**Tarbutt Conservation and Demand Management Plan**

**2019 – 2023**

**Beginning in the year: 2019**

The Township of Tarbutt is a small rural Municipality with a population of approximately 540 persons and consists of 5 full time staff and 3 part time staff. This Conservation Plan is for a period of five years, reviewed annually and due by July 1 of each year. The plan begins in 2019 and will always lag behind so that complete year end analysis can be completed.

**Required Elements of the Plan are:**

1. Information on the Municipalities annual **ENERGY CONSUMPTION** during the last year for which complete information is available for the full year.
2. The **GOALS AND OBJECTIVES** of the Municipality to conserve and reduce energy consumption.
3. The Municipalities proposed **MEASURES AND PLAN FOR COST SAVINGS** (estimates), proposed measures and the estimated length of time these measures will be in place.
4. A report on any **RENEWABLE ENERGY GENERATION FACILITY** operated by the Municipality. (NOT APPLICABLE)

**ENERGY CONSUMPTION**

Reporting Year: 2019

Facilities included in this report:

*Municipal Office*

The Municipal office is heated with electricity and has florescent lighting.

53.75 sq metres

40 hrs per week

14,617.98 kWh

GHG Emissions (Kg) 445.45370

Energy Intensity (ekWh/Mega Liters) 25.26612

*Municipal Garage*

The Municipal Roads Garage is heated with both Oil and Propane and has florescent lighting.

267.50 sq. metres

40 hrs per week

7146.57 kWh

Oil 1 & 2 – 266.2 litres

Propane 5837.20 litres

GHG Emissions (Kg) 9940.90776

Energy Intensity (ekWh/Mega Liters) 17.73123

*Municipal Fire Hall*

The Fire Hall is heated with electricity/propane and has florescent lighting.

251.93 sq. metres

6 hrs per week

10719.57. kWh

Propane 2,076.3 litres

GHG Emissions (Kg) 3526.21107

Energy Intensity (ekWh/Mega Liters) 9.33617

*MacLennan Community Hall*

The MacLennan Community Hall is heated with propane and has florescent lighting

263.81 sq metres

18 hrs per week

13582.95 kWh

Propane 4,074.9 litres

GHG Emissions (Kg) 6693.26894

Energy Intensity (ekWh/Mega Liters) 14.87228

**GOALS AND OBJECTIVES**

Reporting Year: 2019

Facilities included in this report:

*Municipal Office*

The objective is to be energy efficient, cost effective while continuing to provide services and meet the needs of the residents.

Goals are:

* To have routines in place to reduce overall energy consumption, but particularly during off peak periods;
* To seek funding and/or create a reserve to fund efforts to increase energy efficiency of building and operations contained therein;
* To consider the validity and accessibility of technology which would help to reduce consumption of energy

*Municipal Roads Garage*

The objective is to be energy efficient and operate cost effectively while ensuring service provision for roads and facilities, and meeting needs of residents.

Goals are:

* To have routines in place to reduce energy consumption in off peak periods
* To seek funding and/or create a reserve to afford to increase energy efficiency of building
* To consider the validity and accessibility of technology to reduce consumption of energy

*Fire Hall*

The objective is to be energy efficient, yet provide cost effective results while meeting needs of the residents and area communities.

Goals are:

* To have routines and assets in place to help to reduce overall energy consumption in off peak periods
* To seek funding and/or create a reserve to assist with the cost of increasing the energy efficiency of the building
* To consider the validity and accessibility of technology to reduce consumption of energy

*MacLennan Community Hall*

The objective is to be as energy efficient as possible, providing cost effective value while meeting needs of residents.

Goals are:

* To have routines in place to reduce energy consumption in off peak periods
* To seek funding and/or create a reserve to afford to increase energy efficiency of building
* To consider the validity and accessibility of technology to reduce consumption of energy

**MEASURES AND PLAN FOR COST SAVINGS**

*Municipal Office*

*Technical Measures:* In 2019 we completed the retrofit of all florescent lighting in the office. In 2019 the Township also installed new LED exterior lighting. Staff have considered more cost effective heating and cooling options. These options for heating and cooling and improving energy efficiency will be budget items and will be funded through energy programs that come available or through the creation of a reserve for capital improvements.

