



The Township of Algonquin Highlands



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Energy Management Plan

2014 - 2019

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Introduction

In 2009, the Ontario Government passed the *Green Energy Act* as part of a commitment to help public agencies better understand and manage their energy consumption. Ontario Regulation 397/11 under the *Green Energy Act 2009* requires public agencies to report their energy consumption and greenhouse gas (GHG) emissions. Reporting began annually in 2013 (reporting for 2011). The regulation also requires public agencies to develop and implement energy Conservation and Demand Management (CDM) plan starting in 2014. These plans are designed to provide information on how public agencies will conserve energy, and will be updated every 5 years starting in 2019.

1.0 Township Profile

1.1 Key Personnel:

The Chief Administrative Officer will be The Township of Algonquin Highlands Plan Administrator. It is his/her responsibility to ensure all aspects of the plan are implemented, and that best practices are being followed. The Plan Administrator will also be responsible for updating Council on all aspects of the plan.

Department Heads will be responsible for ensuring that their staff are utilizing best practices in the conservation of energy.

Annual reporting of energy intensity and greenhouse gas emissions to the Province will be carried out by the Plan Administrator.

1.2 Township Facilities:

The Township owns 22 facilities with a gross floor area of approximately 49,877 ft². The Township employs 27 permanent full-time and 6 permanent part-time employees from these locations.

Facility Type	# Of Buildings	Total ft ²
Community Centre	3	7,484
Municipal Office	3	6,483
Cultural Facility	2	3,200
Library	1	1,060
Fire Station	3	13,136
Community Policing Building	1	384
Public Works Shed	2	5,700
Recreation Centre	1	5,720
Landfill	5	460
Airport	1	6,250
TOTAL	22	49,877

1.3 Background:

With the exception of community centres and fire stations, our facilities operate on scheduled hours, ranging from 10 hours per week, to 40 hours per week. Community centres and fire stations are based on an as needed basis, and are available 24/7.

Hydro One is our hydro utility provider, propane is provided by Moore propane, and oil is provided by both Bluewave Energy and Huntsville Fuels.

2.0 Energy Management Policy

2.1 Commitment by the Township:

The Township of Algonquin Highlands will use existing resources and leverage outside agencies where appropriate, to develop and implement a strategic Energy Management Plan that will reduce our energy consumption and its related environmental impact.

2.2 Vision:

The Township of Algonquin Highlands will strive to continually reduce energy consumption and costs through sensible use of energy and resources, while still maintaining an efficient and effective level of service for our ratepayers and the general public.

2.3 Goals:

- To implement a comprehensive energy management program
- To improve energy efficiency of Township facilities by utilizing best practices
- To reduce operating costs, energy consumption and the associated greenhouse gas emissions
- To provide education and awareness opportunities to Township staff as well as the general public
- To create a culture of conservation
- To improve the reliability of The Township of Algonquin Highlands' equipment and reduce maintenance costs

2.4 Objectives:

- Improve awareness of climate change and greenhouse gas emissions
- Demonstrate energy management leadership and commitment within The Township of Algonquin Highlands
- Demonstrate sound operating and maintenance practices
- Enhance fiscal accountability through savings and cost avoidance leading to both direct and indirect savings
- Provide an ongoing forum for discussion within The Township of Algonquin Highlands on energy management to explore new ideas and trends

2.5 Targets:

The Township of Algonquin Highlands will make every effort to reduce energy consumption by 1% per year between now and 2020. This is taking into consideration no major changes in our climate.

3.0 Energy Consumption and Costs

3.1 Energy Intensity and GHG for 2012:

Operation Name	Ft ²	kWh	Furnace oil (litres)	Propane (Litres)	GHG	Energy Intensity (ekWh/ft ²)
Haliburton-Stanhope Airport	6,250.0	30,645.9		2,457.5	6,246.01268	7.66776
Club 35	1,700.0	16,022.96		1,739.4	3,967.44257	16.61877
Dorset Community Police	384.0	7,824.85			625.98800	20.37721
AH Fire Station 60 (Dorset)	3,600.0	17,070.14	5,849.8		17,320.39082	22.25499
Dorset Museum	3,200.0	11,472.87	2,594.8		7,994.90269	12.32470
Algonquin Highlands' Satellite Administrative Office	2,602.5	70,605.03			5,648.40240	27.12969
Dorset Recreation Centre	5,720.0	127,877.11			10,230.16880	22.35614
Dorset Public Works Garage	2,200.0	6,111.66	7,887.0		21,999.98392	41.41636
Water Trails Office	500.0	20,153.56			1,612.28480	40.30712
Oxtongue Lake Community Centre	960.0	6,550.53	2,243.5		6,642.97776	32.01091
AH Fire Station 70 (Oxtongue)	3,584.0	10,637.60		4,824.4	8,299.80441	12.43187
Stanhope Firefighters' Community Centre	4,824.0	25,780.45	5,764.7	6,090.8	27,189.21112	27.10050
AH Fire Station 80 (Stanhope)	5,952.0	31,808.71	7,388.9		22,697.22699	18.72390
Stanhope Public Library	1,060.0	8,842.78	3,139.3		9,269.56806	40.26175
Algonquin Highlands' Main Administrative Office	3,380.0	57,412.64			4,593.01120	16.98599
Stanhope Public Works Garage	3,500.0	23,861.00	11,407.2		33,020.94572	41.94436
Dorset Landfill	80			549.3	848.03320	48.62914
Hawk Lake Landfill	80			447.8	691.39604	39.35353
Maple Lake Landfill	100			837.6	1,293.27188	58.88933
Oxtongue Lake Landfill	100			482.6	745.11124	33.92876
Pine Springs Landfill	100			378.6	584.56778	26.61688
TOTAL	49,876.5	472,677.7	46,275.2	17,808.0	191,520.7	607.3

