BURMAN ENERGY
CONSULTANTS GROUP INC

Burman Energy Consultants Group

Townof Espanola
Conservation and Demand Management Plan

O.Reg. 397/11 – July 1, 2014

Espanola
ONTARIO CANADA

Burman Energy
2014

CONTENTS

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EXECUTIVE SUMMARY

The Town of Espanola retained Burman Energy to develop a comprehensive Five Year Conservation and Demand Management (CDM) Plan for the municipality, in compliance with requirements of Regulation 397/11.

The purpose of the Five Year Conservation and Demand Management Plan is to provide a set of attainable business goals in the area of energy conservation, and to define a high level roadmap for reaching those goals by the Town of Espanola. It also contains baseline information about current energy consumption and about the role of the organizational team that will be designated to work toward attaining those goals.

The Town of Espanola's goal is to meet the requirements of the Green Energy Act O. Reg. 397/11, due July 1st, 2014. The municipality has defined its strategic direction in making decisions on allocating resources for optimizing their energy operations and investments.

This document represents the Five Year Energy Conservation and Demand Management Plan for the Town of Espanola for the period of 2014-2019. The baseline Green House Gas (GHG) Emissions and Energy Consumption reflects data gathered and submitted to the Ontario Ministry of Energy on July 1, 2013, as required by O. Reg. 397/11. In order to determine the present state of energy management in the Town of Espanola, we have summarized the GHG reports for 2011. Additionally, this plan has incorporated the results of the Energy Audits and studies conducted throughout several key facilities owned by the municipality, historical data of energy use, and actions and steps already taken with the intention of realizing energy savings. Monetary incentives from the OPA, accessible through the local utility as delivery agent, support the financial planning selection and decisions to move forward with the implementation of these initiatives.

The Plan identifies some feasible Energy Conservation Measures (ECMs) and implementation opportunities, behavioural improvements, targeted toward energy consumption and GHG emissions reduction, and associated costs. The Town of Espanola will be moving toward its holistic future, or the so-called preferred state, while pursuing to continually improve energy consumption performance and further reduce greenhouse gas emissions.

INTRODUCTION - BACKGROUND

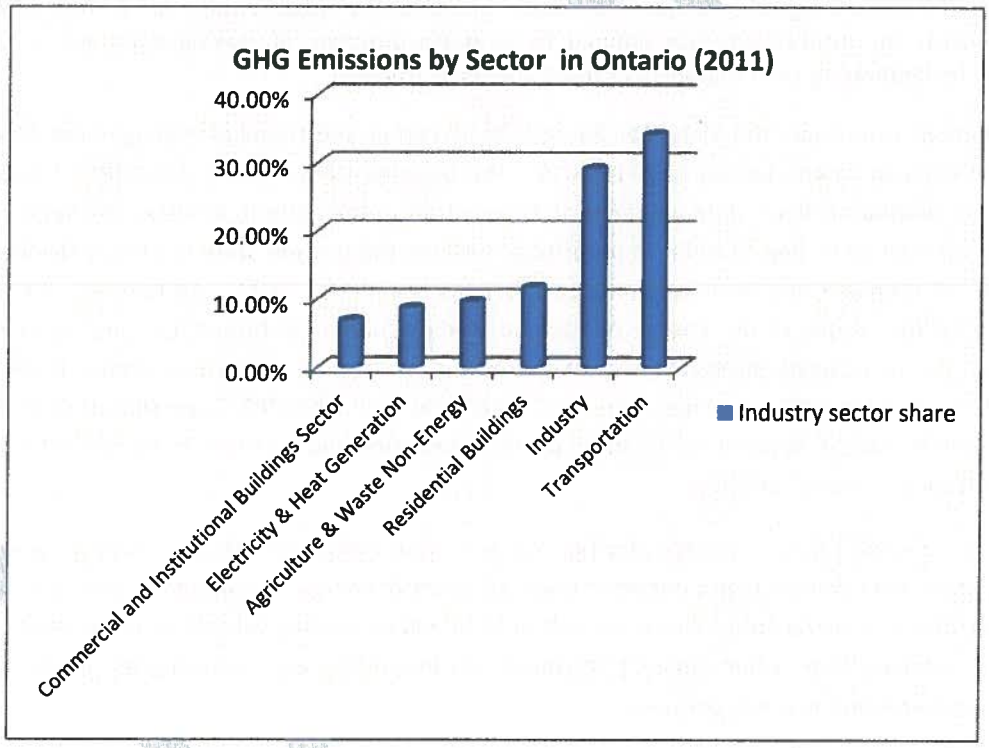
CLIMATE CHANGE ACTION PLAN

The Ontario Government has adopted an active strategy regarding natural resources preservation, environmental pollution reduction and mitigation of climate change. The "Climate Change Action Plan" is one of the efforts geared toward taking prudent action to protect our communities and to secure business investments by protecting the environment. While we take action, it is also necessary to recognize that change is already taking place. It is critical that governments at all levels begin to build

climate change considerations into their operations and at the same time address mitigation by reducing greenhouse gas emissions.

Climate change can be caused by both natural processes and human activities; the recent warming has been largely attributed to human activity, primarily through the release of carbon dioxide and other greenhouse gases to the atmosphere.

In Ontario, 6.9% of the Green House Gas emissions are generated from the combustions of the commercial and institutional buildings sector; the largest sources of GHG emissions generations are the industrial operations and transportation. The chart below provides information about the GHG emissions generation by sector in Ontario:

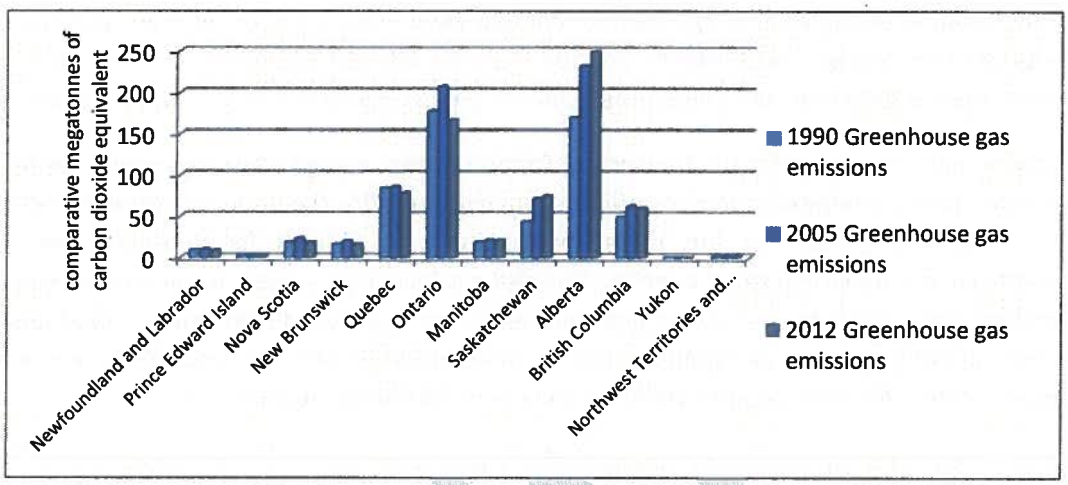


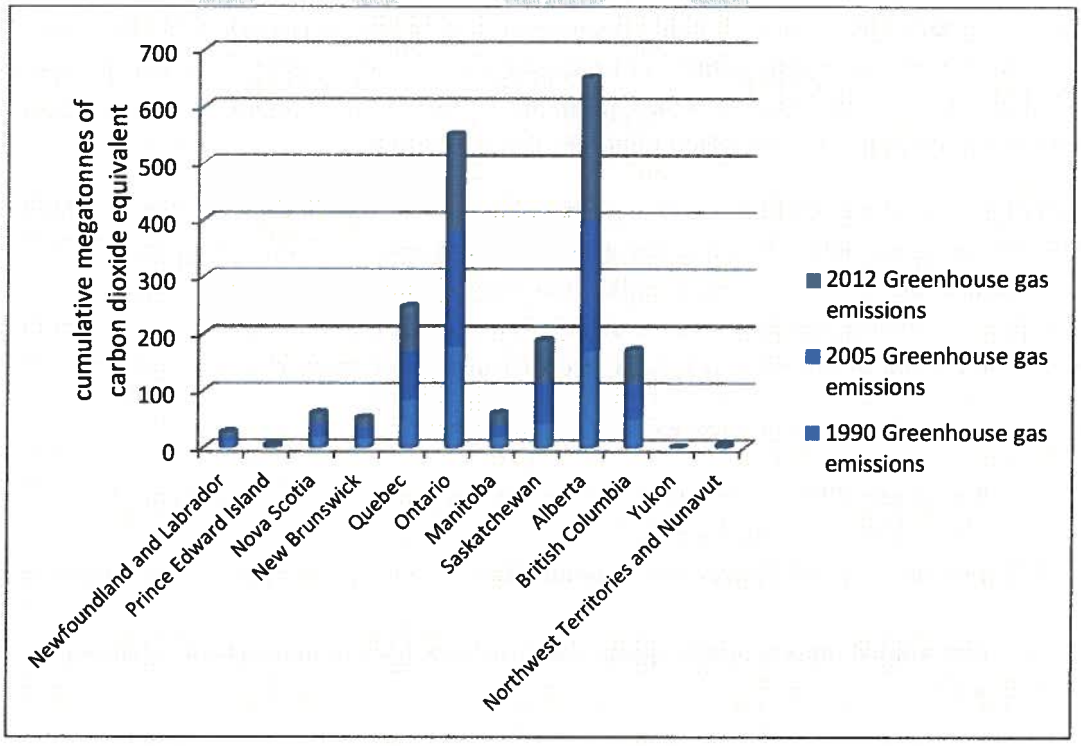
Ontario is taking action to mitigate climate change and reduce greenhouse gas emissions. All of Ontario's power plants must stop using coal by the end of 2014. Under our Green Energy Act, Ontario is also expanding the use of clean, renewable energy. It is critical for municipal governments to build climate change considerations into their operational decisions.

