



**Township of Seguin
Community Services Department**

2014 Energy Management Plan

Dec 2014

Seguin Township Energy Management Plan

SECTION 1 – INTRODUCTION AND BACKGROUND

1.1 Background

The Township of Seguin is a thriving municipality home to 4,280 permanent residents that seasonally swells to over 15,000 residents during the summer months. Stretching over 700 square kilometres, Seguin is a vibrant and growing community located in the picturesque District of Parry Sound.

Seguin was formed in 1998 through the amalgamation of the following Municipalities: Christie, Foley, Humphrey and the Village of Rosseau. At that time, the western part of the Township of Monteith was annexed to Seguin.

All of our local communities are home to community centres, parks, trails and beaches and offer many recreational opportunities. Programming and community events are in place for seniors, adults, young adults and youth.

Our Township is a community that preserves our unique natural heritage features such as lake quality and shoreline character based on the "[environment first](#)" principle. With largely an environmental focus, our community is truly the "*Natural Place to be*".

As an environmentally mindful organization, Seguin recognizes the importance of energy management and the successful integration of energy efficient practices into the "business as usual" conduct of the municipality. Seguin's energy management plan will be based on a regular assessment of energy performance, the implementation of procedures and measures to reduce energy and increase efficiency.

SECTION 2 – OUR COMMITMENT

2.0 Commitment by Seguin Township

The Seguin Energy Management Plan will provide a 5-year road map for energy management in the Township of Seguin. The plan will summarize the annual energy consumption and greenhouse gas emissions for Seguin's operations, attempt to reduce energy costs; and satisfy the Ontario government's requirements under *Regulation 397/11 Green Energy Act (2009)*.

2.1 Declaration of Commitment

Whereas the Township of Seguin is a community that preserves our unique natural heritage and implements all policies based on the "environment first" principle.

And whereras the Township of Seguin recognizes the importance of reducing energy consumption and its related environmental impact.

The Township of Seguin is committed to using existing capital allocations, leveraging other funding agencies and dedicating future financial resources to increase energy efficiencies by reducing our energy consumption and costs throughout all municipally owned facilities, equipment and operations.

2.2 Vision

Our vision is to strategically reduce our total energy consumption and mitigate costs through the wise and efficient use of energy and resources. We will exercise stewardship in our use of energy resources to demonstrate community leadership and enhance the overall quality of life in our community.

2.3 Goal

Our goal is to implement cost effective initiatives to reduce energy consumption by improving the energy efficiency of our facilities, equipment and operations, achieve cost savings and reduce greenhouse gas emissions. Seguin staff will strive to incorporate energy efficiency as a key consideration in all organizational procedures, procurement practices, financial management, and all facility operations and maintenance.

2.4 Objectives

- 1) To create a culture of energy conservation within the Township.
- 2) To improve the efficiency of our facilities by utilizing best practices to reduce our energy consumption and mitigate the impact of energy cost increases.
- 3) To implement energy audits at specific municipal facilities during the next 4 years.
- 4) Explore new ideas and trends related to energy management and improve knowledge in energy consumption and energy conservation.

2.5 Overall Target

We will reduce our consumption of fuels and electricity in all municipal operations by an average of 1.5% per year between 2014 and 2019. To achieve these objectives – the Township by the year 2019 will target:

- A reduction in energy consumption by 90,745.61 kWh of electrical, 943.86 cubic metres of natural gas, 6393.36 litres of propane and 3669.38 litres of fuel oil.
- A reduction in GHG emission by 30,856.37 kg CO₂e.

Table 2: Goals and Targets to conserve energy

	Year 2013 level	Goals by 2019
Electrical consumption	1,300,687.06 (KwH)	1,209,941.45
Natural gas consumption	13,528.69 (Cubic metres)	12,584.83
Fuel Oil	52,594.4 (Litres)	48,925.02
Propane	91,638.21(Litres)	85,244.85
GHG	442274.27 (kg CO ₂ e)	411,417.90

3.0 – Organizational Understanding

As a seasonal municipality, our community grows during the summer months and is home to many more residents and visitors. Usage in our facilities between May and

September increases substantially compared to usage in the winter months. The decline in usage during the winter months presents a unique challenge to energy management, in that the buildings are partially occupied and still must have access to heating, lighting and ventilation, thus increasing energy costs even though occupancy may be much lower.

