



Energy Conservation & Demand Management (CDM) Plan Update 2019

TABLE OF CONTENTS

SECTION		PAGE NO.
1.0	ENERGY CONSERVATION AND DEMAND MANAGEMENT COMMITMENT	2
2.0	ENERGY CONSUMPTION AND GREENHOUSE GAS EMISSIONS 2013 - 2017	
2.1	Corporate Energy Consumption Summary	3
2.2	Heating and Cooling Degree Days	4
3.0	ENERGY CONSERVATION ACCOMPLISHMENTS	
3.1	Lighting Retrofit Projects	5
3.2	Solar Generation Net Metering	7
3.3	Snow Pit - Arena	7
3.4	Dectron Unit - Pool	7
4.0	ENERGY CONSERVATION IMPLEMENTATION PLAN 2019 – 2024	8
SCHEDULE A	2013 - 2017 ENERGY CONSUMPTION DATA	10
	Huntsville Town Council Resolution 165-19	16

1.0 Energy Conservation and Demand Management Commitment

On May 26, 2014, Council approved the Town's first Energy Conservation and Demand Management (CDM) Plan, which was submitted to satisfy the requirements of Ontario Regulation 397/11 (now 507/18). This updated CDM plan was developed in compliance with the regulation and will cover the period from 2020 to 2024.

The updated CDM plan builds on the municipality's first plan, and the experience gained in energy conservation over the last 5 years.

This updated plan describes the Town of Huntsville's:

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

Goals & Objectives for Conserving Energy

The Town of Huntsville's goal is to continuously improve the energy efficiency of our facilities and processes, to reduce operating costs, energy consumption and the concomitant greenhouse gas emissions.

Our energy conservation objectives include:

1. To undertake/implement energy audits at the municipal halls during the next five years;
2. To reduce total energy consumption in municipal facilities normalized to weather conditions, by 5% over the next five years;
3. To continue to follow actions as stated in Unity Plan Strategic Direction 2.7:
(Decrease energy and fossil fuel consumption and reduce greenhouse gas emissions at the municipal level)
 - Reduce building energy demand in all Town facilities
 - Ensure wise energy use in all municipal buildings
 - Continue to audit Town buildings for energy use
 - Allow the private use of micro-power generation, thereby facilitating the sale of power to the grid
 - Conduct a greenhouse gas emission inventory and set reduction targets as part of a climate change adaptation strategy
4. To continue to produce solar energy on 6 municipal facilities (10kW systems).

2.1 Corporate Energy Consumption Summary

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.

The following information provides an overview of the Town of Huntsville's energy consumption and greenhouse gas emissions from 2013 and 2017. Refer to Schedule A to this report for detailed consumption data from 2013 through 2017.

The following table summarizes the total electricity and natural gas consumption for Town of Huntsville operations from 2013 to 2017, including the resulting greenhouse gas (GHG) emissions:

	2013	2014	2015	2016	2017	Total Annual Consumption %	Average Consumption 2013-2017
Electricity (kWh)	3,122,891.73	3,111,663.76	3,054,886.26	2,878,804	2,784,001.47	-	-
Annual (kWh) Comparison	-	-0.3%	-1.8%	-5.8%	-3.3%	-11.2%	-2.8%
Natural Gas (m3)	398,596.94	463,450.23	473,316.95	433,133.33	396,201.27	-	-
Annual (m3) Comparison	-	16.3%	2.1%	-8.5%	-8.5%	1.4%	0.35%
Energy (ekWh)	7,530,526.23	8,195,214.76	8,231,918.24	7,609,852.36	7,134,836.88	-	-
Annual (ekWh) Comparison	-	8.8%	0.4%	-7.5%	-6.2%	-4.5%	-1.1%
GHG Emissions (kg CO2e)	1,036,814.48	1,156,601.13	1,168,749.96	1,075,033	999,561.78	-	-
Annual GHG Emissions Comparison	-	11.5%	1%	-8%	-7%	-2.5%	-0.6%

Notes:
 kWh = Kilowatt Hours ekWh = Equivalent Kilowatt Hours
 m3 = Cubic Meters kg CO2e = Kilograms of equivalent Carbon Dioxide

The comparison of annual GHG emissions in the table above represents an average annual decrease in emissions of -0.6% from 2013 to 2017. The total energy consumption reduction in this period was **4.5%** in municipal facilities, just 0.5% short of our target from the 2014 CDM Plan.

