



Naturally Spirited

KILLALOE-HAGARTY-RICHARDS

The Township of Killaloe Hagarty and Richards Energy Conservation and Demand Management (CDM) Plan

Ontario Regulation 507/18 (Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans) requires broader public sector (BPS) organizations such as municipalities to develop a CDM plan and update it every five years. Our updated CDM plan was developed in compliance with the regulation and covers the period from 2019 to 2024. This plan was passed by Council by resolution in July 2019.

The plan describes our municipality's:

- new energy conservation goals and objectives;
- past, current and proposed energy conservation measures;
- results from the first CDM plan; and
- changes made from the previous plan to help achieve the new goals and objectives.

Our updated CDM plan builds on the municipality's first plan which can be found on our website at www.killaloe-hagarty-richards.ca by clicking Green Energy Reports which is found under the tab "Timely Information" on the home page.

Hard copies of the plan are available at the municipal office located at 1 John Street, Killaloe ON K0J 2A0.

Goals and Objectives for Conserving Energy

Our goal is to decrease the environmental impact of our operations by reducing greenhouse gas emissions and ensuring a wise use of resources. We are also committed to working with other BPS organizations to better manage energy use across our community.

Our energy conservation objectives include:

- reducing our overall energy consumption by 10% in areas that did not hit the conservation targets originally indicated in our previous plan such as at our works yard which had an increase of 12% and our Round Lake Fire hall which had an increase of 13% between 2016-2017;
- maximizing fiscal resources through direct and indirect energy savings;

- improving the reliability of our equipment;
- creating a culture of conservation within our municipality; and
- integrating the energy conservation plan with our asset management plan, strategic plan, budget planning process, preventative maintenance plans and environmental management plans.

Tracking Energy Consumption and Savings

Annual energy reporting is required under the regulation and allows our municipality to understand how energy is used in our buildings, identify potential energy conservation opportunities and track progress on energy conservation efforts. We have included, in chart form, our annual GHG emissions and Energy Intensity ekWh/sqft consumption from 2014 to 2017 (see Schedule A). All our previous years' annual energy reports, along with our 2014 – 2019 energy conservation and demand management plan can be found on our website.

Overall our municipality has decreased GHG emissions across all municipal buildings by 20% between 2016 to 2017.

The greatest reductions were:

- 56% reduction with our streetlights;
- 63% reduction at our waste water treatment plant;
- 66% reduction at our water treatment plant; and
- 23% reduction at our Killaloe fire hall.

In addition to the municipality benefitting from reducing its energy use, residents and local businesses also benefit from more efficient use of tax payer dollars and better maintained/operated public buildings and facilities.

Changes from Previous Plan to Achieve our Goals and Objectives

While the municipality met some of its conservation objectives from the 2014 plan, we recognize other measures need to take place to ensure savings continue and that new conservation measures are identified and acted upon. We will review our CDM plan annually and determine if adjustments to the plan are required. Initiatives may be added to the plan as new opportunities arise. Updates to the plan will be posted on the municipality's website.

Past Measures Included:

The municipality has undertaken a number of initiatives to reduce energy use, reduce energy costs and lower emissions within its day to day operations:

[2015]

- Upgraded all street lights in the township to LED to improve efficiency and reduce energy usage.

- Installed an outdoor wood furnace at the works yard. This assisted in lowering oil/electric usage in the building by using the wood materials harvested from brushing sides of roads.

[2016]

- Performed an energy assessment at the Killaloe rink warming hut to identify energy saving alternatives to the current heating system, building envelope, windows, etc.
- Replaced weather stripping on exterior doors at the Round Lake fire hall, in turn sealing the building envelope and reducing air leakage.

[2017]

- Insulated, installed vapour barrier, and sheathed the warming hut at the Round Lake waste transfer station to improve the efficiency of the propane heater.
- Renovated the municipal office. Part of the renovation included altering the HVAC to allow for zone control of each of the office spaces.
- Performed an energy assessment on the Killaloe waste water treatment plant to identify energy efficiency deficiencies or possible improvements.