The types of energy used in the operation of the Township's facilities and delivery of services include the following:

- Electricity – purchased through Local Authority Services' (LAS) bulk purchase program and provided by Hydro One. LAS, is a subsidiary of the Association of Municipalities of Ontario (AMO). The LAS program is intended to provide municipalities with a hedge against price fluctuations, and therefore save them money on electricity. Between July 2013 and June 2014 the Township has saved approximately \$11,794.28 by using the LAS program.
- Fuel oil – provided by Parry Sound Fuels
- Natural Gas – provided by Union Gas
- Propane – provided by Georgian Bay Propane.

3.1 How Energy is Currently Managed

Energy Data Management: Our municipal energy data is managed through the management team. The data is received via the Treasury department then tracked and monitored by entering the information into a spreadsheet.

The Community Services Department is responsible in maintaining all Township owned facilities, which includes the implementation of energy conservation measures to reduce operating costs and CO2 emissions.

With the exception of the Seguin Municipal Office, Humphrey Museum, Public Works Buildings and Fire Halls, all other buildings are open to the public on average 10 hours per day, 365 days per year. All of these facilities are located in our rural community surrounded by parks, beaches and open spaces.

Energy Supply Management: our municipal energy is supplied via a number of providers as outlined:

- Electricity – the Township has adopted the LAS bulk purchase program and purchases electricity throughout this program.
- Fuel oil is supplied on an as needed basis and priced at standard rates offered by the provider.
- Natural gas is supplied on an as needed basis and priced at standard rates offered by the provider.
- Propane is supplied on an as needed basis and priced at standard rates offered by the provider.

Energy Use Management: The day to day management of energy has been primarily the responsibility of the Community Services Supervisor. However, this plan ensures that all municipal departments have a responsibility for the management of energy consumption and the energy performance of the Municipalities facilities and equipment.

3.2 Past Energy Initiatives

The Township of Seguin has participated in a number of energy conservation initiatives over the past number of years. In 2011, the Township participated in a Hydro One lighting audit on every facility to retrofit fixtures with more energy efficient bulbs.

Energy conservation projects completed since 2011 have fallen into the categories of lighting, heating/cooling/ventilation, insulation, and motors/pumps. Examples of specific projects completed to date are outlined below:

Lighting Upgrades:

- Foley Community Hall –installation of LED lights (2014)
- Humphrey Public Works garage – switched to T-8 from T-12(2014)
- Humphrey Community Centre – switched a portion of lighting to T-8 (2011)
- Rosseau Nursing Station – use of T-8 lighting during original construction (2007)
- Foley Public Works, Christie Public Works, Humphrey Public Works – partially switched to T-8 lighting (2011)
- Humphrey, Rosseau, Foley, & Christie Fire Halls – partially switched to T-8 lighting (2011)
- Installation of motion sensors on all indoor lighting in most Community Centres.
- Installation of low-flow toilets in a majority of facilities.
- Street light replacement with LED lighting on a number of fixtures.
- Foley Sports Court – LED high efficiency lighting.

Heating/Cooling/Ventilation

- Orrville Community Centre – installation of new air conditioner compressor (2013)
- Humphrey Community Centre – removed 1 fuel oil hot water tank (2012)
- Ice Plant – installation of energy efficient condenser (2011)
- Ice Plant – installation of a heat reclaim unit (2011)
- Rosseau Memorial Hall – new boiler (2010)
- Installation of air conditioner at the Foley Community Centre

Insulation

- Upgraded insulation during renovation project at the Foley Community Centre (2014)
- Upgraded insulation at the Humphrey Barn (2011)

Roof Upgrades

- New steel roof on the Humphrey Barn (2012)
- New roof on the Orrville Community Centre (2014)

3.3 Future energy initiatives

- Rosseau Firehall –convert from fuel oil to propane (2014)
- Ice Plant – purchase of a new Olympia Ice Resurfacer with a Laser Ice Leveller (2014)
- Arena lighting – switch to LED lighting (2014)

- Installation of a new water treatment system at arena (2014)
- Municipal office – convert boilers from fuel oil to propane (2014)
- Change remaining T-12 lighting to T-8 lighting throughout the Township (ongoing)
- Installation of motion sensors on all indoor lighting in all remaining community centres
- Installation of low-flow toilets in all facilities
- Replace the doors in the arena between the ice surface and the lobby to reduce wasted energy
- Continue to monitor the energy efficiency of all doors and windows in all facilities
- Vending machines to be capable of operating in at least one of the following low power mode states: (1) lighting low power state; (2) refrigeration low power state, or (3) whole machine low power state (e.g., lights are off and the refrigeration operates in its low power state).