In 2007, the Climate Change Action Plan established a target of a 6% reduction of greenhouse gas emissions from 1990 levels by 2014, a 15% reduction by 2020 and an 80% reduction by 2050. While some progress was initially noted, levels have started to rise again, and clearly, the challenge remains to continue economic growth, while reducing emissions. The Ontario Ministry of the Environment (MOE) estimates that Ontario is on pace to meet only 60% of the 2020 reduction targets.

The chart below illustrates results from an Environment Canada Comparative study that shows GHG Emissions by province and territory for 1990, 2005 and 2012. Ontario's GHG emissions are relatively higher than those of other provinces, due to its large manufacturing industry. Ontario's emissions were reduced in the latter years; however the combined emissions from Ontario and Alberta still represented about 60% of the national total.

Greenhouse gas emissions by province and territory, Canada, 1990, 2005 and 2012





Increased economic activity in Ontario results in rising of GHG emissions, and presents a challenge to fulfilling the provincial environmental objectives expressed in the government action, set in the Green Energy Act. This also set the primary government directives for public agencies to become a part of the solution for the challenging situation.

Optimizing energy consumption will be essential if we are to meet future energy needs, and witness a global transition to sustainable energy sources. Without major changes in the way we both use energy to meet our needs (energy conservation), and use the most efficient equipment and measures (energy efficiency), there is little hope of reducing the impact of energy production and use to reasonable levels.

This is even more important for the Province of Ontario, where energy consumption is relatively high. Managing municipal energy consumption efficiently means providing the same services with less energy. Energy conservation measures are often the lowest cost options for providing many other environmental, economic and social benefits. This also results in cost savings, lower environmental load by avoiding GHG and local air, water and land emissions associated with energy production and consumption, local economic development opportunities and associated new jobs, enhanced reliability of energy systems, and reduced price volatility, and improved energy supply security.

GREEN ENERGY ACT - O.REG. 397/11: REQUIREMENTS FOR MUNICIPALITIES

In 2009, the Province of Ontario enacted Ontario Regulation 397/11 – Energy Conservation and Demand Management Plan – mandating all public agencies (including municipalities) to provide their energy consumption information to the public and to develop energy management plans, detailing the energy consumption data for the Town's facility portfolio. O. Reg. 397/11 is also mandating the Town's obligations in meeting its responsibilities under the Green Energy Act.

To facilitate the regulatory compliance process, the Ministry of Energy (MOE) provided tools for baseline detailed reporting, including reporting the greenhouse gas emissions and energy consumption in all facilities owned by the Town of Espanola. Provided in Appendix A, is the Corporation's energy consumption and greenhouse gas emission data for the annual operations in 2011, which was provided to the Ministry of Energy prior to July 1, 2013, in compliance with Ontario Regulation 397/11.

Regulation 397/11 requires public agencies to:

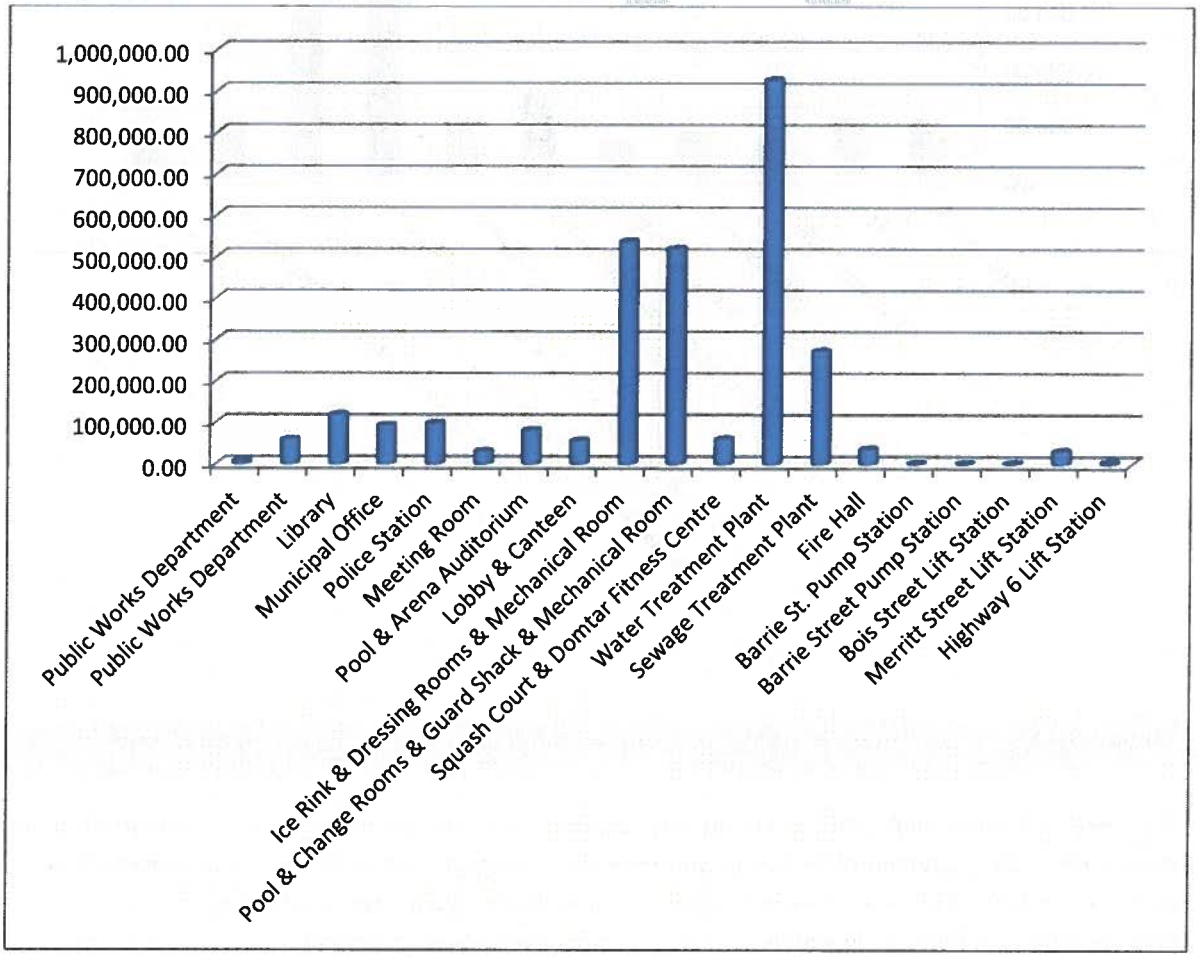
- ✓ **Report annually** on energy use and greenhouse gas emissions, beginning July 1, 2013, and post that information online
- ✓ **Develop five-year energy conservation plans** starting July 1, 2014, and post those plans on line
- ✓ **Post annual reports** on the agency's website and make printed versions available for the public.