[2019]

- Replaced gas generator with a new energy efficient Kohler Propane Standby Generator at the municipal office.
- Replaced the flat roof insulation at municipal office and water treatment plant with new tapered SM insulation.

Current Measures:

The municipality is currently monitoring our works yard and fire hall and examining ways we can reduce energy consumption at both locations. We will take every effort to incorporate energy efficiency standards for building systems into our construction projects as well as invest in high-efficiency products and energy efficient sustainable design techniques when retrofitting building systems, repairing existing facility structures, designing new facilities and providing new office equipment.

Proposed Measures:

Energy conservation projects can be categorized as technical (switching street lighting from high pressure sodium to LED), organizational (establishing an energy management team), or behavioral (turning off lights on sunny days or when rooms are no in use).

When selecting such proposed measures, the municipality will ensure that all energy conservation projects will be benchmarked to reflect the total energy used for that build type, they will be evaluated using an internal rate of return along with simple payback and more

costly conservation projects will be bundled with more cost-effective ones to assist with their development. However, implementation of the proposed projects will depend on:

- funding;
- approval from council;
- incentive availability;
- availability of qualified staff; and
- retaining a qualified contractor and/or contractors to implement proposed projects.

Progress on all projects will be monitored using the annual energy reports prepared under the regulation.

We understand that energy conservation creates healthier environments and assists in lowering the costs associated with overall energy consumption within our municipality. We are committed to reducing energy consumption and lessening costs through efficient use of energy and improving energy performance in the following technical, organizational and behaviours measures.

Technical Measures:

- Where appropriate, to improve overall performance we will recommission heating, ventilation and air conditioning (HVAC) and building automation systems (BAS) in our facilities.
- Where appropriate, we will replace all fixtures (water faucets and toilets) with energy efficient products.
- When purchasing or replacing appliances, we will replace with energy efficient models.

Organizational Measures:

- We will incorporate life cycle costs when purchasing is related to building systems, such as lighting, office equipment, vehicles, etc. The life cycle analysis will look at the overall cost of purchasing, operating and disposing of such products.
- We will implement a temperature set point process for all appropriate facilities.
- We will establish a green energy management team with representation from core function areas, such as finance and building operations. The green energy management team will meet and review all new and existing energy conservation initiatives and recommend energy conservation initiatives for councils' approval.
- We will work with other BPS organizations to develop relationships that foster energy conservation.

Behavioural Measures:

- We will review building automation systems to ensure temperature and lighting settings and schedules are where they are supposed to be.

- Encourage staff to lower shades in the summer to keep heat out and raise them in the winter to let heat in.
- Encourage staff to cut the phantom power used by phone chargers, adding machines, computers, phones, tablets and more by unplugging them when they are not in use.
- We will encourage staff to limit their energy use between the highest peaks during the winter and summer months.
- We will continue to make small changes to improve heating within our facilities. We will replace furnace filters every three months to reduce the energy usage of the furnace fan and we will caulk and weather-strip around doors and windows to keep heat in and reduce energy.
- If appropriate, we will avoid running air conditioners between 11am and 5pm, when electricity prices are higher. And where possible we will provide desk fans and/or install or run ceiling fans in a counter-clockwise direction to circulate cool air.
- We will reduce energy and paper consumption when using the photocopier. We will reduce/eliminate the use of coloured paper, we will use both sides of the paper as much as possible, we will reuse paper that has been used on only one side and we will recycle paper.
- We will reduce our energy consumption by turning off all lights when rooms are not occupied and use compact fluorescent light bulbs.

In Conclusion

The Township of Killaloe, Hagarty and Richards continues to recognizes the importance of energy efficiency and conservation within the municipality and we will continue to work towards a culture of conservation.

Schedule A

