TOWNSHIP OF
BRUDENELL, LYNDOCH AND RAGLAN

Energy Conservation & Demand Management Plan

For the Period: 2019 to 2024

1.0 INTRODUCTION

The Township of Brudenell, Lyndoch and Raglan (BLR) has undertaken the development and implementation of an Energy and Demand Management Plan in accordance with the Ontario Regulation 397/11. This five-year plan runs from 2019 to 2024.

Our Municipality was formed in 1999 through the amalgamation of Brudenell and Lyndoch Township with Raglan Township. BLR has a population of approximately 1500. Our Municipality has an extremely unique White Water Provincial Park which runs through the centre of over 60,000 hectares of undeveloped, diverse, natural Crown lands. The Madawaska River and several undeveloped pristine lakes and rivers flow through the heart of our Municipality. We are also home to several thriving canoe/kayak and wilderness adventure industries. Rock hounds are never disappointed with their digs from the several rock/quarry mines established throughout our area. Development properties are accessed by a well-maintained secondary highway network. The positive effects of this access is realized by the several prosperous, second generation logging companies within our Township.

2.0 COMMITMENT

2.1 DECLARATION OF COMMITMENT

Council Resolution: The Township of Brudenell, Lyndoch and Raglan will allocate the necessary resources to develop and implement an Energy Conservation and Demand Management Plan as required under Regulation 391/11 of the Green Energy Act. Council supports energy planning to reduce our energy consumption and its related environmental impact.

2.2 VISION

The Township of Brudenell, Lyndoch and Raglan will continue to reduce our total energy consumption and associated greenhouse gases (GHGs) through wise and efficient use of energy resources, while still maintaining an efficient and effective level of service for our clients and the general public. This will involve a collaborative effort in increase the education, awareness, and understanding of energy management within the municipality. Total energy consumption includes electricity, oil and propane. While commitment from Council and Senior Management is crucial, everyone has a role in the wise use of energy.

2.3 POLICY

The Township of Brudenell, Lyndoch and Raglan will incorporate energy efficiency into all areas of our activity including our organizational and human resource management procedures, procurement practices, financial decisions and facility operations and maintenance. As a major component of the operating costs of municipal facilities and equipment, energy costs will be factored into the lifecycle cost analysis and asset management analyses and policies of the municipality.

2.4 GOALS

The Township of Brudenell, Lyndoch and Raglan's goal is to reduce the negative environmental impact of the Township's operations by reducing greenhouse gases.

The Township of Brudenell, Lyndoch and Raglan will maximize the use of the Township's fiscal resources.

2.5 OVERALL TARGET

The Township of Brudenell, Lyndoch and Raglan will reduce our overall municipal energy consumption by 10% from 2019 to 2024.

2.6 OBJECTIVES

The Township of Brudenell, Lyndoch and Raglan will strive to continually improve the energy efficiency of our facilities by utilizing best practices to reduce our energy consumption.

The Township of Brudenell, Lyndoch and Raglan will reduce our total energy consumption and mitigate the impact of energy cost increases.

The Township of Brudenell, Lyndoch and Raglan will raise staff and council awareness around energy consumption and energy conservation.

3.0 ORGANIZATIONAL UNDERSTANDING

3.1 MUNICIPAL ENERGY SITUATION

The Township of Brudenell, Lyndoch and Raglan uses three types of energy in its facilities: electricity, fuel oil and propane. Electricity is currently purchased through Hydro One. Fuel oil is purchased through McCarthy Fuel located in Killaloe, Ontario. Propane is purchased through Casey's Propane located in Bancroft, Ontario.

3.2 SUMMARY OF ENERGY CONSUMPTION, COST AND GHG'S

The total energy consumption of the municipality is represente3d in total equivalent kilowatt hours (kWh). The fuel oil and propane consumption has been converted into equivalent kWh (ekWh) and then added to the electricity consumption, which is already stated in kWh.