Our overall target was to reduce our consumption of fuels and electricity in all municipal operations by an average of 5% each year between 2012 and 2017, from 2011 levels (baseline year). As shown in the above chart, the average consumption of Electricity was reduced by 2.8%, and Natural gas was increased by 0.35%. This did not meet our target; however, observing the results in 2016 & 2017 suggest we are well on way to meeting this goal in the next few years, with reductions to electricity averaging a 4.5% and natural gas averaging 8.5%.

Energy Consumption

Our energy consumption from buildings in 2017 was reduced to 25,685 GJ from 2012 levels of 26,800 GJ. One objective in our 2014 CDM plan was to reduce energy consumption in the municipal recreation complex by 2% during fiscal year 2015. In 2015, energy consumption increased by 6% due to extensive maintenance of the large pool at the Canada Summit Centre which occurs on a 5 year cycle was required. The pool was emptied and filled with 120,000 gallons of water and reheated to a temperature of 84 degrees. However, from 2015-2017 energy consumption was reduced by a total of 15.8%.

Green House Gas Emission

In regards to the energy used in all buildings in 2013, the corresponding greenhouse gas emissions are 15,250 GJ from natural gas consumption and 11,242 GJ from electricity consumption. When comparing 2013 results to our 2017 results, our greenhouse gas emissions represent a 0.5% reduction in natural gas and 11% reduction in electricity.

Summary of Current Energy Consumption and GHGs

The total annual energy consumption in municipal buildings that are heated and supplied with electricity (2017) is approximately 25 685 GJ/yr, creating approximately 999 tonnes/year in GHG emissions.

From 2016-2017, our total GHG emissions have decreased by 7%.

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

2.2 Heating and Cooling Degree Days:

The following table provides a summary of the annual combined heating and cooling degree days to assist in evaluating the weather related impact on energy consumption and GHG emissions:

	2013	2014	2015	2016	2017	2018	Average
Heating Degree Days (HDD)	4,067	4,323	4,009	3,565	3,823	4,063	3,975
Cooling Degree Days (CDD)	484	406	487	600	419	625	504
Combined HDD and CDD	4,551	4,729	4,496	4,165	4,242	4,688	4,479
Annual Comparison of HDD and CDD	-	3.9%	-4.9%	-7.4%	1.8%	10.5%	0.8%

Notes:

Weather Station Used For Data: CYQA: Muskoka, ON, CA (79.30W, 44.97N)

The comparison of the combined annual heating and cooling degree days in the table above represents an average annual increase in degree days of 0.8% from 2013 to 2017. An increase in degree days would result in a relative increase in energy consumption related to heating and cooling Town of Huntsville facilities.

3.0 ENERGY CONSERVATION ACCOMPLISHMENTS

The following is an overview of some of the energy conservation accomplishments completed since the completion of the 2014 Energy Conservation and Demand Management Plan:

3.1 Lighting Retrofit Project

In 2017, two lighting retrofit projects were started with another five projects in 2018. This is a simple yet effective energy efficient solution for our facilities. By managing the light levels and the wattage consumption there is excellent payback opportunities.

Below is the project cost and payback information for the Canada Summit Centre - Jack Arena Lighting and as per the lighting survey.

Project Cost Estimate \$ 57,895.00
Current SaveOnEnergy Incentive \$ 6,120.00
Annual Cost Avoidance \$ 16,257
Indirect Ice Plant Saving (10%) \$ 1,604
Simple Payback in Years: 2.90

Below is the project cost and payback information for the Canada Summit Centre - Don Lough Arena Lighting and as per the lighting survey.

Project Cost Estimate \$ 61,800.00
Current SaveOnEnergy Incentive \$ 8,044.80
Annual Cost Avoidance \$ 22,684
Indirect Ice Plant Savings (10%) \$ 2,108
Simple Payback in Years 2.13

Below is the project cost and payback information for the Canada Summit Centre - Don Lough Seating area/Running Track Lighting as per the lighting survey.

Total Project Cost 12,640.00
Total Estimated Annual KW Savings 3.95
Total Estimated Utility Incentive (@\$400/KW Saved) \$1,580.00
Total Estimated Annual KWH Savings 23,004.40
Total Est. Annual Energy Savings \$4,140.79
Estimated Annual Maintenance Savings \$1,500.00
Estimated additional Ice Plant Savings \$0.00
Simple Payback in Years 1.96

Below is the project cost and payback information for the Canada Summit Centre – Other Areas as per the lighting survey.