4.0 Facility Understanding

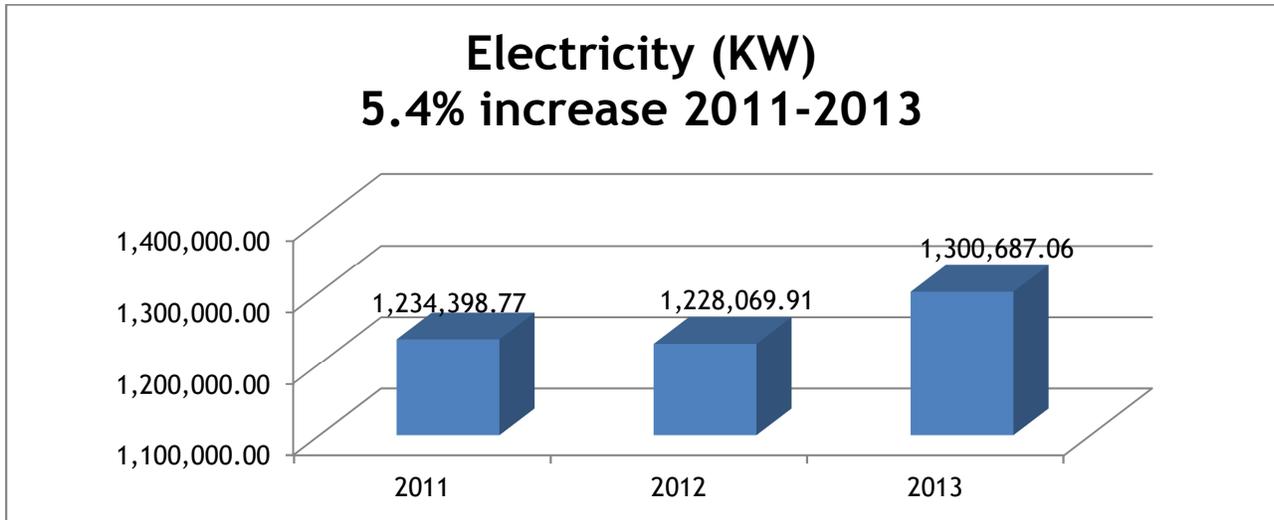
The Township owns 18 building facilities that cover about 115,000 square feet including a Heritage building dating back to the 1870s to a newly renovated community centre in 2014. The size of each of the buildings is shown in Table 1. This will aid in creating an energy profile for the Township.

Table 1: Seguin Township Facility by Size

Building Code	Facility	Gross Square Feet	Gross Square Metres
1	Seguin Municipal Office	14,616	1,357.9
2	Orrville Community Centre	9,734	904.32
3	Christie Public Works	3,300	306.58
4	Foley Community Hall	10,908	1,013
5	Foley Public Works	6,000	557.42
6	Rosseau Fire Hall	4,725	438.97
7	Humphrey Fire Hall	9,375	870.97
8	Humphrey Public Works	8,176	759.58
9	Rosseau Memorial Hall	4,680	343.79
10	Humphrey Community Centre	35,303	3,279.80
11	Christie Fire Department	5,625	522.58
12	Humphrey Museum	450	41.806
13	Rosseau Nursing Station	5,300	492.39
14	Rosseau Fieldhouse	3,000	278.71
15	Rosseau Waterfront	600	55.742
16	Foley Matheson Park	600	55.742
17	Foley Fire Department	4,800	445.93
	Total Facility Area	128,942	11,888

