



Energy Conservation & Demand  
Management Plan: 2019-2023

# Table of Contents

Background .....	3
Commitment .....	3
Declaration of Commitment .....	3
Vision.....	3
Goals .....	4
Goals (cont'd).....	4
Objectives .....	5
Organizational Understanding.....	5
Summary of Current Energy Consumption, Cost and GHGs.....	5
Renewable Energy Utilized or Planned.....	5
Strategic Planning .....	5
Links with Other Municipal Plans.....	5
Structure Planning .....	6
Staffing requirements and duties .....	6
Resources Planning .....	6
Energy Leader .....	6
Energy Team .....	6
Key Individuals .....	6
Energy Training .....	6
Procurement Planning .....	6
Consideration of energy efficiency for all projects.....	6
Implementation Planning .....	7
Communication Programs .....	7
Business Procedures .....	7
Investment Planning .....	7
Creative Approaches.....	7
Projects Execution.....	7
Municipal Level .....	7
Asset Level .....	7
Review.....	7

Energy Plan Review ..... 7

Evaluation Progress..... 8

    Energy Consumption..... 8

Programs ..... 10

Completed Energy Conservation Projects since 2014 CDM Plan implementation ..... 12

Proposed Energy Conservation Measures for 2019-2023 ..... 13

## Background

The Township of Laurentian Valley has developed this plan in accordance with Ontario Regulation 507/18 of the Electricity Act. This regulation requires that the broader public sector, and more specifically municipalities, report on the greenhouse gas emissions and energy consumption annually. Further, it requires the development and implementation of five year Conservation and Demand Management (CDM) plans commencing July 1<sup>st</sup>, 2014 and that it be updated on or before every fifth anniversary thereafter.

## Commitment

### Declaration of Commitment

At the June 18, 2019 Regular Council Meeting, the following resolution was discussed and passed to approve this update to the 2014-2018 Energy Consumption and Demand Management Plan.

**Resolution # RM19-06-96**

That Council approve the Energy Plan as attached for the years 2019 to 2023.

**MOVED BY: Reeve Robinson**

**SECONDED BY: Cllr Hugli**

**CARRIED**

At the June 3, 2014 Council in Committee Meeting Committee discussed and passed the following resolution:

**Resolution # CC14-06-058**

*That Council and Staff will allocate the necessary resources to develop and implement a strategic energy management plan that will reduce our energy consumption and its related environmental impact.*

**MOVED BY: Cllr Hodgkinson**

**SECONDED BY: Cllr Sheedy**

**CARRIED**

## Vision

The Township of Laurentian Valley staff, Department Heads, and Council will make reasonable efforts to comply with the nature and objectives of the Ontario Regulation 397/11 of the Green Energy Act. The township will create benefits for the environment, society and economy by recognizing and reducing the corporation's total energy consumption.