Total Cost of Retrofit Measures \$127,600.00
Total Estimated Annual KW Savings 44.05
Total Estimated Utility Incentive (@\$400/KW Saved) \$15,000.00
Total Project Cost after Incentive \$112,400.00
Total Estimated Annual KWH Savings 258,858.48
Total Est. Annual Energy Savings \$46,594.53
Estimated Annual Maintenance Savings \$5,500.00
Estimated additional Ice Plant Savings \$0.00
Simple Payback in Years 2.16

Below is the project cost and payback information for the Canada Summit Center Pool Lighting as per the lighting survey.

Total Project Cost 56,000.00
Total Estimated Annual KW Savings 8.71
Total Estimated Utility Incentive (@\$400/KW Saved) \$3,483.20
Total Estimated Annual KWH Savings 50,715.39
Total Est. Annual Energy Savings \$9,128.77
Estimated Annual Maintenance Savings \$2,500.00
Estimated additional Ice Plant Savings \$0.00
Simple Payback in Years 4.52

Below is the project cost and payback information for the Public Works Lighting as per the lighting survey.

Total Cost of Retrofit Measures \$27,000.00
Total Estimated Annual KW Savings 7.68
Total Estimated Utility Incentive (@\$400/KW Saved) \$2,400.00
Total Project Cost after Incentive \$24,600.00
Total Estimated Annual KWH Savings 32,402.99
Total Est. Annual Energy Savings \$5,832.54
Estimated Annual Maintenance Savings \$1,000.00
Estimated additional Ice Plant Savings \$0.00
Simple Payback in Years 3.60

Below is the project cost and payback information for the Active Living Centre Lighting as per the lighting survey.

Total Cost of Retrofit Measures \$23,500.00
Total Estimated Annual KW Savings 5.88
Total Estimated Utility Incentive (Prescriptive) \$2,300.00
Total Project Cost after Incentive \$21,200.00
Total Estimated Annual KWH Savings 22,289.38
Total Est. Annual Energy Savings \$4,012.09
Estimated Annual Maintenance Savings \$1,500.00
Estimated additional Ice Plant Savings \$0.00
Simple Payback in Years 3.85

Below is the project cost and payback information for the Exterior Wall Packs at the Canada Summit Centre as per the lighting survey.

Total Cost of Retrofit Measures \$7,000.00
Total Estimated Annual KW Savings 1.76
Total Estimated Utility Incentive (@\$400/KW Saved) \$1,000.00
Total Project Cost after Incentive \$6,000.00
Total Estimated Annual KWH Savings 7,708.80
Total Est. Annual Energy Savings \$1,387.58
Estimated Annual Maintenance Savings \$1,500.00
Estimated additional Ice Plant Savings \$0.00
Simple Payback in Years 2.08

3.2 Solar Generation Net Metering (Renewable Energy)

The Town Huntsville currently has 6 rooftop solar photovoltaic systems on municipal facilities (each 10kW). Locations are at the Civic Centre, Huntsville Public Library, Madill Yard, Port Sydney Community Hall and Port Sydney Fire Hall. From 2014 – 2016 revenues generated are approximately \$90,940 with 82.6 tonnes of CO₂ avoided.

3.3 Snow Pit

With the snow melt coil not installed, the staff operators melt the snow by placing a hose in the pit and running hot water to assist in the melting process. This practice uses copious amounts of heated water. It has been estimated the cost of water and sewer for this practice is approximately \$12,000 per year. This does not include the cost of heating the water.

The snow melt pit coil completion has stopped this costly practice. The coil would be heated by the boiler. The snow melt pit is kept at room temperature which melts the produced snow and in turn, helps maintain the room temperature. The natural gas cost associated with running the boiler is at a lower cost than using the hot water to melt the snow using domestic hot water.

3.4 Dectron Unit – Pool

The Dectron unit at the Canada Summit Centre was installed during the renovation of Centennial Pool in late 2009. The function of the Dectron unit is to provide heating, ventilation and dehumidification to the pool. The mechanical refrigeration enclosed within the unit is required for high humidity issues that are always present in an indoor pool environment.

When the unit was installed it was never used to its full capability as it exhausted its access heat through the condenser to outside air. The unit had capabilities of reusing the access heat to heat the pools rather the exhausting the heat to the atmosphere. In 2017 we connected the pools to the Dectron and now the pools are being heated by this unit by way of reusing the heat that is generated rather than wasting it into the atmosphere.