4.1 Electricity Consumption Trend

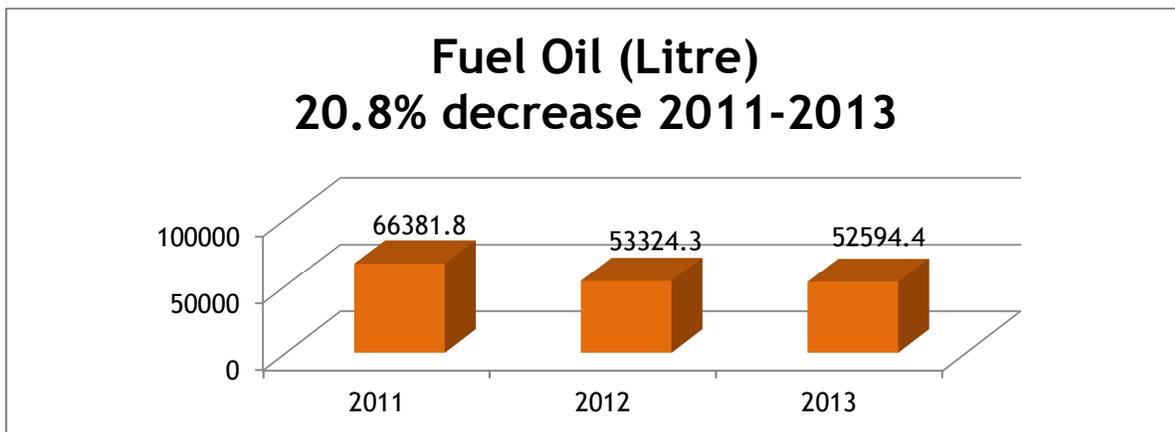
Seguin's electricity consumption figures were 1,234,398.77 kWh in 2011, and 1,228,069.91 kWh in 2012, and 1,300,687.06080 kWh in 2013 representing a 5.4% increase in electricity consumed over this 2 year period.



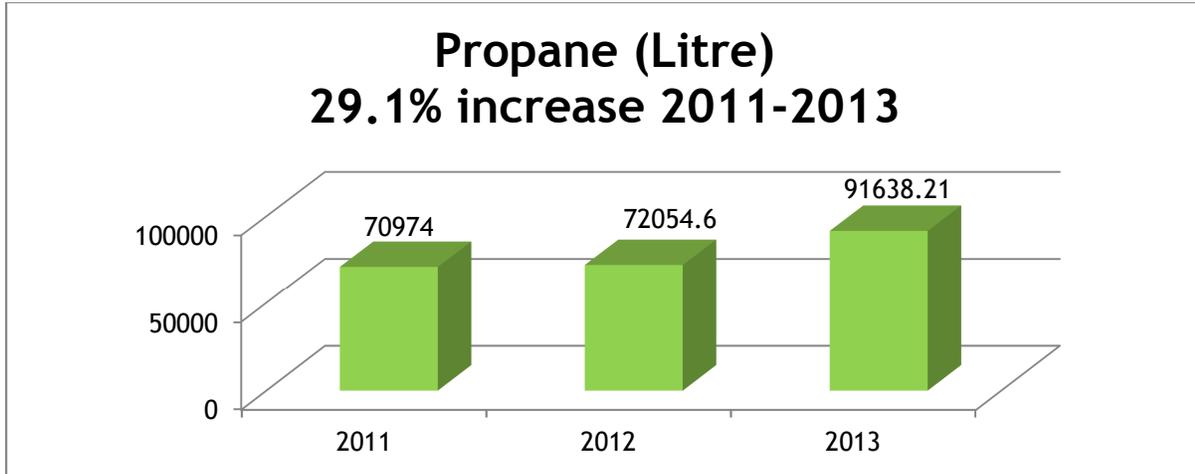
4.2 Fuel Oil, Propane and Natural Gas Consumption Trend

Many of Seguin's facilities are powered by fuel oil, natural gas and propane. Given our northern location and the unpredictable weather in the winter, consumption of these fuels is directly impacted by fluctuations in temperature from year to year.