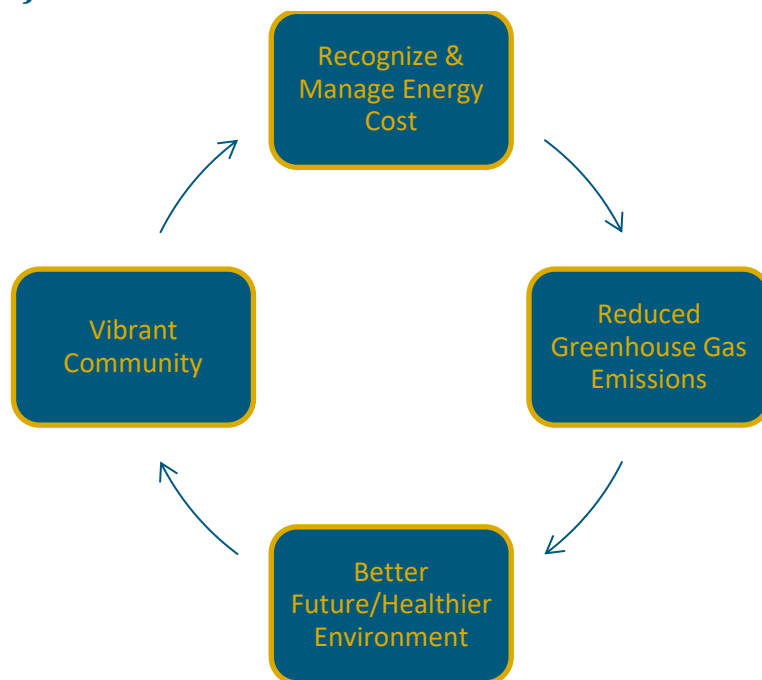
## Goals

The Township of Laurentian Valley's CDM plan is to work at lowering energy costs through energy conservation as well as to lessen our environmental impact through lowering our Green House Gas Emissions.

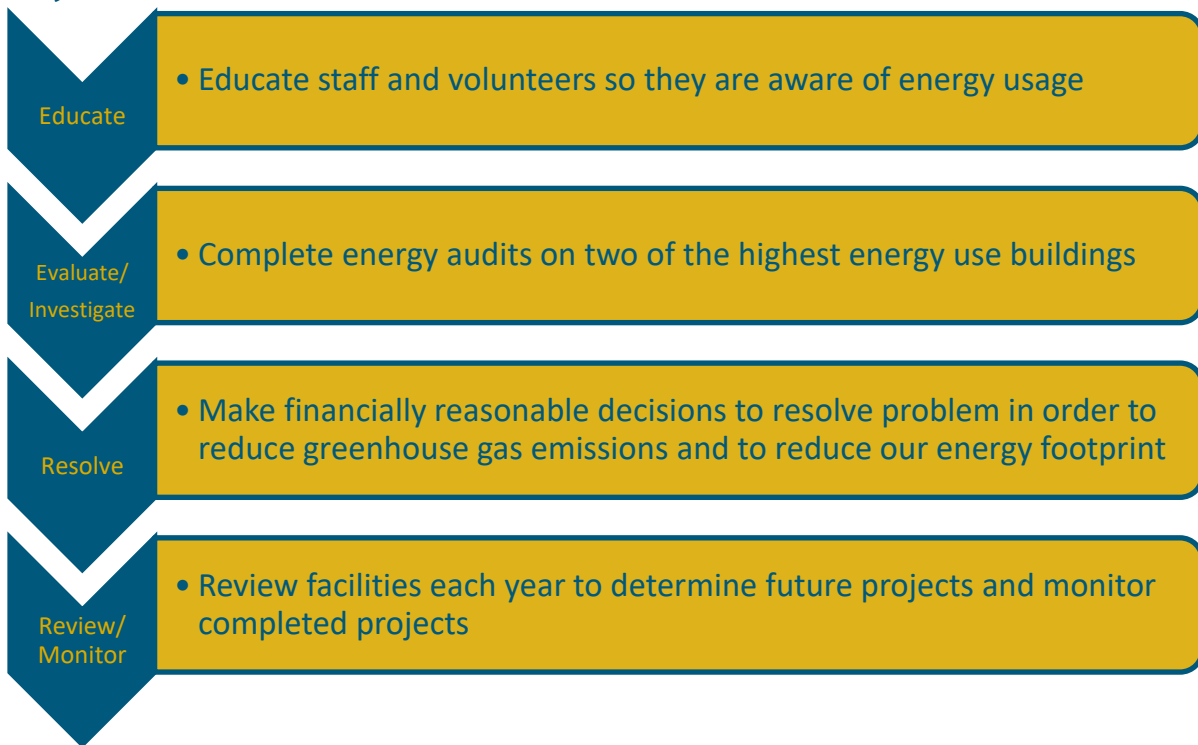
The township will aim at reduce energy usage by 5% over the next 10 Years (2019-2029) by focusing on the 2011 baseline. The Township of Laurentian Valley's energy consumptions includes electricity, propane and natural gas.

See organizational chart below which illustrates implementation of goals.

## Goals (cont'd)



## Objectives



## Organizational Understanding

### Summary of Current Energy Consumption, Cost and GHGs

The total annual energy consumption in municipal operations for the 2017 year is 616,429.48 ekWh, at a cost of \$94,420.12 per year and greenhouse gas emission of 106,963.33 kg CO<sub>2</sub>e/year.