4.0 Energy Conservation Implementation Plan 2019 to 2024

Changes from Previous Plan to Achieve our Goals and Objectives

While the municipality met the majority of the conservation objectives from the 2014 plan, we recognize other measures could take place to ensure savings continue and that new conservation measures are identified and acted upon. Our key changes to ensure the success of our updated plan include:

Current and Proposed Energy Conservation Measures

Technical Measures

Our assessment of operations and maintenance practices, facility and equipment condition, and energy performance indicators establishes the following priorities:

- Controls systems for HVAC at the Community Halls to schedule the heat and AC lighting.
- Performing energy Audits at the Community Halls
- Look at more efficient Furnaces for Community Halls
- Replacement of windows and doors.
- Adding insulation to Community Halls.
- Continue with LED lighting project to the Community Halls.
- Add water filter to snow pit to reuse water
- LED Lighting in Community Halls
- Energy Saving appliances

Organizational Measures

How We Manage Energy Today

The management of energy consumption and the energy performance of our facilities and equipment are the responsibilities of the Facilities Department with the assistance of the Finance Department and the Policy and Project Coordinator.

Consideration of energy efficiency for all projects

We will incorporate life cycle cost analysis into the design procedures for all capital projects. Energy Efficiency will be considered by staff and signed-off by the responsible Director prior to procurement documents being published for tender. The intent is to make energy management part of the Town's normal course of business for all facility and operational retrofits, including capital renewal and life cycle replacement projects. Success means incorporating energy efficiency options at the initial stages of a project design. This ensures that options for improving energy efficiency are considered, evaluated and quantified in terms of life cycle costing analysis, including cost, maintenance and emission reductions.

- If control systems for HVAC at the Community Halls were installed, we could implement a temperature set point policy. This can help save on energy consumption and keep staff in control of buildings that are rented to the public.
- Initiate monthly water consumption monitoring. New and existing fixtures will be monitored for leaks and repaired as required.
- Work with BPS organizations in the community to develop relationships that foster energy conservation.

Behavioural Measures

Review building automation systems every month to ensure temperature and lighting settings and schedules are where they are supposed to be.

- Part of routine checks
- Simple payback is immediate
- Ongoing

Encourage staff to turn off all electronics and lights at the end of the day.

- Cost none
- Simple payback is immediate
- Ongoing

We will incorporate energy efficiency into standard operating procedures and the knowledge requirements for all jobs.