ENERGY USE: TOWN OF ESPANOLA

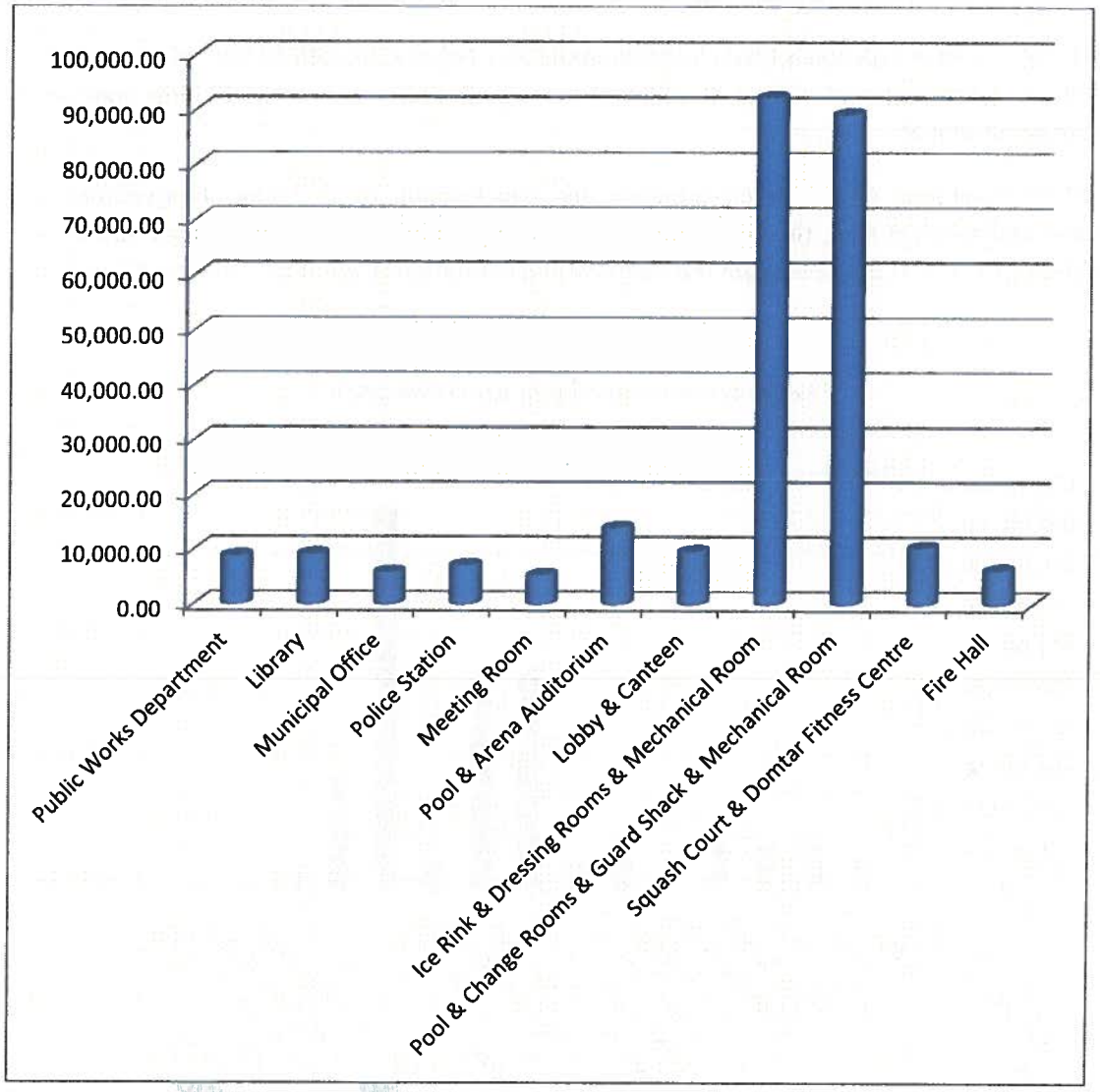
In 2011, the Town of Espanola's total electricity used consisted of 2,943,815.64 kWh of electricity and 258,083.77 cubic meters of natural gas. Current practices must be enhanced and new approaches need to be developed.

To aid in monitoring of energy consumption and development of an Energy Conservation and Demand Management Plan, the Town of Espanola's energy portfolio has been divided into distinct operations. The charts below indicate the electrical and natural gas usage in the main facilities:

Electricity consumption per facility in kWh (2011)



Natural gas consumption per facility in cubic meters (2011)



ENERGY CONSERVATION AND DEMAND MANAGEMENT PLANNING PROCESS

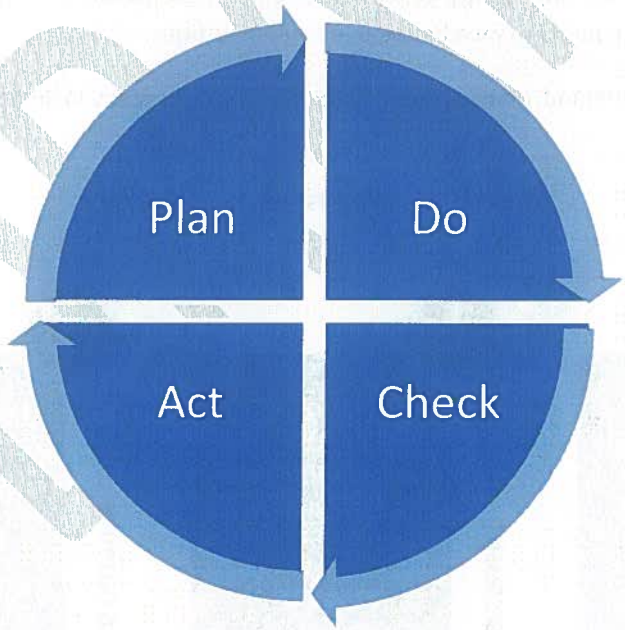
The Ontario Government's Green Energy Act requires increased municipal energy management and engagement. Development of an energy conservation strategy as part of an overall sustainability plan is a complex process. The main driver for a local municipality to change the way energy is used, relates to fiscal benefits and financial incentives. Energy is a manageable input to the business process, much like any other resource cost. The Town of Espanola is maintaining and developing current and planned services that continue to be affordable to taxpayers.

Current practices must be enhanced and new approaches must be developed. To meet these needs, the Town of Espanola will consider designing a comprehensive program for collecting and analyzing monthly

energy billing information, and ensuring that staff is informed about energy consumption. The resulting energy costs and consumption database will be used to monitor excessive variations, targeting facility follow-up assessments, and determining areas that could be candidates for improved conservation. These monitoring enhancements will improve the Town's understanding of the bottom line impact of energy management.

In order to establish a baseline for managing energy costs, the Town has captured information critical to energy management planning. This formalizes the process involved in understanding the relative magnitude of energy costs, the possible ways to reduce energy use, energy targets that are likely to be achievable, and other associated activities that need to occur. This Conservation and Demand Management Plan provides the "big picture" view as an ongoing framework for optimizing overall energy use and achieving success.

CDM Planning is intended to be a process of "continuous improvement." The Town of Espanola has implemented a four step PDCA (plan–do–check–act or plan–do–check–adjust) management methodology, used in business for the control and continuous improvement of processes. It is also known as the Deming cycle wheel. The following diagram shows the circular steps that have been adopted into the planning process:



PLAN

Establish the energy conservation objectives and processes necessary to deliver results in accordance with the expected outputs: the energy conservation targets or goals. Start on a small scale to test

possible effects and financial feasibility. Develop an Energy Conservation Demand Management Plan prioritizing budgets, resources, and timelines.

DO

Implement the plan and collect data for analysis in the following "CHECK" and "ACT" steps. Develop projects' design and execution, preparing status reports, and implementing the communication strategy.

CHECK

Study the actual results (measured and collected in "DO" above) and compare against the expected results (targets or goals from the "PLAN") to ascertain any differences. Evaluate any deviations in implementation from the plan and also evaluate the appropriateness and completeness of the plan to enable the execution, i.e., "Do".

ACT

Recommend improvements and adjustments to the initial plan; determine the course of corrections and modifications to the plan.

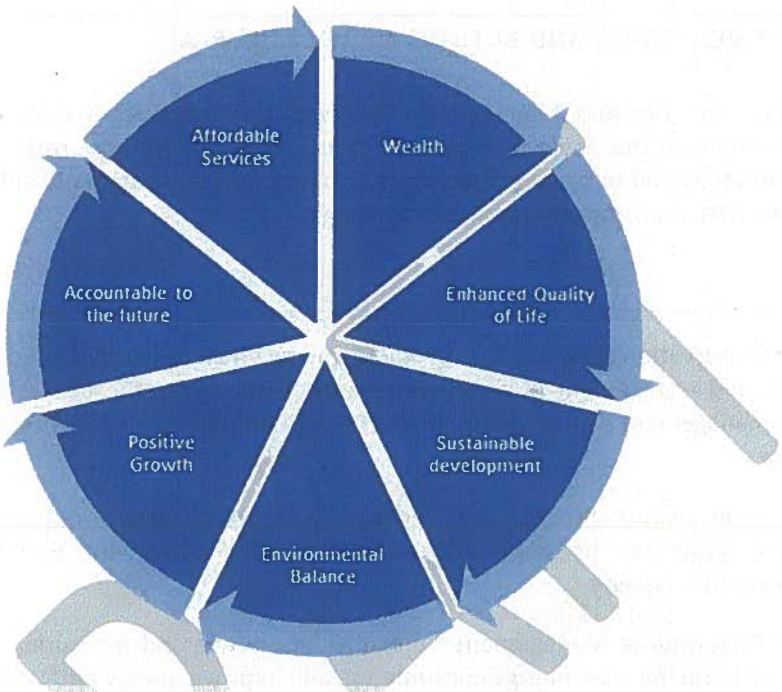
The Town of Espanola implements tools to maintain and continually improve energy conservation and demand management. Benchmarking is the process that the Town of Espanola has implemented for collecting, analyzing and relating energy performance data of comparable activities, with the purpose of evaluating and comparing performance between or within entities.