### Renewable Energy Utilized or Planned

Currently, the Township of Laurentian Valley has no renewable energy utilized or planned. In 2013 the township was approved for five facilities to install solar photovoltaic systems but did not proceed due to the condition of the facility roofs. In 2016/2017 a new Public Works garage was constructed with roofing structure designed to be able to have a solar photovoltaic system installed but as of yet no applications have been submitted.

## Strategic Planning

### Links with Other Municipal Plans

The Township of Laurentian Valley will develop the required skills and knowledge to manage energy information and to invest in energy management processes. The Energy Management Plan will be integrated with the township's budget planning and asset management plans. Department heads will incorporate energy budgeting into their responsibilities.

## **Structure Planning**

### **Staffing requirements and duties**

The Township of Laurentian Valley will incorporate energy efficiency into standard operating procedures and the knowledge requirements for operational jobs. Staff will be educated with regards to energy management. General procedures will be practiced for turning off lights when not in those areas.

## **Resources Planning**

### **Energy Leader**

The Township will clearly designate leadership and overall responsibility for corporate energy management.

### **Energy Team**

The Township of Laurentian Valley is a small corporation with 18 employees. Because of its size, it will involve all employees when discussing energy efficient practices so that all staff are aware and can reduce his/her energy footprint.

### **Key Individuals**

The Township of Laurentian Valley's key individuals for reporting energy consumption and suggesting input to energy management processes is the Treasurer, Public Works Manager and Deputy Treasurer.

### **Energy Training**

The Township of Laurentian Valley will train and make staff aware of energy management. Training facility staff on energy management builds skills that they can use to operate their facilities and carry out operations more effectively and efficiently. Training will be presented to staff at staff meetings and will allow staff to make suggestions to improve areas.

## **Procurement Planning**

### **Consideration of energy efficiency for all projects**

The Township of Laurentian Valley will review its procurement policy and will modify as required to incorporate energy efficiency into the criteria for selection and evaluation of materials and equipment. Energy conservation projects will be evaluated using an internal rate of return (the rate of interest the project could generate), along with simple payback (the number of years it would take to pay off the project from the savings). In addition, more costly conservation projects will be bundled with more cost-effective ones to lever their development.

## **Implementation Planning**

### **Communication Programs**

The Township of Laurentian Valley will continue to communicate the importance of energy efficiency among all of our employees and Council.

### **Business Procedures**

The Township of Laurentian Valley will carry out a comprehensive review of all business processes and modify them as necessary in order to incorporate energy efficiency considerations.

## **Investment Planning**

### **Creative Approaches**

The Township of Laurentian Valley will investigate and document options for the implementation of energy projects. We will also search for funding sources for these energy projects through government and utility grant incentives.

## **Projects Execution**

### **Municipal Level**

The administration and implementation of this plan will be carried out by energy staff. Since we all use energy in our daily activities, it will also be the responsibility of all employees to be aware of their energy use and work towards a culture of conservation.

### **Asset Level**

In order to create and maintain a corporate culture of conservation, staff must be made aware and educated on energy conservation. Although the energy team has the lead responsibility in ensuring the township's facilities operate efficiently, all staff should be familiar with and utilize energy efficient measures where possible. The first step in implementing an energy management plan for the Township of Laurentian Valley is the completion of energy audits for two of the six facilities that are the least efficient. Audits will be done by an Energy Efficiency Service Provider (EESP) at LAS. The benefits of using EESPs is that they will help us reduce operating expenses, improve employee comfort, obtain incentive funding, comply with Provincial Regulations, and save on expensive consulting costs. The use of renewable energy measures can also help reduce our energy footprint.

## **Review**

### **Energy Plan Review**

The Township of Laurentian Valley will be able to see its progress by reviewing its energy consumption each year and comparing it with past years. It will also be able to compare it to the plan to see if it is in line with its goals. It is important for the township to continue to monitor and



evaluate its progress in order for it to recognize any high energy consumption activities so that it can reduce its energy footprint. When reviewing the results and comparing to 2011 benchmark it is important to pinpoint areas that need change.

