Travel for Nature-based recreation.
- Low demand-electricity.
- Energy self-sufficient.
- Children are a crucial driver in camping industry
- Stay from 1-5 days.
## Appendix C: continuation

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<tr>
<th>Determinants</th>
<th>CA</th>
<th>small-scale camping tourism</th>
<th>Energy-Camp Expert-oriented energy tourism</th>
<th>Energy-Camp Experienced-oriented energy tourism</th>
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<tbody>
<tr>
<td>Differences and Special Features</td>
<td>Permanent campground location and infrastructure associated with it (un-serviced sites, toilets, fire place, potable water and showers).</td>
<td>Permanent campground location and infrastructure associated with it (un-serviced sites, toilets, fire place, potable water and showers).</td>
<td>All-season interest.</td>
<td>Seasonality</td>
</tr>
<tr>
<td></td>
<td>Well-established infrastructure, often electricity hook-ups, water and sewer (serviced sites).</td>
<td>Tents.</td>
<td>Tracked increase in visitations.</td>
<td>Temporary infrastructure installation</td>
</tr>
<tr>
<td></td>
<td>Tents, RVs.</td>
<td>Establishing-lack of significant increase in visitations.</td>
<td>Located in energy region.</td>
<td>Depends on the season</td>
</tr>
<tr>
<td></td>
<td>Better-established from small-scale camping.</td>
<td>Located in Conservation Area.</td>
<td>Their sustainable focus is stronger.</td>
<td>Tracked increase in visitations.</td>
</tr>
<tr>
<td></td>
<td>All-season use. Potential for renewable energy program in winter.</td>
<td>Low energy demand.</td>
<td>Solar tents.</td>
<td>Competes with winter sports, and other more established activity-based attractions.</td>
</tr>
<tr>
<td></td>
<td>Located in Conservation Area.</td>
<td>Canadian tradition, seeks to encourage groups of immigrants.</td>
<td>Developed expert-oriented tourism.</td>
<td>Located in the energy region.</td>
</tr>
<tr>
<td></td>
<td>Larger than small-scale camping, and Energy-Camp.</td>
<td>Developed experience-oriented tourism.</td>
<td>Renewable energy trend seeks to develop more experience-oriented tourism.</td>
<td>Their sustainable focus is stronger.</td>
</tr>
<tr>
<td></td>
<td>Growing energy demand.</td>
<td></td>
<td>It is a relatively new attraction.</td>
<td>Solar tents.</td>
</tr>
<tr>
<td></td>
<td>Canadian tradition, seeks to encourage groups of immigrants.</td>
<td></td>
<td></td>
<td>Energy self-sufficient.</td>
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<td></td>
<td>RV trend, developed experience-oriented tourism.</td>
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<td>Attraction for visitors from all around the world</td>
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<td></td>
<td>Developed expert-oriented tourism.</td>
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<td>Renewable energy trend seeks to develop more experience-oriented tourism.</td>
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<td>It is a relatively new attraction.</td>
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## Appendix C: continuation

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<th>Determinants</th>
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<th>small-scale camping tourism</th>
<th>Energy-Camp Expert-oriented energy tourism</th>
<th>Energy-Camp Experienced-oriented energy tourism</th>
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</thead>
</table>
| **Program Attractions** | large-scale camping tourism | – Nature-based, location based outdoor recreation activities.  
– Environmental education.  
– All-season attractions, activities associated with amenities such as swimming pool, playground, sports fields, snowshoeing, cross country skiing etc. | – Renewable energy technologies education,  
– Energy tourism. | – Location based outdoor recreation activities.  
– Constructive play using renewable energy technology (mostly solar).  
– Environmental education.  
– Energy tourism. |
| **Location and Size** | Conservation Area, medium/large, currently expanding. | Conservation Area, small/medium. | Energy autonomous regions, very small demonstration sites |
| **Energy efficiency and energy generation solutions** | | Rare. | “Development of solar, wind, bioenergy and other renewable energies oriented programs that purpose is to educate about energy use and pro-environmental trends.” | Solar active, PV panels, solar cookers, solar backpacks, solar showers, e-bikes, e-media etc. |
| **Funding/supporting organization** | (45%) financed by municipalities, (38%) self-generated revenues, (14%) provincial grants & special projects, (3%) federal grants/contracts. | | – "Listen to the Voice of Villages.”  
– European Regional Development Fund.  
– EU Central Europe Program.  
– Community.  
– Private investors.  
– Energy tourism. |
## Appendix C: continuation