The Conservation and Demand Management Planning (CDM) Process including inputs and outputs, is visually illustrated below:

CDM Planning Process Inputs and Outputs

VISION, GOALS AND OBJECTIVES

The Town of Espanola is committed to a process of diligent community development and planning with sustainable living in mind. This commitment by the Town of Espanola, reflects Espanola's Strategic Plan.



The Town of Espanola seeks to achieve the following vision: *"Espanola will work to maximize the economic benefits derived by its citizens as a result of its strategic location, its natural beauty, its international class industry, and its wealth. In accomplishing this vision, Espanola will respect and seek to enhance the quality of life enjoyed by its citizens."*

The development of the Five Year Conservation Demand Management Plan aligns with the values as listed in the 2012 Strategic Plan, which "consists of a number of initiatives or action items grouped into four priorities; environmental, economic and social sustainability and excellence in governance."

The mission statement of Town of Espanola's Strategic Plan also integrated into the Five Year Conservation and Demand Management Plan:

"The Corporation of the Town of Espanola is committed to serving the needs of our community by supporting the positive, well-balanced, social, economic, environmental and physical growth of the Town. We will continue to pursue excellence by providing accountable and affordable services while promoting the highest quality of life."

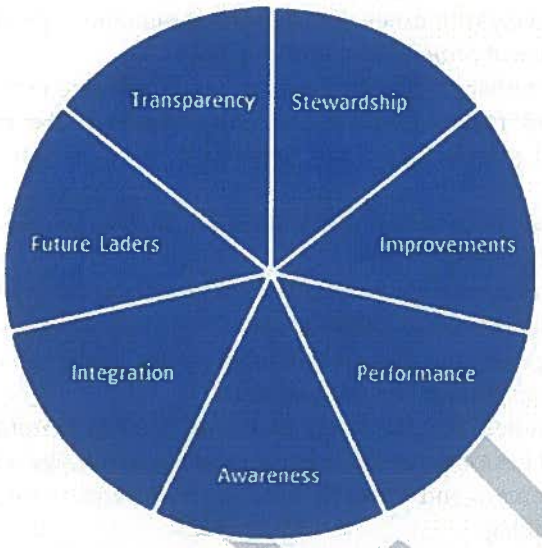
The Town of Espanola's Conservation and Demand Management Plan includes the major goals and objectives to be implemented within the 5 Year period. The Plan will evolve and will be subject to adjustments as deemed necessary to best serve taxpayer interests and the Town's aim for optimized operations. The Town of Espanola will also set the overall energy reduction targets for the period of 2014-2019, after completing full energy assessments to all municipal buildings.

MAJOR OBJECTIVES, GOALS AND ACTIONS OF THE CDM PLAN

The Conservation and Demand Management Plan was developed as a road map for the energy conservation activities in the Town of Espanola. It is consistent with the responsibility of the Town Council to address the need to develop mechanisms to balance energy demand and reduction of energy consumption and GHG emissions for municipal buildings.

OBJECTIVES

- ✓ Energy Conservation **Stewardship** - promote energy efficiency at the corporate level, such as the creation and engagement of an energy management team, the development of a corporate energy management plan or policy, or the implementation of a formalized energy management processes.
- ✓ Energy Conservation Process and Technology **Improvements** - reduce energy intensity in industrial processes by improving procedures and equipment such as refrigeration or compressed air systems.
- ✓ Energy **Performance** Management - enhance monitoring and measuring of, and reporting on facility or company-wide energy consumption and improve energy performance.
- ✓ Energy Conservation Employee **Awareness** and Training - raise employee awareness and understanding of energy efficiency and promote best practices through knowledge exchange.
- ✓ **Integration** of Energy Efficiency Strategy - improve energy efficiency at municipal facilities at corporate-wide level through a range of initiatives as a result of an integrated strategy.
- ✓ Future Energy Conservation **Leaders** - study the advances in the field of industrial energy efficiency and broadly disseminate energy efficiency best practices.
- ✓ **Transparency** in energy conservation activities - setting requirements for energy-efficient procurement and implementation of profitable energy conservation projects as well as disclosure of electricity consumption in the facilities operated by the Town



GOALS

- ✓ Initiate, participate, and collaborate in energy conservation, including public education and awareness
- ✓ Encourage denser, contiguous development: intensification of existing built-up areas and the efficient use of existing infrastructure
- ✓ Incorporate energy conservation measures into site design, and into the design, construction and renovation of buildings
- ✓ Encourage the use of walking, bicycling, transit, and carpooling as alternatives to private automobile use
- ✓ Encourage the planting of native trees and natural resources preservation
- ✓ Promote design of buildings, which maximize the use of alternative or renewable energy systems, such as solar and wind energy, at appropriate locations
- ✓ Encourage development using the highest building design standards, such as LEED and any related standards
- ✓ Evaluate opportunities for energy reduction and establish aggressive targets
- ✓ Work collaboratively with the local utility and other agencies to implement beneficial and cost-effective programs that enhance and optimize energy consumption
- ✓ The Town of Espanola will pursue energy-efficient procurement policies and achievement of energy savings, with expeditious payback times

ACTIONS

- ✓ Complete energy audits and assessments in municipal buildings
- ✓ Assign sustainable energy goals and targets based on audit result and trend analysis
- ✓ Disseminate information about energy conservation products and innovative pollution prevention technologies, broadly within the community

- ✓ Initiate measuring, monitoring and consistent reviews of energy consumption in municipal buildings
- ✓ Work collaboratively with other agencies and communities on energy conservation projects
- ✓ Develop showcase of projects and best practices
- ✓ Designate preferential parking for electrical vehicles where practical
- ✓ Designate a CDM Team to ensure cost-effectiveness of the conservation initiatives, including improved joint prioritization and increased co-operation and co-ordination among all stakeholders
- ✓ Provide consumer information and education on energy conservation, through promotion at local fairs, events, and Town Hall
- ✓ Promote activities for implementation of energy conservation initiatives
- ✓ Encourage regular discussions and operational changes relating to energy efficiency
- ✓ Provide ongoing education regarding energy management and energy savings opportunities and results to management and operations staff
- ✓ Publish case studies and examples of energy savings potential broadly, through publishing information and best practices of municipal buildings' energy retrofit projects
- ✓ Encourage customers and strategic business associates to share best practices examples and results for publishing
- ✓ Continuously track the effectiveness of energy conservation initiatives based on consistent measurable performance indicators
- ✓ Identify sources of financing and support for energy projects and programs
- ✓ Urge municipal developers to produce energy-efficient building designs
- ✓ Provide education to municipal personnel, to promote energy efficient use, and implement behavioral energy conservation measures to produce results
- ✓ Establish a designated Lead to be responsible for lighting optimization at the respective facilities
- ✓ Research and promote travel sharing opportunities and facilitate the use of efficient vehicles and means of transportation
- ✓ Provide opportunities to telecommute and use advanced internet media for meetings in order to reduce on travel associated with greenhouse gas emissions pollution

MUNICIPAL COUNCIL COMMITMENT

Effective energy management begins with the specific, visible expression of commitment by the Municipality, to making the reduction of energy consumption an organizational priority. The Municipal Council of the Town of Espanola is committed to delivering sustainable and reliable cost effective services to the community while meeting regulatory requirements and obligations.

The Council at the Town of Espanola will designate a leadership team from diverse key stakeholders to manage the energy Conservation and Demand Management initiatives and implement the Five Year Conservation and Demand Management Plan in the local municipality.

The Council follows through on the commitments expressed in the Conservation and Demand Management Plan, and has fully endorsed this document.

The Council at the Town of Espanola is fully committed to energy conservation and greenhouse gas emission reduction, as evidenced by:

- ✓ Adapting Energy Conservation and Demand Management as an integral part of Town of Espanola's Strategic Plan
- ✓ Promoting energy conservation culture throughout the organization
- ✓ Setting and approving the energy Conservation and Demand Management objectives
- ✓ Establishing energy conservation targets and ensuring they have been communicated
- ✓ Communicating the importance of meeting the energy conservation objectives and goals
- ✓ Identifying the Conservation and Demand Management Team and supporting their decisions
- ✓ Conducting ongoing Conservation and Demand Management Plan reviews
- ✓ Allocating resources for Energy Conservation and Demand Management initiatives
- ✓ Conducting reviews of energy conservation goals based on set targets vs. actual energy consumption
- ✓ Facilitating the organization's integration of energy conservation measures
- ✓ Designating responsibilities and interactions for the implementation of the energy conservation initiatives

RESPONSIBILITY, AUTHORITY AND COMMUNICATION

Successful energy management requires the allocation of staff and resources to continually improve energy performance. The Council of the Town of Espanola ensures the availability of resources required to implement the energy conservation initiatives of this plan. Resources include human resources and specialized skills, organizational infrastructure, technology and financial resources.