In order to track total energy consumption, the various energy types have been converted into equivalent kilowatt hours (ekWh). In order to track total greenhouse gas emissions, the emissions derived from the use of various energy types have been converted into equivalent kilograms of carbon dioxide (ekgCO2).

For the calendar year 2017, the Township's total annual energy consumption, in municipal operations, was 474,962.70 ekWh at a total cost of $49,720.50 and generated 100,278.89 ekgCO2 of greenhouse gas emissions.

2017 Energy Consumption		
Energy Source	**Energy Amount**	**Cost**
Electricity	77,668.65	$15,972.68
Oil	314,687.34	$28,402.52
Propane	82,606.71	$5,345.30
Source: Township of Brudenell, Lyndoch and Raglan data		

3.3 RENEWABLE ENERGY UTILIZED OR PLANNED

The Township of Brudenell, Lyndoch and Raglan aspires to show leadership in the promotion and development of renewable energy systems that are compatible with our asset management and land use planning objectives. The municipality investigated the potential to develop solar systems on municipal properties, however the cost was prohibitive.

4.0 PLANNING

4.1 STRUCTURE PLANNING

The Township of Brudenell, Lyndocyh and Raglan focus areas will be:

- Developing tracking and reporting processes
- Continuing training and education of Municipal staff
- Implementing no cost and low cost programs, processes and projects
- Planning for larger expenditures in coming years

4.2 PROCUREMENT PLANNING

In addition to the conservation of energy, the procurement of energy is equally important. The Municipality will develop a procedure for the negotiation of energy purchase contracts that appropriately addresses our cost considerations, available energy services, energy quality and reliability and other performance factors.

The Township of Brudenell, Lyndoch and Raglan will research purchasing electricity through Local Authority Services' Electricity Program or other service providers. Local Authority Services (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 on electricity costs.

4.3 ENERGY TRAINING

The Township of Brudenell, Lyndoch and Raglan will be continuing with ongoing staff training on energy use and energy conservation. General training will be offered or all staff, while additional, more technical training will be offered for operations staff. Natural Resources Canada Dollar to Sense energy workshops will be considered as a training option where applicable. Canadian Industry Program for Energy Conservation (CIPEC) connects industry with events, tools and technical information that can help companies reduce their energy consumption and carbon footprint.

5.0 PROCESSES AND PROJECTS

5.1 PROCESSES

- Implement a process to track on a monthly basis energy use and cost for each building and provide year-over-year comparative results
- Implement building start-up and shut down schedules, where appropriate, and add into standard work procedure for key building personnel to eliminate waste and maximize equipment efficiencies
- Make the most of the daylight and shading to reduce the need for electrical lighting by simply opening window treatments to fully let the sun shine in. Similarly, close blinds when it's sunny and hot to reduce reliance on air conditioning.
- Use power bars on computers and turn them off at night, where possible
- Turns off printers at night and on weekends, where possible
- Annual inspection of heating systems
- Annual cleaning of furnaces and replacement of furnace filters
- Identification of unnecessary plug loads
- Turn down heat at night
- Turn off air conditioning at night
- Keep thermostat at constant temperature during working hours
- Turn lights off during lunch time when staff is out of the building

5.2 PROJECTS

Between 2014 and 2019, the Municipality has undertaken a number of initiatives to reduce energy use, reduce energy costs and lower emissions within its day-to-day operations.

5.2.1 COMPLETED PROJECTS

[2014]

HARDWOOD LAKE FIREHALL

- Replaced outdoor dusk-til-dawn metal-halide lights with LED lights

QUADEVILLE FIREHALL

- Replaced outdoor dusk-til-dawn metal-halide lights with LED lights

PALMER FIREHALL

- Furnace inspected and cleaned

COMMUNITY CENTRE

- Replaced outdoor dusk-til-dawn metal-halide lighting with LED lights
- Changed bulbs in three exit light fixtures from incandescent to LED

PALMER GARAGE

- Replaced man door with insulated steel door

STREETLIGHTS

- Changed streetlights from metal-halide to LED

[2015]