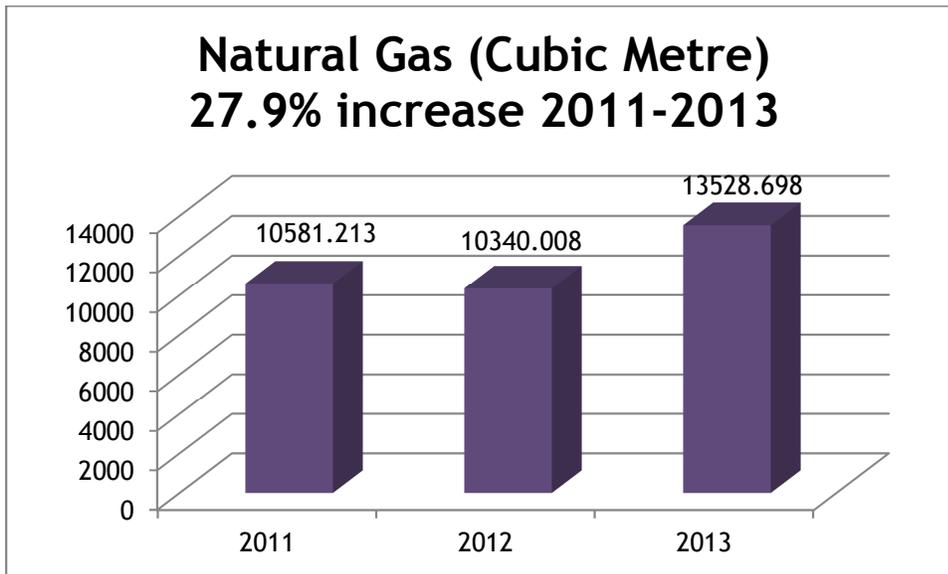
Fuel oil used by the Township totalled 66,381.8 litres in 2011, 53,324.3 litres in 2012, and 52,594.4 litres in 2013 representing a 20.8% decrease in fuel oil consumption over this 2 year period.



Total propane used in 2011 totalled 70974.0 litres in 2011, 72054.6 litres in 2012, and 91638.21 litres in 2013. This represents a 29.1% increase in propane usage from 2011-2013.

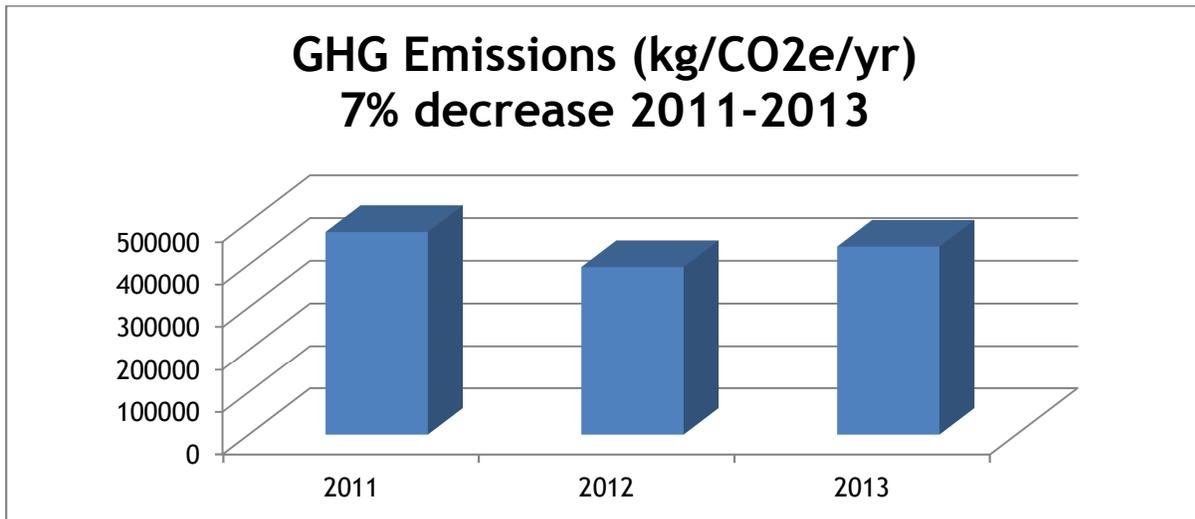


Natural gas consumed by the Township totalled 10,581.213 cubic metres in 2011, 10340.008 cubic metres in 2012, and 13528.698 cubic metres in 2013, resulting in an overall increase of 27.9%.



4.3 Greenhouse Gas Emission Trend

GHG emissions by the Township of Seguin have decreased by 7% over the 2 year period of 2011 to 2013.