The Town of Espanola's Energy Conservation Framework model includes the following layers:

TOWN COUNCIL

- ✓ Approves the Conservation and Demand Management Plan and approve the financial budget and resource allocation for energy conservation projects
- ✓ Reviews and approves on-going modifications to the Conservation and Demand Management Plan as required
- ✓ Designates an energy management team to direct energy conservation activities
- ✓ Provides advocacy in promoting energy conservation and GHG emission reduction
- ✓ Provides general oversight of the Plan implementation
- ✓ Provides leadership and promotes work culture focused on energy conservation and pollution prevention
- ✓ Ensures that energy conservation regulatory requirements are met

CDM TEAM

CDM LEAD

- ✓ Designated by Council to provide execution leadership for energy conservation and pollution prevention initiatives

- ✓ Manages the execution and monitoring of energy conservation and pollution prevention activities with the help of department managers and senior staff
- ✓ Develops Energy Conservation Performance indicators or measurables and reports to council.
- ✓ Ensures that appropriate plan adjustments are made as a result of project reviews, trend analysis and energy audits and assessments
- ✓ Monitors and facilitates energy conservation projects in conjunction with Senior Staff

DEPARTMENT MANAGERS

- ✓ Ensure that appropriate actions are taken based on CDM Key Performance Indicators from the analyses within their work unit
- ✓ Lead execution of energy conservation projects and implementation of energy conservation measures
- ✓ Serve as the primary technical contact and/or subject matter experts on operational and equipment functionality
- ✓ Provide daily direction of technical activities within their work unit
- ✓ Ensure that CDM projects and actions are in accordance with sound technical practices
- ✓ Communicate regularly with CDM Team on technical and organizational energy optimization measures

SUPPORT STAFF (CONSULTANTS AND SUBJECT MATTER EXPERTS)

- ✓ Gather knowledge related to energy conservation and best practices
- ✓ Apply energy conservation methodologies used within their work areas
- ✓ Follow appropriate maintenance and other energy conservation activities for their work areas
- ✓ Work on project execution as assigned
- ✓ Gather energy conservation reporting data as assigned

COMMUNICATION, AWARENESS AND TRAINING

The Town of Espanola has recognized the importance of a community-wide natural resources conservation and environmental preservation culture, driven by the municipal government and key stakeholders. Internal communication or communication within the organization is important for employees to understand current energy consumption issues and the Corporation's position with respect to their management. This helps staff to be positive and active in implementation of the Town of Espanola's energy conservation initiatives and improve their energy conservation behavioural performance while at work and in the community.

All staff has an environmental contribution to make whether they have an operational, maintenance, planning or support function. Internal communications include training programs, newsletters, notice boards, staff briefings and toolbox talks.

The Town of Espanola also maintains external communication to encourage public understanding and acceptance of the organization's efforts to improve its energy performance. External parties may include shareholders, regulators, local government agencies, adjacent community, environmental groups, customers, community groups and the media.

The Town of Espanola will release specific information to the public predominantly in the form of the annual GHG report to the Ministry of Energy, and will provide greater extent, through the Corporate website, newsletters, factsheets and media releases.

The Town of Espanola pursues community involvement in many areas of its operations and sponsors many local community events and programs. These provide opportunities to communicate the Town's commitment to moving toward a more energy conscious and efficient future.

Training is an essential element in ensuring safe and environmentally friendly operations, compliance with Town's Strategic directives and legal requirements. Training covers the areas of environmental awareness, energy conservation practices, compliance issues and energy efficient management. Training may be related to specific equipment, processes and monitoring of energy conservation initiatives. There is a consistent effort for identification of training needs, drawing up a training plan and creating awareness.

Induction sessions will be implemented for new staff and contractors. The Town of Espanola ensures the development the technical competencies so that any person performing tasks will have the potential to cause a significant energy conservation impact. The Town will implement a dynamic process for the submission and processing of staff suggestions for energy efficiency improvements.

ENERGY CONSUMPTION

FACILITY ASSESSMENTS

The Town of Espanola performed energy audits and/or facility assessments on the following facilities:

- ✓ Public Works Department
  - Admin Offices
  - Public Works Garage
- ✓ Recreation Complex
  - Meeting Room
  - Pool & Arena Auditorium
  - Lobby & Canteen
  - Ice Rink & Dressing Rooms & Mechanical Room
  - Pool & Change Rooms & Guard Shack & Mechanical Room
  - Squash Court & Domtar Fitness Centre

The Five Year Conservation and Demand Management Plan incorporates the results of these facility audits and assessments. This Plan is a live, evolving document, and can be adjusted accordingly, with the completion of additional assessments as required. The Town of Espanola anticipates assessing and continuously improving energy management aspects related to municipal buildings.

The Town of Espanola is planning to perform energy assessments at the rest of the municipal buildings based on the Energy Audit Schedule (Appendix B-4):

- ✓ Library
- ✓ Municipal Office
- ✓ Police Station
- ✓ Fire Hall
- ✓ Water Department
  - Water Treatment Plant
  - Barrie St. Pump Station
  - Barrie Street Pump Station
- ✓ Sewage Treatment
  - Sewage Treatment Plant
  - Bois Street Lift Station
  - Merritt Street Lift Station
  - Highway 6 Lift Station

GHG BASELINE

The Town of Espanola has completed its baseline GHG report filed with the Ministry of Energy on July 1, 2013. This baseline report gathered data from January 2011 – December 2011, with additional evaluations from energy assessments and updates for 2014. The information collected via energy audits at two facilities operated by the municipality and extensive analyses, has formed the basis from which targets, activities and measures have been set in the Five Year Conservation and Demand Management Plan. (See Appendix A and Appendix B)

FIVE YEAR CONSERVATION AND DEMAND MANAGEMENT PLAN

The Town of Espanola is in the process of evaluating potential energy conservation measures for its Five (5) Year Plan Conservation and Demand Management Plan. Further scheduled energy assessments will complement the results from the energy audits in the Recreation Complex and Water Works facilities. These energy assessments will identify a variety of cost-effective solutions to reduce greenhouse gas emissions and conserve energy, which will be amended for inclusion into the Plan.

Options of various measures will range from comprehensive energy conservation actions to comply with regulations, reducing emissions, to improving energy efficiency of equipment through retrofits and other upgrades. Further detailed energy studies of municipal operations are required to expand on the energy conservation measures portfolio and to adjust the CDM Plan.

ORGANIZATIONAL INTEGRATION

The Town of Espanola will establish an organizational team dedicated to energy conservation and pollution prevention management.

The implementation of the Five Year Conservation and Demand Management Plan will focus on integrating achievement of sustainability goals with strategic planning to optimize performance and minimize implementation costs.

Energy management is also considered as a subtask for department managers. Each facility will develop and carry out sections from an integrated Performance Plan that prioritizes the Town of Espanola's actions toward optimized and sustainable energy consumption. Implementation will be managed through the CDM Team, ultimately working in close partnership with various stakeholders and staff.

ANALYSIS: MEASURES

ENERGY CONSERVATION MEASURES (ECM)

The Energy Conservation Measures considered in development of this Plan include:

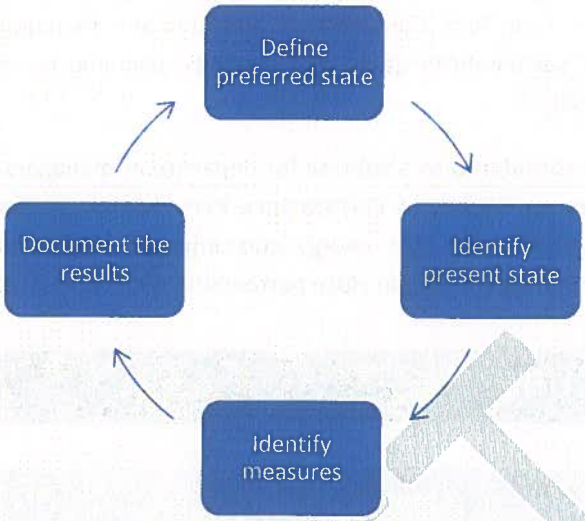
- ✓ Technical Measures
- ✓ Organizational Measures
- ✓ Behavioural Measures

IDENTIFICATION OF CDM MEASURES

Burman Energy conducted energy audits in the Recreation Complex and Public Works buildings, owned and operated by the Town of Espanola. Further discussions and consultations with staff and managers did reveal additional operational/behavioural opportunities. In addition, future assessments are being planned in the rest of the facilities.

The energy audits identified some opportunities for incentives, through accessing the OPA Conservation Programs. Given the status of these programs, and their slated end date of December 31, 2014, those projects identified as eligible for the OPA program incentives, which provide immediate cost savings and energy conservation target achievement potential, are to be considered as a high priority. Opportunities and Energy Conservation Measures have been identified in the Recreation Complex and Public Works Facilities. The Town of Espanola aims to optimize and integrate existing operational systems with necessary energy efficiency upgrades.