3.2 Energy Cost for 2012:

Operation Name	Hydro	Furnace Oil	Propane	Total
Haliburton-Stanhope Airport	\$2,310.26		\$2,347.98	\$4,658.24
Club 35	\$1,209.28		\$1,063.53	\$2,272.81
Dorset Community Policing Building	\$667.39			\$667.39
AH Fire Station 60 (Dorset)	\$1,472.50	\$3,167.35		\$4,639.85
Dorset Museum	\$822.67	\$1,851.46		\$2,674.13
Algonquin Highlands' Satellite Office	\$4,427.76			\$4,427.76
Dorset Recreation Centre	\$8,270.12			\$8,270.12
Dorset Public Works Garage	\$557.09	\$5,754.44		\$6,311.53
Trails Office	\$1,564.65			\$1,564.65
Oxtongue Lake Community Centre	\$305.76	\$1,698.10		\$2,003.86
AH Fire Station 70 (Oxtongue)	\$782.02		\$1,969.54	\$2,751.56
Stanhope Firefighters' Hall	\$1,892.98	\$4,982.55		\$6,875.53
AH Fire Station 80 (Stanhope)	\$2,335.61	\$3,262.47	\$3,169.47	\$8,767.55
Stanhope Branch Public Library	\$930.27	\$2,608.32		\$3,538.59
Algonquin Highlands' Main Office	\$4,613.86			\$4,613.86
Stanhope Public Works Garage	\$2,117.41	\$7,492.70		\$9,610.11
Dorset Landfill			\$284.65	\$284.65
Hawk Lake Landfill			\$218.05	\$218.05
Maple Lake Landfill			\$408.24	\$408.24
Oxtongue Lake Landfill			\$238.63	\$238.63
Pine Springs Landfill			\$203.03	\$203.03
TOTAL	\$34,279.63	\$30,817.39	\$9,903.12	\$75,000.14

4.0 Projects and Processes

4.1 Past/Current:

The Algonquin Highlands main administrative office located on North Shore Road has had a ground source heat pump in place since 1990, providing central heating and cooling for the building.

In 2012 the Algonquin Highlands Fire Station 80 Stanhope, also located on North Shore Road, replaced both the furnace used for the Meeting Room, and the furnace located on the apparatus floor, with more energy efficient units.

In 2014 Algonquin Highlands Fire Station 70 Oxtongue Lake repaired radiant tube heaters and installed a propane furnace. This is expected to provide an immediate reduction in heating costs for this fire station.

In 2014 the Public Works garage in Stanhope replaced radiant tube heaters and installed a new energy efficient propane furnace as well as new higher insulation doors to reduce heat loss.

The Township constructed new hangars at the Haliburton-Stanhope Airport to facilitate the relocation of the Northeastern Fire Management Headquarters to the Airport and as part of the construction included LED lighting to reduce energy consumption. The hangars were also designed for future rooftop solar installation to further reduce energy consumption.

The Township's first solar project was installed in 2014 at the Dorset Tower at the new kiosk.

4.2 Identified Projects:

The Township of Algonquin Highlands will conduct an energy audit on all municipal facilities to determine what efficiencies can be found where, and subsequently develop a process by which changes and improvement can be implemented to improve energy consumption.

The Township of Algonquin Highlands is currently in the planning stages of building a new Public Works Garage for the Dorset yard. Construction is planned for 2015. Since the current Public Works Garage has been a major contributor to GHG and energy intensity, the Township is reviewing a variety of options for energy consumption; including solar and a high efficiency heat source furnace.

The main administrative office on North Shore Road is 23 years old and there is a considerable amount of heat loss through the windows in the winter. Staff are pricing new windows, and will be recommending replacement to reduce heat loss and conserve energy.

A new LED street light upgrade program is planned for 2015/16.

4.3 Measures to Ensure Success:

Staff will continue to monitor and assess energy performance of municipal facilities and will seek energy efficiency improvements.

Energy efficiency and cost analysis will be incorporated into the design of new construction projects and incorporated into capital planning and budget development procedures where practicable.

Staff will investigate and communicate funding sources for energy projects including government and utility grants and incentives.

The Township will utilize purchasing cooperatives to procure diesel and furnace oil. Opportunities to jointly procure other energy commodities will be investigated.

Energy efficiency will be considered as part of the criteria for selection and evaluation of materials and equipment.

5.0 Evaluation

Upon completion of the annual reporting, Township staff will review changes in annual consumption. This review will assist in tracking our overall consumption progress.

In addition, the Energy Management Plan will be reviewed and updated as necessary.