Appendix A – Energy Consumption and Greenhouse Gas Emissions 2013 – 2018

2013 Energy Consumption Data						
Building	Energy Type	Consumption		Energy	GHG Emissions	Combined GHG Emissions
				(ekWh/yr)	(kg CO2e/yr)	(kg CO2e/yr)
Aspdin	Electricity	3,769.00	kWh	3,789.00	303.12	5,949.04
	Propane	4,363.90	Litres	31,620.97	5,645.92	
Brunel	Electricity	14,405.98	kWh	14,405.98	1,152.48	8,154.54
	Propane	5,412.10	Litres	39,216.26	7,002.06	
Burrow Pit Lane	Electricity					
	Natural Gas					
Chaffey	Electricity	11,963.06	kWh	11,963.06	957.05	17,537.49
	Natural Gas	8,737.62	m3	92,861.62	16,580.44	
Civic Centre	Electricity	496,772.82	kWh	496,772.82	39,741.83	93,361.50
	Natural Gas	28,256.67	m3	300,306.24	53,619.68	
CN Stn	Electricity	14,154.97	kWh	14,154.97	1,132.40	11,562.90
	Natural Gas	5,496.70	m3	58,417.84	10,430.51	
Canada Summit Centre	Electricity	1,839,852.26	kWh	1,839,852.26	147,188.18	659,470.77
	Natural Gas	269,964.32	m3	2,869,126.80	512,282.59	
Fire Hall Huntsville	Electricity	67,096.58	kWh	67,096.58	5,367.73	26,914.90
	Natural Gas	11,355.00	m3	120,678.67	21,547.18	
Fire Hall South Mary Lake	Electricity	45,159.52	kWh	45,159.52	3,612.76	14,824.75
	Natural Gas	5,908.53	m3	62,794.69	11,211.99	
Huntsville Public Library	Electricity	160,360.89	kWh	160,360.89	12,828.87	29,937.19
	Natural Gas	9,015.79	m3	95,818.06	17,108.31	
Kent Park	Electricity	1,336.67	kWh	1,336.67	106.93	106.93
	NONE					
Madill	Electricity	130,647.00	kWh	130,647.00	10,451.76	40,482.37
	Natural Gas	15,825.63	m3	168,191.59	30,030.61	
Marsh Rd	Electricity					
	Natural Gas					
McCulley-Quonset	Electricity	17,608.79	kWh	17,608.79	1,408.70	12,322.76
	Propane	8,435.80	Litres	61,126.09	10,914.06	
MHP Stn	Electricity					
	Natural Gas	1,510.07	m3	16,048.69	2,865.49	2,865.49
MHP Museum	Electricity	15,866.48	kWh	15,866.48	1,269.32	8,315.37
	Propane	5,446.10	Litres	39,462.63	7,046.05	
P.S. Community Hall	Electricity	11,665.55	kWh	11,665.55	933.24	2,451.75
	Propane	1,173.70	m3	8,504.67	1,518.51	
Reservoir Hill	Electricity	20,507.70	kWh	20,507.70	1,640.62	1,640.62
	NONE					
Utterson	Electricity	25,875.97	kWh	25,875.97	2,070.08	14,395.33
	Natural Gas	6,495.20	m3	69,029.69	12,325.25	
Waterloo Summit Centre	Electricity	245,848.48	kWh	245,848.48	19,667.88	88,040.87
	Natural Gas	36,031.42	m3	382,934.73	68,373.00	
HPL Annex	Electricity		kWh			
	Natural Gas		m3			
Total	Electricity	3,122,891.73	kWh	3,122,891.73	249,831.34	1,036,814.48
	Natural Gas	398,596.94	m3	4,236,208.60	756,375.05	
	Propane	23,657.90	Litres	171,425.90	30,608.10	
Units:						
kg CO23/yr = kg of equivalent Carbon Dioxide per year						18 buildings
GHG - Greenhouse Gas						
kWh - Kilowatt Hours						
ekWh/yr- equivalent kilowatt hours per year						
kg - kilograms						
L - litres						
m3 - cubic meters						

2014 Energy Consumption Data						
Building	Energy Type	Consumption		Energy	GHG Emissions	Combined GHG Emissions
				(ekWh/yr)	(kg CO2e/yr)	(kg CO2e/yr)
Aspdin	Electricity	3,257.00	kWh	3,257.00	260.56	6,026.03
	Propane	4,456.30	Litres	32,290.50	5,765.47	
Brunel	Electricity	26,424.51	kWh	26,424.51	2,113.96	9,744.54
	Propane	5,897.90	Litres	42,736.38	7,630.58	
Burrow Pit Lane	Electricity					
	Natural Gas	7,102.48	m3	75,483.74	13,477.62	13,477.62
Chaffey	Electricity	19,209.55	kWh	19,209.55	1,536.76	15,969.02
	Natural Gas	7,605.56	m3	80,830.36	14,432.26	
Civic Centre	Electricity	461,804.36	kWh	461,804.36	36,944.35	139,160.60
	Natural Gas	53,866.25	m3	572,479.73	102,216.26	
CN Stn	Electricity	10,111.10	kWh	10,111.10	808.89	9,366.55
	Natural Gas	4,509.74	m3	47,928.64	8,557.66	
Canada Summit Centre	Electricity	1,808,124.43	kWh	1,808,124.43	144,649.95	688,271.55
	Natural Gas	286,479.45	m3	3,044,646.30	543,621.60	
Fire Hall Huntsville	Electricity	75,495.89	kWh	75,495.89	6,039.67	35,711.32
	Natural Gas	15,636.46	m3	166,181.17	29,671.65	
Fire Hall South Mary Lake	Electricity	37,534.52	kWh	37,534.52	3,002.76	13,721.36
	Natural Gas	5,648.52	m3	60,031.34	10,718.60	
Huntsville Public Library	Electricity	152,679.50	kWh	152,679.50	12,214.36	34,195.02
	Natural Gas	11,583.44	m3	123,106.48	21,980.66	
Kent Park	Electricity	1,277.00	kWh	1,277.00	102.16	102.16
	NONE					
Madill	Electricity	125,404.00	kWh	125,404.00	10,032.32	37,062.14
	Natural Gas	14,244.26	m3	151,385.15	27,029.82	
Marsh Rd	Electricity					
	Natural Gas					
McCulley-Quonset	Electricity	21,769.48	kWh	21,769.48	1,741.56	8,797.70
	Propane	5,453.90	Litres	39,519.15	7,056.14	
MHP Stn	Electricity					
	Natural Gas	1,389.38	m3	14,766.03	2,636.47	2,636.47
MHP Museum	Electricity	18,753.64	kWh	18,753.64	1,500.29	9,275.91
	Propane	6,010.00	Litres	43,548.66	7,775.61	
P.S. Community Hall	Electricity	12,118.63	kWh	12,118.63	969.49	14,156.04
	Natural Gas	6,949.09	m3	73,853.52	13,186.55	
Reservoir Hill	Electricity	22,754.00	kWh	22,754.00	1,820.32	1,820.32
	NONE					
Utterson	Electricity	23,660.57	kWh	23,660.57	1,892.85	14,349.41
	Natural Gas	6,564.40	m3	69,765.13	12,456.56	
Waterloo Summit Centre	Electricity	291,285.58	kWh	291,285.58	23,302.85	102,757.37
	Natural Gas	41,871.20	m3	444,998.72	79,454.52	
HPL Annex	Electricity		kWh			
	Natural Gas		m3			
Total	Electricity	3,111,663.76	kWh	3,111,663.76	248,933.10	1,156,601.13
	Natural Gas	463,450.23	m3	4,925,456.30	879,440.22	
	Propane	21,818.10	Litres	158,094.70	28,227.81	
kg CO2/yr = kg of equivalent Carbon Dioxide per year						
GHG - Greenhouse Gas						
kWh - Kilowatt Hours						
ekWh/yr- equivalent kilowatt hours per year						
kg - kilograms						
L - litres						
m3 - cubic meters						