The Five Year Conservation and Demand Management Plan is based on the Ministry of Energy (MOE) guidelines and recommended approach. During the development of the Five Year Energy Conservation and Demand Management Plan for the Town of Espanola, Burman Energy applied strategic planning tools, process engineering judgement and methodologies. The CDM planning process progressed through the following stages:



- ***DEFINE THE PREFERRED STATE*** - The preferred state sets the long-term direction and vision for energy management for the Town of Espanola. This is where the Municipality wishes to be with respect to energy and energy conservation. This in essence, forms the basis used to identify goals and objectives.
- ***IDENTIFY THE PRESENT STATE*** - The present state identifies the current energy use within the Town of Espanola, and indicates the variance between current energy usage and preferred energy usage.
- ***IDENTIFY MEASURES*** - At this stage, specific measures and steps are identified to move from the present to the preferred state of energy management. Priorities are assigned to aid with effective implementation of the Plan.
- ***DOCUMENT RESULTS*** - The results of the strategic planning sessions should be documented in the Energy Conservation and Demand Management Plan along with the other planning requirements discussed in this guide.

SUMMARY – ENERGY CONSERVATION MEASURES

A summary of recommended measures, the estimated time that measures will be in place, and prioritization of conservation measures in the facilities at the Town of Espanola follows:

Summary of Energy Conservation Measures

PREFERRED STATE	PRESENT STATE	MEASURES	PRIORITY	TIMELINE
ORGANIZATIONAL AND BEHAVIOURAL MEASURES				
Established Energy Conservation Organizational System	Need to establish a structured CDM Program and designate a CDM Team	Implement sustainable CDM Program and designate roles and responsibilities	High	2015
Sustained Energy Conservation culture throughout the organization	Staff needs to build better awareness about energy conservation and is getting engaged in various activities	Provide training and broadly disseminate energy conservation ideas and initiatives. Energy awareness campaign.	Low	2018
Consumer information and education provided	Limited information about energy conservation best practices	Explore experiences in other communities and work with Espanola Hydro to promote energy conservation best practices	Low	2015
Green IT	Need for structured IT approached for power conservation and efficient operational organization	Leverage from innovative technologies to reduce energy consumption in information technology and energy management by using computing resources. Promote electronics stewardship.	Medium	2016
TECHNICAL MEASURES				
Energy assessments to establish baseline	Need to establish energy baseline and assess the energy efficiency of existing equipment	Review and refine measures based on energy assessments	High	2015
Optimized energy efficient lighting	Lighting energy consumption in the buildings is high. Energy inefficient T-12, HPS , HID lamps require replacement	Install LED lighting , T-8 lamps and ballast , de-lamp and remove unnecessary light bulbs	Medium	2016
Optimized energy consumption control of buildings	Energy consumption for building maintenance is high	Monitor energy consumption and optimize scheduling. Install timers, occupancy sensors and energy-smart products	Low	2018
Optimized functional parameters of equipment with energy efficient design	Energy inefficient equipment that needs better control	Install VFDs to optimize the functional parameters and energy consumption of equipment	High	2016

Smart Grid and Sustainable low cost renewable generation for local consumption	No existing solar generation projects	Install solar generators where possible. Work with stakeholders to enable the renewable generation projects. Build in concepts of Zero Energy Buildings	Low	2019

ENERGY MANAGEMENT

The central task of facility management is to reduce costs of energy consumption in the facilities while enhancing the work environment. It is important to keep the excellent level of quality and availability of municipal services, while service life of the equipment and the ease of use should remain the same, or improve. The Town of Espanola is consistently optimizing facility management practices and aims to minimize the total cost of the energy-related processes by implementing energy efficient techniques and technologies.

Maintenance, testing and inspection schedules at the Town of Espanola ensure that the facilities operate safely and efficiently, to maximize the life of equipment and sustain energy efficiency.

RENEWABLE GENERATION AND SMART GRID

The Town of Espanola is evaluating opportunities to invest in eco-friendly alternatives such as solar power, and promoting concepts from the futuristic vision of **zero-energy buildings**: buildings with zero net energy consumption, where the total amount of energy used by the building on an annual basis is roughly equal to the amount of renewable energy created on the site.

The development of modern zero-energy buildings became possible, not only through the progress made in new energy and construction technologies and techniques. It has also been significantly improved by academic research, which collects precise energy performance data on traditional and experimental buildings and provides performance parameters for advanced computer models to predict the efficacy of engineering designs. Zero Energy Building is considered a vital component as a part of smart grid. Some advantages of these buildings include:

- Integration of renewable energy resources
- Integration of plug-in electric vehicles
- Implementation of zero-energy concepts

The zero-energy concept allows for a wide range of approaches due to the many options for producing and conserving energy combined with the many ways of measuring energy (relating to cost, energy, or carbon emissions).

ENERGY AWARENESS CAMPAIGN

It is essential for the Town of Espanola to deploy an effective energy awareness program or campaigns that encourage individual and group action. The Town of Espanola's will develop a multi-faceted campaign, which includes:

- ✓ Town Hall energy conservation actions and events
- ✓ Newspaper articles and columns
- ✓ Energy conservation presentations
- ✓ Website promotions on energy conservation theme
- ✓ E-mail blasts
- ✓ Creative signage
- ✓ Energy Conservation contests and competitions
- ✓ Social media publications

An effective energy awareness program might reduce energy consumption by 5 or 10 % or more.

GREEN IT

The Town of Espanola is Green IT practices of using computing resources in ways that help reduce energy and operating costs, enable sustainable business practices and reduce the environmental impact of services.

Green IT principles and practices are associated with servers, and subsystems, such as monitors, printers, storage devices, and networking and communications systems. The Town of Espanola is gradually replacing the energy inefficient systems with energy efficient models. Green IT approaches within the organization are implementing innovative solutions that reduce the utility bills and "green" the procurement practices.Throughout the replacement, the Town of Espanola is using environmentally safe disposal methods or partnerships that will result in minimal or no impact on the environment. With the help of IT, work processes can be eliminated or improved significantly.

Approaches and practices utilized to promote electronics stewardship:

- ✓ **Green procurement and asset management**: This initiative focuses on purchasing computing equipment that is more energy efficient and environmentally friendly and includes measures to extend equipment useful life, recycle and engage with suppliers that demonstrate a commitment to reducing hazardous materials in their manufacturing, packaging and factory waste management programs.
- ✓ **Technology-based solutions:** This includes programs that employ technology in ways that are designed to reduce travel, commuting and facilities costs along with the environmental impacts of employee tasks related to people movement.
- ✓ **Power consumption management:** This initiative includes efficient approaches to power conservation. Many programs, like screen savers, low energy consumption computer

profiles, etc. support and complement organizations energy conservation. Establishing and implementing policies to enable power management, duplex printing, etc.

TECHNICAL EFFICIENCY IMPROVEMENTS

An aggressive energy conservation policy at the Town of Espanola is addressing various technical measures. The following energy conservation measures will be evaluated and implemented where appropriate:

BUILDING ENVELOPE

Improvements include:

- ✓ Weather/infiltration sealing
- ✓ Increased insulation
- ✓ High performance window replacement
- ✓ Low emissivity reflective window film (to reduce unwanted solar gain in the summer and increase the R-value of windows in the winter)

LIGHTING

Lighting can be the single greatest load for electricity in many offices, and can cost as much as space heating over the year. Reducing heat output from lighting can also reduce air conditioning costs. Without proper lighting, productivity, safety, security and overall aesthetics can be compromised. Good lighting design contributes to employee comfort and health, which in turn can result in greater productivity.

Careful planning of energy-efficient lighting design geared to building utilization needs is an important aspect considered by the Town of Espanola. Replacement of existing T12 fluorescent lamps and magnetic ballasts with T8 fluorescent lamps and electronic ballasts can reduce up to 40% of the energy costs, lower maintenance costs, increase the system's life and improve the quality of light.