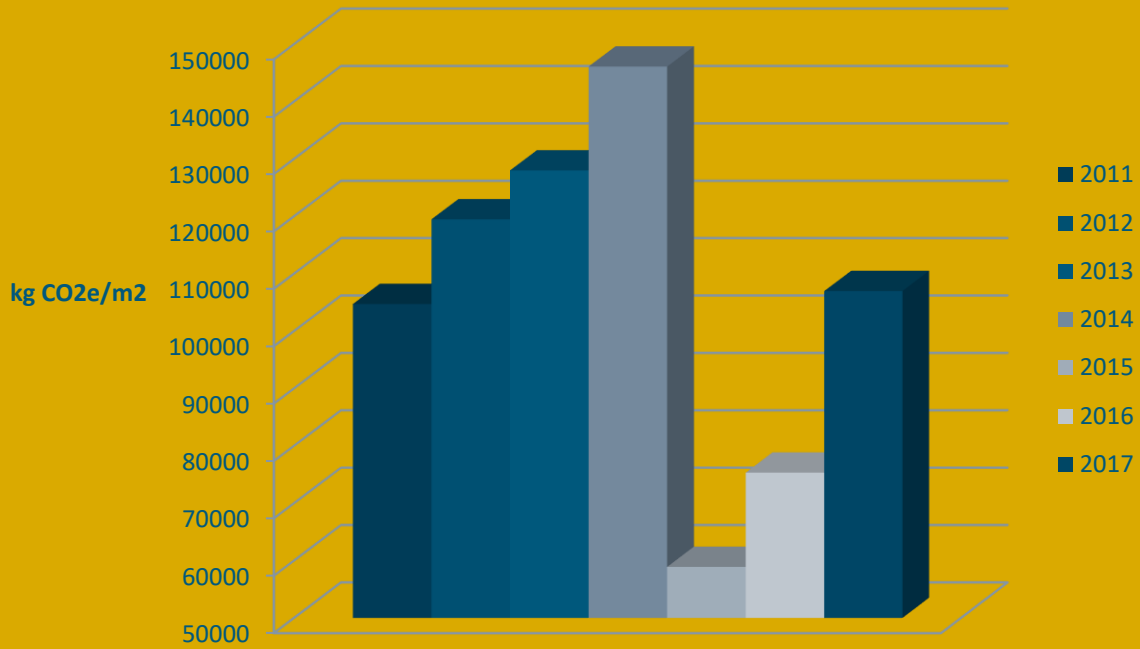
## **Evaluation Progress**

### **Energy Consumption**

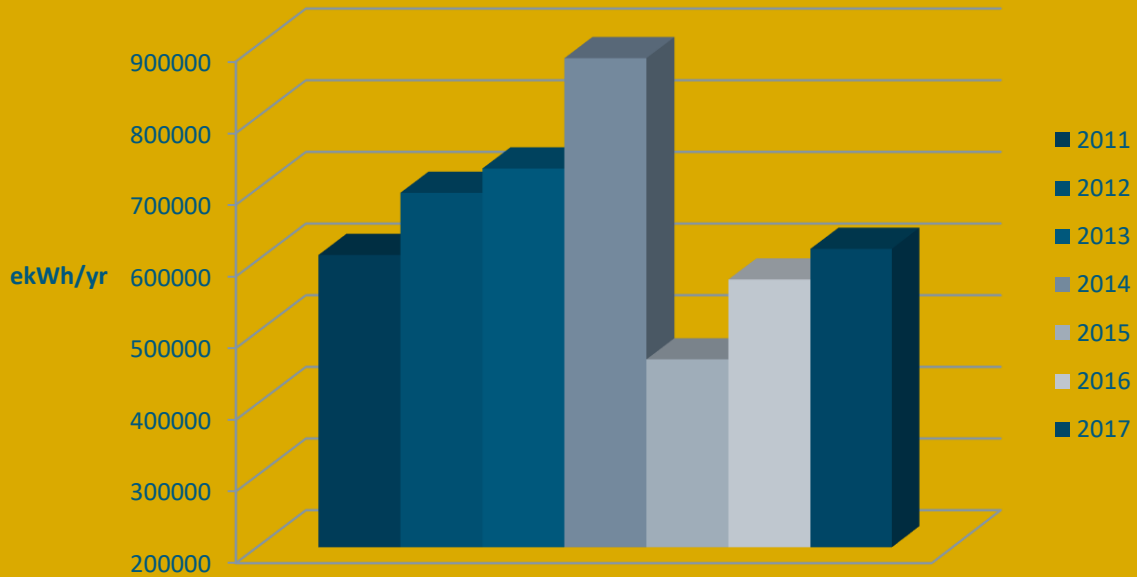
Our energy consumption in 2017 increased by 8,586.59 ekWh from 2011 and greenhouse gas emissions increased by 2,263.07 kg (CO<sub>2</sub>e/year).