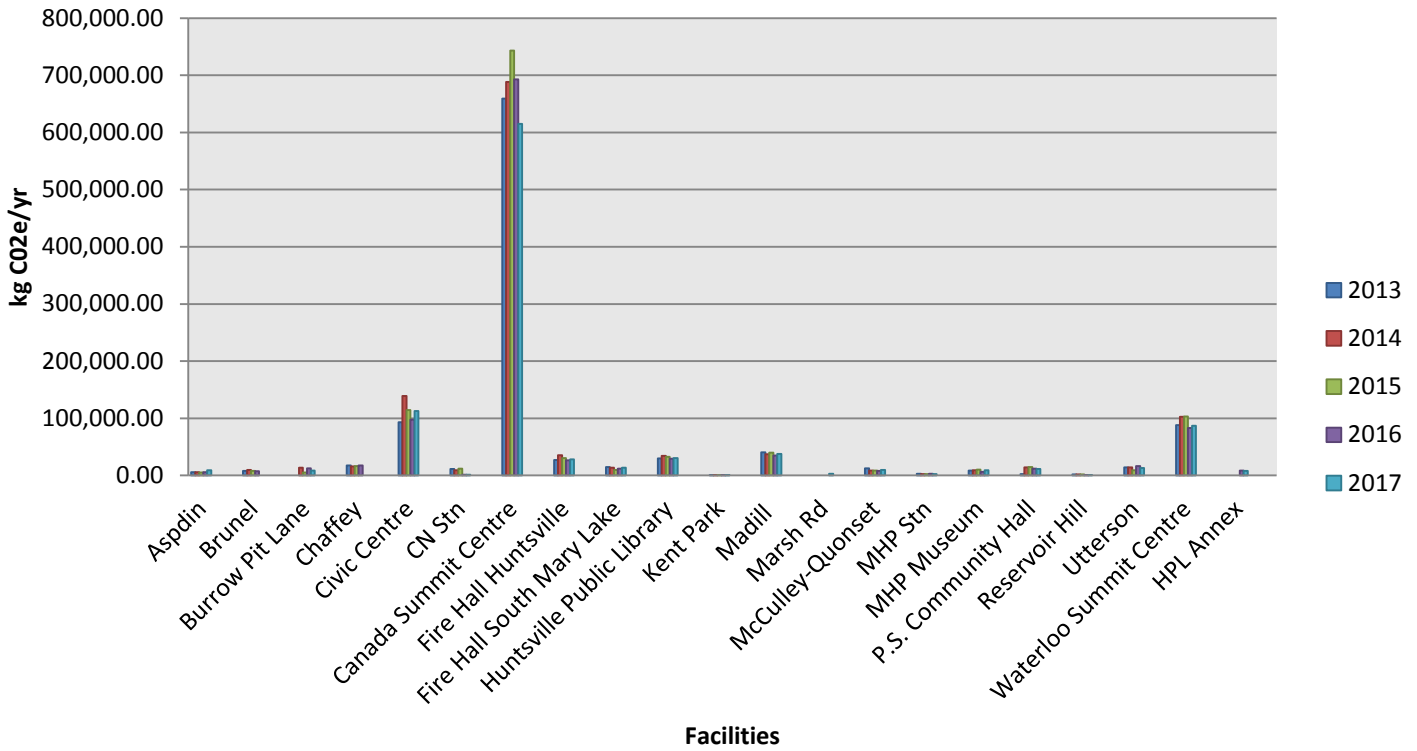
19 buildings (burrow pit added)