PALMER FIREHALL

- Furnace inspected and cleaned

COMMUNITY CENTRE

- Installed programmable thermostat

[2016]

PALMER FIREHALL

- Furnace inspected and cleaned

COMMUNITY CENTRE

- Replaced weather stripping on eight man doors

[2017]

HARDWOOD LAKE FIREHALL

- Identified and eliminated unnecessary plug loads and removed old unused appliance

BRUDENELL FIREHALL

- Replaced outdoor dusk-til-dawn metal-halide lights with LED lights

PALMER FIREHALL

- Furnace inspected and cleaned
- Identified and eliminated unnecessary plug loads

QUADEVILLE FIREHALL

- Identified and eliminated unnecessary plug loads

COMMUNITY CENTRE

- Changed two exit light fixtures from incandescent to LED

[2018]

HARDWOOD LAKE FIREHALL

- Installed insulated overhead garage door

PALMER FIREHALL

- Furnace inspected and cleaned
- Replaced outdoor dusk-til-dawn metal-halide lights with LED light
- Installed insulated man door

QUADEVILLE FIREHALL

- Installed insulated overhead garage door

COMMUNITY CENTRE

- Changed two exit light fixtures from incandescent to LED
- Installed new low-flow toliets
- Changed bulbs in three exit light fixtures from incandescent to LED

PALMER GARAGE

- Repaired overhead garage doors to make more efficient until can be replaced

QUADEVILLE GARAGE

- Repaired overhead garage doors to make more efficient until can be replaced

5.2.2 PLANNED FUTURE PROJECTS

The Municipality endeavours to increase the energy efficiency of all facilities.

HARDWOOD LAKE FIREHALL

- Remove existing non-utilized man door and seal closed
- Replace indoor incandescent and fluorescent lighting with LED lighting fixtures
- Install new insulated man door
- Install programmable thermostat
- Install motion sensor lights
- Identify and re-caulk windows and doors

BRUDENELL FIREHALL

- Replace overhead garage doors
- Replace indoor incandescent and fluorescent lighting with LED lighting fixtures
- Install new man door
- Install programmable thermostat
- Install motion sensor lights
- Identify and re-caulk windows and doors

PALMER FIREHALL

- Replace overhead garage doors
- Replace indoor incandescent and fluorescent lighting with LED lighting fixtures
- Install programmable thermostat
- Install motion sensor lights
- Identify and re-caulk windows and doors

QUADEVILLE FIREHALL

- Install energy efficient windows
- Replace indoor incandescent and fluorescent lighting with LED lighting fixtures
- Install new man door
- Install programmable thermostat
- Install motion sensor lights
- Identify and re-caulk windows and doors

COMMUNITY CENTRE

- Install weather stripping on the remaining 8 man doors
- Install motion sensor lights
- Identify and re-caulk windows and doors

PALMER OFFICE

- Install insulation in attic
- Replace T8 lighting fixtures with LED lighting fixtures
- Identify and re-caulk windows and doors

PALMER GARAGE

- Install new energy efficient window
- Install weather stripping around man door
- Install insulated overhead garage doors
- Install motion sensor lights
- Remove vent in roof
- Replace T8 lighting fixtures with LED lighting fixtures
- Identify and re-caulk windows and doors

QUADEVILLE GARAGE

- Install new energy efficient window
- Install weather stripping around man door
- Install insulated overhead garage doors
- Install new man doors
- Install motion sensor lights
- Replace T8 lighting fixtures with LED lighting fixtures
- Identify and re-caulk windows and doors

6.0 EVALUATION

6.1 ENERGY PLAN REVIEW

The Energy Management Team will review progress towards the goals and objectives of the Energy Conservation and Demand Management Plan on an annual basis.

Annual energy reporting is required under the Regulation. This is an opportunity to evaluate and understand how energy is used in our buildings, identify potential energy conservation opportunities and track progress on energy conservation efforts.