An energy consumption increase was seen in 2017 due to the construction of the new Public Works facility. We will see future decreases now that the new facility is complete and the old facility (Highway 41) is no longer billed to the municipality.

## GHG Emissions from 2011 to 2017



## Energy Consumption from 2011 to 2017



NOTE: An energy consumption increase was seen in 2017 due to the construction of the new Public Works facility. We will see future decreases now that the new facility is complete and the old facility (Highway 41) is no longer billed to the municipality.

## Programs

Description	Facility	Contact	Date	Details	Status
Awareness	All	Kurtis McGonegal, Deputy Treasurer	2019-06-04	Add energy awareness to staff meetings.	Ongoing
Awareness	All	Kurtis McGonegal, Deputy Treasurer	2019-06-04	Produce and distribute to staff energy consumption reports (comparison from last year's amount of energy used).	Pending
Awareness	All	Kurtis McGonegal, Deputy Treasurer	2019-06-04	Have staff annually inspect facilities and identify items that need improvement.	Ongoing
Building Audit	Two Facilities	Kurtis McGonegal, Deputy Treasurer	2019-06-04	Contact Ian Scott at LAS to audit two of the township's greatest energy consumption facilities.	Pending

## Processes

Description	Details	Facility	Status	Cost	Estimated Savings (ekWh/yr)	Save (\$)
Energy Efficiency	Turn off all electronic devices such as coffee makers, computers, printers, and calculators at night and on weekends.	All	Active	\$0.00	?	~\$700.00

## Completed Energy Conservation Projects since 2014 CDM Plan implementation

Facility	Project	Description	Estimated Savings (ekWh/yr)	Completion Date
Public Works (Roads)	LED Streetlights	Replace existing streetlights with new energy efficient LED fixtures.	132,045	2015/16
Municipal Office (Council Chambers)	LED interior lighting upgrades	Replace existing fixtures with new LED ones.	1,000	2016
Public Works Garage	Construct a new Public Works garage facility	Construct a Public Works garage facility attached to existing municipal office with energy conservation design	15,000	2017
Municipal Office	Occupancy sensors	Install occupancy sensors for lighting in all hallways, washrooms, etc.	2,000	2016
Fire Hall (Lorne St)	LED interior lighting	Replace existing streetlights with new energy efficient LED fixtures.	1,500	2018

## Proposed Energy Conservation Measures for 2019-2023

Facility	Project	Description	Estimated Cost*	Estimated Savings (kWh)	Target Date
Hamilton Street Pumping Station	Pumping Station Efficiency Review	Tender a private contractor to review system and find efficiencies.	\$25,000	TBD	2019
Hamilton Street Pumping Station	Complete energy efficiency upgrade measures	Act on recommendations for energy efficiencies found by private contractor.	\$60,000	TBD	2020
Municipal Office	Heating	Fine tune heating system.	TBD	2,000	2023
Municipal Office	LED interior lighting upgrade	Replace remainder on existing interior lighting with LED fixtures	\$1,500	1,000	2023
Municipal Office	On demand water heater	Replace existing electric water heater with propane on demand unit.	\$3,000	1,000	2023

\*Note: Estimated costs do not include incentive funds received from the GHG Challenge Fund Grant, SaveOnEnergy Incentive programs, or any other energy management incentive opportunity that can be applied to projects in the future.