2015 Energy Consumption Data						
Building	Energy Type	Consumption		Energy	GHG Emissions	Combined GHG Emissions
				(ekWh/yr)	(kg CO2e/yr)	
Aspdin	Electricity	3,589.00	kWh	3,589.00	287.12	5,468.06
	Propane	4,004.50	Litres	29,016.74	5,180.94	
Brunel	Electricity	33,083.29	kWh	33,083.29	2,646.66	7,925.15
	Propane	4,079.90	Litres	29,563.09	5,278.49	
Burrow Pit Lane	None					
	Natural Gas	2,764.81	m3	29,383.86	5,246.49	5,246.49
Chaffey	Electricity	13,988.09	kWh	13,988.09	1,119.05	16,593.29
	Natural Gas	8,154.66	m3	86,666.14	15,474.24	
Civic Centre	Electricity	416,503.00	kWh	416,503.00	33,320.24	114,520.17
	Natural Gas	42,791.00	m3	454,774.19	81,199.93	
CN Stn	Electricity	9,996.37	kWh	9,996.37	799.71	12,056.59
	Natural Gas	5,932.19	m3	63,046.10	11,256.88	
Canada Summit Centre	Electricity	1,810,279.62	kWh	1,810,279.62	144,822.37	743,435.11
	Natural Gas	315,458.86	m3	3,352,633.67	598,612.74	
Fire Hall Huntsville	Electricity	77,225.00	kWh	77,225.00	6,178.00	30,381.81
	Natural Gas	12,755.00	m3	135,557.59	24,203.81	
Fire Hall South Mary Lake	Electricity	30,196.76	kWh	30,196.76	2,415.74	9,927.37
	Natural Gas	3,958.50	m3	42,070.15	7,511.62	
Huntsville Public Library	Electricity	132,440.00	kWh	132,440.00	10,595.20	32,518.10
	Natural Gas	11,553.00	m3	122,782.97	21,922.90	
Kent Park	Electricity	1,767.00	kWh	1,767.00	141.36	141.36
	NONE					
Madill	Electricity	136,763.00	kWh	136,763.00	10,941.04	39,878.96
	Natural Gas	15,249.80	m3	162,071.78	28,937.92	
Marsh Rd	Electricity					
	Natural Gas					
McCulley-Quonset	Electricity	16,270.00	kWh	16,270.00	1,301.60	8,353.47
	Propane	5,450.60	Litres	39,495.23	7,051.87	
MHP Stn	Electricity					
	Natural Gas	1,394.71	m3	14,822.69	2,646.59	2,646.59
MHP Museum	Electricity	22,242.00	kWh	22,242.00	1,779.36	10,463.85
	Propane	6,712.50	Litres	48,639.00	8,684.49	
P.S. Community Hall	Electricity	15,113.86	kWh	15,113.86	1,209.11	14,712.88
	Natural Gas	7,116.26	m3	75,630.19	13,503.77	
Reservoir Hill	Electricity	21,317.00	kWh	21,317.00	1,705.36	1,705.36
	NONE					
Utterson	Electricity	25,013.27	kWh	25,013.27	2,001.06	9,352.15
	Natural Gas	3,873.90	m3	41,171.03	7,351.09	
Waterloo Summit Centre	Electricity	289,099.00	kWh	289,099.00	23,127.92	103,423.20
	Natural Gas	42,314.26	m3	449,707.52	80,295.28	
HPL Annex	Electricity		kWh			
	Natural Gas		m3			
Total	Electricity	3,054,886.26	kWh	3,054,886.26	244,390.90	1,168,749.96
	Natural Gas	473,316.95	m3	5,030,317.88	898,163.26	
	Propane	20,247.50	Litres	146,714.10	26,195.80	
kg CO2/yr = kg of equivalent Carbon Dioxide per year						
GHG - Greenhouse Gas						19 buildings
kWh - Kilowatt Hours						
ekWh/yr- equivalent kilowatt hours per year						
kg - kilograms						
L - litres						
m3 - cubic meters						