*Organizational Measures:* There is no new construction in the foreseeable future, however the Municipality has confirmed through its Procurement Policy to seek the highest quality, most affordable, environmentally friendly and practical options in construction and equipping to meet energy conservation and efficiencies targets. This may include hiring local contractors and using local suppliers to reduce the footprint created by shipping and importing goods, services or labour.

*Behavioral Measures:* All staff is involved in the budgeting process and how it affects each department, therefore having an understanding of the need for reducing energy costs during peak times and when facilities are not in use. Staff is asked for suggestions and participation on how to achieve savings on energy costs and new purchases and changes are discussed with respect to their efficiency and effectiveness.

*Municipal Garage*

In 2019 new LED lighting was installed on the exterior of the building, and to the structure. During the construction, contractors applied insulation in areas where drafts were occurring to reduce the need for increasing heat sources. Staff have reviewed more cost effective heating and cooling options and, whenever possible, plan to upgrade the energy efficiency of the building.

*Organizational Measures:* No new construction or retrofit is planned, however, the position of the Municipality is to seek the highest quality, most affordable and practical options in construction and equipment to meet energy conservation and efficiencies targets. This may include hiring local contractors and using local suppliers to reduce the footprint created by shipping and importing goods, services or labour.

*Behavioral Measures:* Staff procurement and practices have a direct impact on the budget affecting each department, therefore emphasizing the need for savings on energy costs and consumption. Staff are asked for suggestions on how to achieve savings on energy costs and new purchases, and changes are discussed with respect to their long term efficiency and effectiveness.

*Municipal Fire Hall*

In 2019 new LED lighting was installed on the exterior of the building, and to the structure. During the construction, contractors applied insulation in areas where drafts were occurring to reduce the need for increasing heat sources. Staff have reviewed more cost effective heating and cooling options and, whenever possible, plan to upgrade the energy efficiency of the building.

*Organizational Measures:*  No new construction is projected in the foreseeable future, however the Municipality has committed, through its procurement policies, to seek the highest, most affordable and practical options in construction and equipping to meet energy conservation and efficiencies targets. This may include hiring local contractors and using local suppliers to reduce the footprint created by shipping and importing goods, services or labour.

*Behavioral Measures:* Staff and volunteer firefighters are involved in the budgeting projection process, and their input is sought on projects and building efficiencies. There is a good understanding of the need for saving on energy costs and consumption, and efforts are made by all department members to keep consumption and costs low. New purchases and building changes are discussed with respect to their energy efficiency and effectiveness.

*MacLennan Community Hall*

Some retrofitting had been done over the years under a maintenance schedule as repairs were required. A new gas exchange system was installed in 2020 with COVID funding as council meetings were relocated to the hall to allow greater distancing. Staff have considered options for more cost effective heating and cooling systems. Whenever possible, and as funding becomes available, the Township intends to upgrade the energy efficiency of the building to reduce overall consumption. Staff will actively pursue funding options to improve the energy efficiency of this building whilst maintaining the heritage of this historical structure.

*Organizational Measures:*  No new construction or renovation has occurred, although the hall is showing signs of age and requires updates. Any move to upgrade or retrofit any of the heating, cooling, air exchange systems, windows, insulation or other features would utilize only the highest quality, most affordable and practical options in construction and equipment to meet energy conservation and efficiency targets, in addition to measures that would reduce our environmental footprint. Examples include purchasing locally rather than shipping from a foreign country, bulk purchasing rather than one item at a time, utilizing local contractors and labour whenever possible, and negating the need for measures that leave a negative environmental impact or lead to increased consumption of fossil fuels.

*Behavioral Measures:* All of staff is involved in the budgeting process and how it affects each department, therefore having an understanding of the need for saving on energy costs when able. Staff provide input on how to achieve savings in energy costs and consumption, and new purchases and changes are discussed with respect to their efficiency and effectiveness.

**RENEWABLE ENERGY GENERATION FACILITY**

N/A