5.0 Energy Management Objectives

The main objective for the Township of Seguin facilities are:

- 1) To establish an Energy Management Team
- 2) To implement sound operating and maintenance practices
- 3) To develop a tracking and reporting process
- 4) To complete employee training and staff awareness
- 5) Implement no cost & low cost programs, processes and projects
- 6) Continue to purchase electricity through the LAS program
- 7) Plan for larger expenditures in coming years as the Capital Budget allows

5.1 Energy Management Team

The Township of Seguin will develop a more focused effort on energy management through the development of an energy management team. This team will be responsible for the implementation and measurement of the Energy Management Plan and review the plan strategies. The team will meet on a semi-annual basis to review energy consumption initiatives, discuss successes and challenges; and prepare an annual report for Council in February of each year. The team will include the C.A.O (Energy Champion), Treasury (cost management), Community Services, Public Works and Fire Services (operations and maintenance), Planning (sustainability), Building and By-law (inspection and advice), Community Services and Clerk's (communication).

5.2 Sound Operating and Maintenance

The Community Services department will be responsible for the sound operation and to ensure preventative maintenance program is in place for the Township facilities.

5.3 Training

The Community Services Department will train staff on energy use and conservation. This will occur annually at the All Staff Strategic Planning Session. Individuals on the Energy Management Team will attend more specific Energy Workshops as a training option where applicable.

5.4 Energy Purchasing

The Township of Seguin will continue to purchase electricity through the LAS electricity program. Other energy sources (fuel, propane, natural gas) will be purchased through our local suppliers.

5.5 Programs/Process/Projects

The Township will participate in a number of programs, processes and projects where identified by the Energy Management Team or Community Services Department. The following list of initiatives may be considered over the duration of the plan.

Programs:

- Implement Energy Audits on identified buildings over the next four years. The Energy Management Team will make a decision on whether to hire a consultant to complete these Audits or investigate the use of the LAS free energy audit services for buildings.
- Identify and investigate a Streetlight Replacement Program – upgrade to LED as streetlights require replacement.
- Host Lunch & Learn session for Township staff to support energy conservation.
- Develop stories or case studies of successful Township Energy Initiatives and share with entire staff and community.
- Include annual Capital Funding for Energy Management Initiatives.

Processes:

- Implement a process to track on a monthly basis energy use and cost for each building and provide year over year comparative results to the management team.
- Implement a regular review of energy usage and conservation results by the Energy Management Team.
- Utilize the LAS Audit and Energy Performance Benchmark Best Practice Reports as reference materials.
- Implement a building start-up and shut down schedule, where appropriate, and add it to standard work procedures for staff to eliminate waste and maximize equipment efficiencies.
- Vending machines, refrigerators, freezers: ensure no buildup of dirt and dust on backside coils. Renegotiate with Vending Owners for motion activated lighting. Unplug during off-season if possible.
- Use power bars on PCs and turn off at night and weekends, where possible.
- Make use of “free” cooling in summer by programming building control systems where possible to bring in 100% outdoor air at night.
- Turn off printers and copiers at night and on weekends.

Projects:

- Complete an internal review of all Township buildings to confirm: type of lighting, type of heating/cooling, type of thermostats, presence of exhaust fans, presence/type/age of pumps, presence/condition of weather stripping and floor sweeps, other equipment that utilizes energy.
- Continually investigate and pursue potential funding opportunities. Potential sources of funding can be found at www.nohfc.com, www.nrcan.gc.ca/energy/funding/4943.
- Complete an analysis of energy demand for the various Township buildings – including drivers of demand and associated costs.
- Investigate renewable energy projects (i.e. Solar) at Township Owned Facilities. Unfortunately in 2014 Seguin was denied a Solar project at the Christie Fire Hall. An opportunity to apply for the same project exists should the FIT program be opened again for applications in the near future.
- Install motion sensors for lights and heating where appropriate.
- Enhance building envelope by replacing caulking, weather-stripping, and insulation where appropriate.
- Review and upgrade/remove/replace baseboard heaters.
- Install remote thermostats for baseboard heaters.

6.0 Project Execution and Evaluation

The Township of Seguin will carry out the required procedures and communication programs suggested in this plan and implement them methodically over the next four years.

The Energy Management Team will be responsible to facilitate the implementation on a facility level, including energy performance reporting.

The Energy Management Plan will be reviewed and evaluated annually. The plan will be reviewed and updated every five years as required by provincial legislation.