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<tbody>
<tr>
<td>Challenges</td>
<td>Funding.</td>
<td>Funding, garbage,</td>
<td>Aging technology.</td>
<td>Aging technology.</td>
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<tr>
<td></td>
<td>Aging infrastructure,</td>
<td>noise, misuse of site,</td>
<td>Community.</td>
<td>Solar and wind turbines are dependent on the weather conditions.</td>
</tr>
<tr>
<td></td>
<td>Growing energy demand.</td>
<td>budgeting and human</td>
<td>Tourism competitiveness.</td>
<td>Keeping visitors in the region.</td>
</tr>
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<td></td>
<td>Cost of maintenance and</td>
<td>resources to manage and</td>
<td>Marketing.</td>
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<td></td>
<td>operability, insufficient</td>
<td>maintain the group</td>
<td>Work organization and distribution.</td>
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<td></td>
<td>revenue to invest into</td>
<td>camp.</td>
<td>Guide training.</td>
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<td></td>
<td>innovation, staying</td>
<td>Increasing operating costs,</td>
<td>Keeping visitors in the region.</td>
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<td>competitive, and offering</td>
<td>Increasing urbanization.</td>
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<td>the customer a good product,</td>
<td>Weather conditions for the</td>
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<td>advertising, the political</td>
<td>tent campers.</td>
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<td>landscape.</td>
<td>Some do not advertise</td>
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<td>R Vers are not dependent on the</td>
<td>to public.</td>
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<td></td>
<td>weather conditions.</td>
<td>Making time to go</td>
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<td>Making time to go camping.</td>
<td>camping.</td>
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<td>Family commitments.</td>
<td>Family commitments.</td>
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## Appendix C: continuation

<table>
<thead>
<tr>
<th>Determinants</th>
<th>CA</th>
<th>small-scale camping tourism</th>
<th>Energy-Camp Expert-oriented energy tourism</th>
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<th>Energy-Camp Experienced-oriented energy tourism</th>
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<tr>
<td></td>
<td>– Funding.</td>
<td>– Funding.</td>
<td>– Innovative technology education.</td>
<td>– Innovative technology education.</td>
<td>– Promotion of the region.</td>
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<td>– Community benefits.</td>
<td>– New jobs.</td>
<td>– Attracts new tourists.</td>
<td>– Community benefits.</td>
<td>– Sustaining leadership in sustainable tourism.</td>
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<td>– Conservation area revenue growth.</td>
<td>– Healthy environment.</td>
<td>– Promotion of the region.</td>
<td>– Allocates money within the rural sector.</td>
<td>– Demonstration sites.</td>
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<td>– Allocates money within the rural sector.</td>
<td>– Conservation area revenue growth.</td>
<td>– Leader in sustainable tourism.</td>
<td>– New technology.</td>
<td>– Memorable vacations.</td>
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<td>– New tourism program.</td>
<td>– Allocates money within the rural sector.</td>
<td>– Demonstration sites.</td>
<td>– New tourism programs.</td>
<td>– Experience.</td>
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<td>– New technology.</td>
<td>– New tourism programs.</td>
<td>– Memorable vacations.</td>
<td></td>
<td>– Physical exercise.</td>
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</table>

| Proposal | – Keep track and prepare comprehensive statistics on visitor's age, gender, motivations, behaviours and track energy consumption. | – Keep track and prepare comprehensive statistics on visitor's age, gender, motivations, behaviours and track energy consumption. | – Environmental education. | – Environmental education. | – Attracts new tourism. |
|          | – Identify challenges and opportunities for incorporating renewable energy. | – Identify challenges and opportunities for incorporating renewable energy. | – Innovative technology education. | – Innovative technology education. | – Promotion of the region. |
|          | – Prepare comprehensive business plans and apply for funds within Conservation Ontario the municipality, province and the federal government. | – Prepare comprehensive business plans and apply for funds within Conservation Ontario the municipality, province and the federal government. | – Attracts new tourists. | – Attracts new tourists. | – Sustaining leadership in sustainable tourism. |
|          | – Incorporate ‘new tourism’ opportunities such as energy-camp. | | – Promotion of the region. | – Promotion of the region. | – Demonstration sites. |
|          | – Seek new niche markets for tourism growth. | | – Leader in sustainable tourism. | – Leader in sustainable tourism. | – Memorable vacations. |
|          | | | – Demonstration sites. | – Demonstration sites. | – Experience. |
|          | | | – Memorable vacations. | – Memorable vacations. | – Physical exercise. |