The Town is also planning to retrofit accent lighting applications, where the intent is to replace incandescent lamps with line voltage (PAR type) or low voltage (MR16 type) halogen lamps. They last longer, consume less energy and add more light reflection with greater sharpness. There are two major strategies for reducing energy load from lighting:

Delamping	• Permanently turning off/disconnecting unneeded light fixtures
Relamping	• Replacing inefficient light fixtures or lamps with high efficiency fixtures/lamps

Some of the most commonly energy efficiency lighting measures currently evaluated by the Town of Espanola are listed below:

- ✓ Convert T-12 fixtures/lamps to T-8 or T-5Relamp 32 watt T-8 lamps with 28 watt T-8
- ✓ Eliminate incandescent bulbs
- ✓ Convert all exit lighting to LEDs or switch to photo-luminescent signs that require no electricity
- ✓ Avoid retrofitting with indirect lighting that require more fixtures and more wattage
- ✓ Exit signs fixtures shall be rated less than 12 W each
- ✓ Increase reliance on task lighting in order to decrease general illumination without adversely affecting productivity
- ✓ Task lighting (not in the ceiling) shall have a control switch near the workstation.
- ✓ Improve lighting controls
- ✓ Photoelectric and/or dimming controls shall be provided for lighting of common use areas greater than 40m² and within 6 m of the building perimeter. Apply recognized daylighting design techniques to improve daylight levels, increase daylight penetration while minimizing adverse effects such as glare.
- ✓ Implementation of **lighting controls:**
  - Occupancy sensors
  - Timers (stand alone or energy management system/EMS-interfaced)
  - Daylight harvesting sensors and controls including simple photocells

Additionally, changing existing habits can have a positive effect with developing an energy conservation culture. For instance, lights can be turned off whenever an area is unoccupied; this includes unused common areas such as copy rooms, break rooms, conference rooms and restrooms. If lights can be controlled separately, it is wise to turn off lights whenever there is enough natural light. Posting reminders next to light switches or installing occupancy sensors to keep lights off in unused areas is an important energy savings measure. Occupancy sensors turn off lights automatically when space is unoccupied; savings can be equivalent to 25% of the lighting energy cost.

Other measures may include:

- ✓ Converting outdoor lighting to high pressure sodium
- ✓ Eliminating/reducing outdoor decorative lighting
- ✓ Considering LEDs for general indoor and outdoor illumination (the technology is almost there)
- ✓ Considering outdoor solar powered-LED light fixtures (this technology is also almost there)
- ✓ Requiring white or off-white wall paints for maximum light reflectivity; this strategy helps adequate lighting levels can be achieved with minimum lighting wattage
- ✓ When renovating spaces, designing new lighting for less than 1.0 watts per square foot

LED STREET LIGHTING

While LED street lighting is not specifically mentioned in the MOE Guidelines, the Town of Espanola is proud of its commitment and investment in the municipal street lighting retrofit. The ratepayers of the Town of Espanola will be pleased with the Council's commitment and forward thinking, in its progressive

investment in LED lighting, which will lead to substantial annual savings on the hydro bill, coupled with significant energy consumption.

BOILERS

- ✓ Replace old boilers with new high efficiency boilers
- ✓ Ensure that replacement boilers are not oversized
- ✓ Retrofit boilers with variable flame burners
- ✓ Consider multiple high efficiency modular boilers to improve efficiency by better matching hot water heating loads
- ✓ Consider replacing boilers with co-generators (which also produce electricity)
- ✓ Control boiler output water temperature with outside air temp reset so boiler does not need to heat water hotter than necessary
- ✓ Retrofit boilers with flue gas/stack heat recovery

CHILLERS

- ✓ Replace old chillers with new high efficiency chillers whose efficiency curve best matches your load profile
- ✓ Do not over-size replacement chillers
- ✓ Operate at peak efficiency (by adjusting water flow, load, condenser/evaporator water temps, etc.)
- ✓ Replace old cooling towers with new high efficiency towers

AIR CONDITIONING

- ✓ Replace older AC equipment with maximum efficiency models
- ✓ Discontinue use of inefficient window units
- ✓ Reduce AC operating hours
- ✓ Turn off reheats and stop controlling humidity levels during the cooling season
- ✓ Clean cooling coils on a regular basis
- ✓ Maximize use of "free cooling" with economizer cycle
- ✓ Use open windows and passive cooling when mechanical air conditioning is not needed
- ✓ Close windows when air conditioning is in operation

TEMPERATURE CONTROLS

- ✓ Reduce temperature settings in winter
- ✓ Increase temperature settings in summer
- ✓ Maximize night, weekend and holiday temperature setbacks
- ✓ Install tamper proof or remote thermostats

MOTORS, FANS AND PUMPS

- ✓ Adjust operating schedule to minimize run hours (review and update periodically)

- ✓ Replace old motors, pumps, and air handling units with high efficiency
- ✓ Control motors serving fans and pumps with variable speed drives (VSDs)
- ✓ Operate VSDs at maximum acceptable turn-down; vary by time of day and occupancy; also vary by season
- ✓ Convert constant volume fan system to variable air volume
- ✓ Reduce outside air volume during morning warm-up cycle and where/whenever possible through damper settings and demand control ventilation
- ✓ Reduce needless pumping by eliminating three-way by-pass valves

HEAT RECOVERY

- ✓ Run around loops
- ✓ Heat wheels
- ✓ Heat pipes
- ✓ Desiccant wheels
- ✓ Air-to-air heat exchangers

SWIMMING POOLS

- ✓ Pool covers that significantly reduce the evaporation of pool water -- reducing pool heating boiler load as well as outside air ventilation and space heating requirements; they save chemical water treatment too
- ✓ High efficiency boilers for pool water heating
- ✓ Install heat recovery system

ENERGY MANAGEMENT SYSTEMS (EMS)

- ✓ Switch to direct digital control (DDC) systems
- ✓ Purchase EMS systems which are easy to program (so programming capabilities will be fully utilized by facilities staff)
- ✓ Utilize and optimize use of EMS energy conservation programs, e.g.
  - ✓ Optimal start/stop
  - ✓ Night setback
  - ✓ Demand shedding
  - ✓ Remote programmed lighting control

REDUCE SOLAR GAIN

- ✓ Install shades and awnings in the south and west facing windows to prevent overheating and too much glare from the sunlight during the summer

FUEL SWITCHING

- ✓ Consider converting electric space and water heating to natural gas

INFORMATION FEEDBACK SYSTEMS

- ✓ Accessible display units that show energy use and savings can have dramatic results in energy use behaviors

ADDITIONAL CONSIDERATIONS

- ✓ The Town of Espanola will also evaluate opportunities for natural gas-fired cogeneration and fuel switching from electric heating to natural gas with the goal to reduce the carbon footprint (as opposed to simply reducing the energy costs).
- ✓ LEED program elements are strongly considered where appropriate as an effective vehicle for moving toward more energy efficient future building state.

SHRINKING THE CARBON FOOTPRINT

The Town of Espanola targets reducing the carbon impacts in every aspect of its business, by:

- Investing in innovative, energy efficient products
- Making its own operations more energy efficient

UNDERSTANDING THE BENEFITS

Improving energy efficiency can deliver a range of benefits to the local economy at the Town of Espanola. Energy conservation initiatives are often evaluated based on the energy savings they deliver. As a result, the full value of energy efficiency improvements can be significantly underestimated. This also means that energy efficiency policy may not be optimized to target the potential of the full range of outcomes possible. Appendix B illustrates the direct financial benefits from the implementation of Energy Conservation Measures at two municipal facilities.

There are wider socioeconomic outcomes that can arise from energy efficiency improvement, aside from energy savings. Challenges exist in determining the full social benefits from the energy conservation activities. Firstly, the non-market, somewhat, intangible nature of the socioeconomic benefits, makes them difficult to quantify. Secondly, the effects due to energy efficiency alone can be complex to isolate and to attribute causality.

Non-tangible benefits from the Greenhouse emissions reduction include reduced risk to human health and welfare and less global warming and climate change.

Investment in energy efficiency and the increased disposable income can lead to direct and indirect job creation in energy and other sectors. This makes energy efficiency an important part of municipal government in terms of the Town of Espanola's green growth strategies.

Reduced energy-related public expenditures can free significant funds for other community projects. The Municipal budgetary position can be improved through lower expenditures on energy in public buildings.

This Plan outlines the long-term strategy for managing Conservation Demand Management. The current Conservation and Demand Management Plan covers the planned conservation projects in two of the municipal facilities for the next five years (Appendix B). Further evaluation based on energy assessments will result in expensing the project portfolio and the Conservation and Demand Management Plan will be revised accordingly. Specific Plan adjustments based on the changing business environment may be required to meet the dynamics of the community needs. Additional research and planning will be necessary to establish energy consumption targets and develop initiatives for consideration during the budget process and coordination with capital forecasts and effective asset management.

COSTS, SAVINGS AND LIFESPAN OF MEASURES

Appendix B illustrates the expected direct cost and savings estimates for the proposed measures at the Recreation Complex and Public Works Facilities.

RENEWABLE ENERGY

The Town of Espanola seeks to enhance Conservation and Demand Management initiatives by investigating and facilitating future implementation of renewable generation, green gas and energy reduction projects.

The Town of Espanola will evaluate opportunities for renewable energy projects in partnership with Espanola Regional Hydro. Any renewable energy projects will be included in the Conservation and Demand Management Plan.

PLAN IMPLEMENTATION

The Five Year Energy Conservation and Demand Management Plan considers overall five-year targets for energy consumption reduction at the Recreation Complex and Public Works facilities. The Plan also includes recommendations as to which measures can be most readily implemented to achieve targets. The Town of Espanola has established a schedule for implementations of the measures and timelines for completion of additional energy assessments as required.

The Town of Espanola is seeking greater prosperity for the community, balancing economic growth with environmental sustainability, which calls for innovation and leadership. The Town is rising to this challenge by improving the efficiency of its operations, and recognizes that it is of critical importance to optimize energy consumption and reduce greenhouse gases by improving air quality.

