

Conservation and Demand Management Plan



July 1, 2019

1. Purpose

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. The Township of Ryerson’s updated CDM plan was developed in compliance with the regulation and covers the period from 2020 to 2024.

This plan describes the Township’s:

- New energy conservation goals and objectives;
- Current and proposed energy conservation measures;
- Results from the previous CDM plan; and
- Changes made from the previous plan to help achieve the new goals and objectives.

The updated CDM plan builds on the Township’s first plan developed in 2014, and the experience gained in energy conservation over the past five years.

Hard copies of this plan will be made available upon request at the Township office.

2. Introduction

The Township of Ryerson is a small municipality located in the Almaguin Highlands. With a population of 648 permanent residents (2016 Census), the Township is rural in nature, with most amenities being provided in the adjacent Village of Burk’s Falls.

Ryerson owns and/or is responsible for managing the energy consumption of four buildings:

- a) Township Office: the Municipal Office/Garage is a 6000 square foot building, divided between the municipal administration and public works staff.
- b) Fire Hall: the Fire Hall is shared with two other municipalities: the Township of Armour and the Village of Burks Falls. It is a 3250 square foot facility which serves as the office for the Fire Department staff, and the garage for the fire equipment.
- c) Quonset and Heritage Centre: a 660 square foot school house, which has been repurposed as a museum. This building is only occupied on Fridays and Saturdays during the summer months.

- d) Lakeview Shed: a 64 square foot structure at the base of a communications tower. As of 2018, electricity is no longer being provided to the building.

3. Goals and Objectives

The Township's goal is to be viewed as a leader in energy management and conservation in the BPS. We are also committed to working with other BPS organizations to better manage energy use across our community.

Our energy conservation objectives include:

- By 2024, reducing our overall energy consumption by 10%;
- Seeking funding opportunities to defray the cost of measures which increase the energy efficiency of buildings; and
- Integrating the energy conservation plan with the asset management plan, official plan, and other policy updates as they arise.

4. Tracking Energy Consumption and Savings

Annual energy reporting is required under the regulation and allows the Township to understand how energy is used in our buildings, identify potential energy conservation opportunities, and track progress on energy conservation efforts. Energy reports for previous years, along with the 2014 Energy Conservation and Demand Management Plan, can be found on the Township website.

5. Results from the Previous Plan

Although the previous Energy Conservation and Demand Management Plan did not set out any specific targets for usage reductions, it did state an overall goal of reducing energy consumption in all operations. Below is a graph illustrating the energy consumption by year for the period covered under the previous report. As can clearly be seen, the Township's total energy consumption increased each year until 2015, with a slight reduction in the 2016 totals; however, the total increase over the reporting period was in excess of 28%. There are slight increases in the consumption levels of all buildings during the period, however the increase is predominantly due to a 700% rise in the annual energy consumption at the Heritage Centre. This was due to higher occupancy rates and the replacement of an oil furnace with an electric model.

However, the Township was successful in implementing several of the measures set out in the plan. These include:

- Converting lightbulbs to energy efficient fluorescent;
- Installing energy-efficient LED outdoor lighting;
- Insulating the garage doors; and
- Upgrading fire hall equipment doors

Given this information, it is difficult to say that the Township met its objectives as set out in the previous report. However, some progress has been made in implementing measures which could help reduce energy costs in the long run.

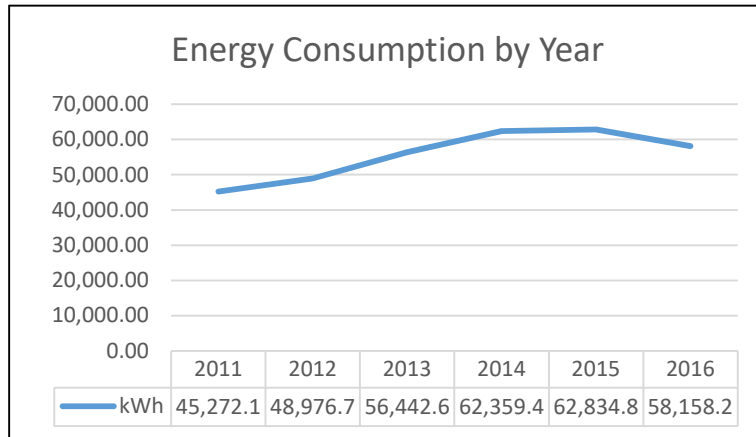


Table 1. Energy Consumption by Year, 2011 to 2016

6. Proposed Energy Conservation Measures

Energy conservation measures can be categorized as technical, organizational, or behavioural. Financial prioritization shall be evaluated using metrics such as the internal rate of return, profitability index, and simple payback period.

Implementation of the proposed projects is dependent on the:

- Availability of funding;
- Incentives from utilities companies;
- Availability of qualified staff; and
- Retention of a qualified contractor to implement the initiative.

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

Organizational Measures:

- Ryerson is committed to purchasing goods and services from providers who value energy efficiency. Although there is not currently a need for new construction, any new buildings will be constructed sustainably, with the highest level of energy efficiency possible given other limitations.
 - Cost: unknown, based on future needs
 - Payback: unknown
 - Lifespan: unknown
- Implementing a temperature setpoint policy for all buildings. The US Department of Energy notes that setpoint policies can reduce energy consumption by 5-12%
 - Cost: none

- Payback: immediate
- Ongoing application

Behavioural Measures:

- Review building systems every month to ensure temperature and lighting schedules are at their required levels.
 - Cost: minimal, part of routine checks
 - Payback: immediate
 - Ongoing application
- Encourage staff to take measures that would reduce their energy consumption in the workplace. This could include turning off lights when not in use, or using heat or air conditioning only when necessary.
 - Cost: none
 - Payback: immediate
 - Ongoing application

Technical Measures:

- Replace windows to help prevent heat loss
 - Cost: unknown
 - Payback: unknown
 - Lifespan: unknown
- Upgrade lighting to energy-efficient LEDs, or eliminate lighting where unnecessary
 - Cost: \$1,600 to date; total unknown
 - Payback: 5+ years
 - Lifespan: 10 years
- Upgrade roof on municipal office building to insulating panels
 - Cost: estimated at \$290,000
 - Payback: indefinite
 - Lifespan: estimated useful life of 25 years

7. Renewable Energy Projects

There are two solar farms operated by Northland Power in adjacent Armour Township. Ryerson has no such renewable energy facilities, though Council will consider rezoning applications on a case-by-case basis.

8. Confirmation

This CDM plan has been approved by the Township's CAO/Clerk. It will be made available on Ryerson's website (www.ryersontownship.ca) and paper copies will be available at the Township office: 28 Midlothian Rd, Burk's Falls, ON, P0A 1C0.