The Town of Espanola combines the expertise of its people, innovative technology, and collaborative partnerships to create solutions that reduce environmental impact and expand opportunities. Minimizing the environmental footprint across the value chain moves the Municipal business operations forward while helping people prosper and community thrives.

All Town of Espanola staff will play an essential role in the success of this Five Year Conservation Demand Management Plan. It will be the responsibility of the Council to create the necessary supporting structures, appoint the CDM Team, and allocate adequate resources for Plan implementation.

PRIORITIZING OF MEASURES

The priorities are set in several areas based on:

- ✓ Implementation costs and savings and simple payback
- ✓ Ease of implementation and importance
- ✓ Business trends as determined by the Town of Espanola and/or the CDM team

TIMELINES FOR MEASURES IMPLEMENTATION

Timelines are assigned based on measures/facility prioritization. These timelines allow for flexibility during implementation, and will be dependent upon the costs/incentives and business decisions driven by the Town of Espanola. Upon completion of the additional energy audits and energy assessments, the measures and timelines will be revised.

RESPONSIBILITY FOR MEASURES

The Conservation and Demand Management Team and Senior Staff are responsible for implementation of the conservation measures. Additionally, the Town of Espanola will establish guidelines, and/or use discretion to determine accountability for implementation.

INTEGRATION OF CORPORATE ACTIVITIES WITH CDM PLAN

The Town of Espanola is fully committed to make available any information relating to municipal energy conservation initiatives in the community. The Town of Espanola will work with other stakeholders, agencies and organizations to achieve energy consumption and greenhouse gas emissions reduction. Public dissemination of the Conservation and Demand Management Goals and Objectives will encourage successful implementation of the Plan.

MONITORING & EVALUATION

POST- ENERGY CONSERVATION AND DEMAND MANAGEMENT PLAN (DUE JULY 1, 2019)

Ontario Regulation 397/11 requires that the Town of Espanola report on the results of the Plan at the end of the 5-year planning period. At that time, the Town of Espanola will provide an update to include

any revisions to the Plan. The Town of Espanola submitted and published its 2011 Energy and Greenhouse Emission Report on July 1, 2013 and will continue to do so annually until July 1, 2019. At that time, the revised Plan will provide:

- ✓ A description of current and proposed measures for conserving and otherwise reducing energy consumption and managing its demand for energy
- ✓ A revised forecast of the expected results of the current and proposed measures
- ✓ A report of the actual results achieved
- ✓ A description of any proposed changes to be made to assist the public agency in reaching any targets it has established or forecasts it has made.
- ✓ Any additional Council initiatives geared at achieving or establishing new targets

ADMINISTRATION

As per the requirements of O. Reg. 397/11, the Energy Conservation and Demand Management Plan is available for public access through:

- ✓ Publishing the Five Year Conservation and Demand Management Plan on the Town of Espanola web site at www.espanola.ca
- ✓ Printed form, available for the public, at Town of Espanola office

An Energy Mandate is included in Appendix C. This Energy Mandate affirms commitment by the Town of Espanola to implement the Five Year Energy Conservation and Demand Management Plan.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

- ✓ The Town of Espanola is on its way to the implementation of a structured Conservation Program
- ✓ The Town of Espanola plans to complete energy audits to support its investment decision in technologies to reduce electricity expenditures and revise the current plan where appropriate
- ✓ Reasonable targets must be set based on analysis through the facility assessments
- ✓ A structured implementation framework has been set to secure the success of the CDM initiative

RECOMMENDATIONS

- ✓ Council adoption of Energy Mandate

- ✓ Develop a Conservation and Demand Management Program that will allow for the operationalization of the CDM Plan.
- ✓ Complete the additional energy audits and assessments (Appendix B-4)
- ✓ Revise Plan as required based on analysis, energy assessments and energy consumption trends
- ✓ Revisit the energy assessments toward the end of the 4th year period to facilitate the planning process in the next stages

APPENDIX

Appendix A*

GHG Report 2011

**Appendix A is located at www.espanola.ca*

Appendix B

Conservation and Demand Management Plan Details (Baseline Data)
Appendix B-1 – Measures Summary Table
Appendix B-2 – Energy Conservation Measures: Public Works Facilities
Appendix B-3 – Energy Conservation Measures: Recreational Facilities
Appendix B-4 – Energy Audit Schedule

Appendix C

Council Energy Mandate

APPENDIX A

GHG Reports are available on the Town of Espanola web site at www.espanola.ca

APPENDIX B – SUMMARY OF MEASURES

APPENDIX B-1

Operation	Type	MEASURES					
		Lighting Retrofit	Non-lighting Retrofits and Optimization				
			Occupancy Sensors	Replace Pumps	Replace Motors	VFD	Other
Public Works Admin Offices	Administrative offices	X	X				
Public Works Garage	Storage facilities	X					
Library	Public libraries	Evaluate					
Municipal Office	Administrative offices	Evaluate					
Police Station	Fire/police stations	Evaluate					
Recreation Complex	Administrative offices	X				X	HVAC , Sync Belt
Water Treatment Plant	Facilities related to the treatment of water			Evaluate	Evaluate	Evaluate	
Sewage Treatment Plant	Treatment of sewage					X	Replace blowers

APPENDIX B-4

Operation	Type	Energy Audit Schedule
Public Works Admin Offices	Administrative offices	2014
Public Works Garage	Storage facilities	2014
Library	Public libraries	2016
Municipal Office	Administrative offices	2016
Fire Station	Fire police stations	2017
Police Station	Fire/police stations	2017
Recreation Complex	Administrative offices	2014
Water Treatment Plant	Facilities related to the treatment of water	2015
Sewage Treatment Plant	Treatment of sewage	2015

APPENDIX B-2

PUBLIC WORKS

Energy Conservation Measures	Estimated Demand Savings (kW)	Estimated Electricity Consumption Savings (kWh)	Estimated Annual Electricity Bill Savings	Estimated Incentives	Estimated Capital Cost for Measures	Estimated Capital Cost for Measures with Incentives	Simple Payback with Incentives (years)	2013 Energy Consumption Baseline	Five Years Target
Lighting	7.76	15893.29	$3814.39	$3065.88	$9392.00	$6326.12	1.7	70,236 kWh	23%
Occupancy Sensor Fan + Light	0.00	135.47	$32.51	0.00	$100.00	$100.00	3.1		
Totals	**7.76**	**16,029**	**$3,846.90**	**$3,065.88**	**$9,492.00**	**$6,426.12**	**1.7**		

APPENDIX B-3

RECREATION COMPLEX

Energy Conservation Measures	Estimated Demand Savings (kW)	Estimated Electricity Consumption Savings (kWh)	Estimated Annual Electricity Bill Savings	Estimated Incentives	Estimated Capital Cost for Measures	Estimated Capital Cost for Measures with Incentives	Simple Payback with Incentives (years)	2013 Energy Consumption Baseline	Five Years Target
Lighting	4.40	16482.00	$2503.67	$1592.60	$9388.00	$7,795.40	3.1		
HVAC	18.16	50,856	$7,757.96	$14,530.40	$66,600.00	$52,069.60	6.7		
VFD	3.02	23997.18	$3621.12	$2410.00	$13500.00	$11,090.00	3.1	**1,313,640**	**7%**
Sync Belt	1.12	3289.86	$501.46	$895.20	$2500.00	$1,604.80	3.2		
Totals	**26.70**	**94,625**	**$14,384.20**	**$19,428.20**	**$91,988.00**	**$72,559.80**	**5.0**		

APPENDIX C

COUNCIL ENERGY MANDATE

WHEREAS the Town of Espanola prides itself in being responsible stewards of all resources, and

FURTHER, the town recognizes that energy is a resource that must be efficiently and properly managed

AND FURTHER, the Town of Espanola is committed to delivering sustainable and reliable cost effective services to the community, while meeting regulatory requirements and obligations

AND FURTHER, the Town of Espanola acknowledges that energy is an operating expense, which can be controlled, where the anticipated fiscal savings will benefit the local community

AND FURTHER, the Town of Espanola will continue to reduce energy consumption and mitigate costs through the wise consumption of energy

AND FURTHER, the Town of Espanola recognizes the need to build conservation awareness to develop energy management understanding throughout the Town, and all must pursue that responsible energy management

AND FURTHER, the Council of the Town of Espanola will designate a leadership team to manage initiatives and implement the Five Year Conservation Demand Management Plan

AND FURTHER, Council will ensure that the necessary resources are budgeted and allocated to implement the goals and objectives as recommended in the Five Year CDM Plan

AND FURTHER, it is also recognized that this initial Plan will evolve as knowledge and experience allows for additional improvements and efficiencies

THEREFORE, be it resolved that that the Town of Espanola endorse the goals and vision as outlined in the Five Year CDM Plan, and support the actions and initiatives necessary to meet these goals.