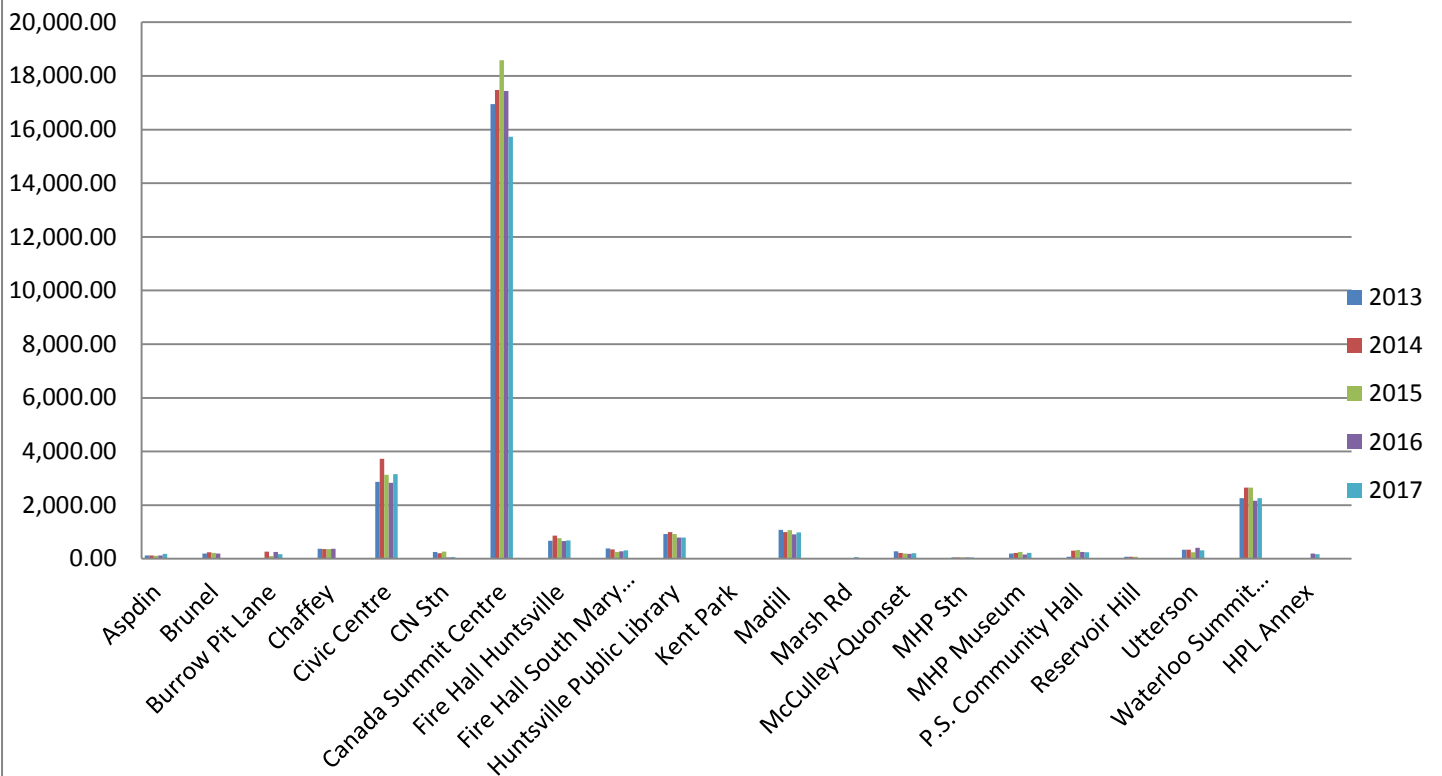
2016 Energy Consumption Data						
Building	Energy Type	Consumption		Energy	GHG Emissions	Combined GHG Emissions
				(ekWh/yr)	(kg CO2e/yr)	(kg CO2e/yr)
Aspdin	Electricity	2,473.00	kWh	2,473.00	197.84	5,790.20
	Propane	4,322.50	Litres	31,320.98	5,592.36	
Brunel	Electricity	27,325.00	kWh	27,325.00	2,186.00	7,278.32
	Propane	3,936.00	Litres	28,520.39	5,092.32	
Burrow Pit Lane	Electricity					
	Natural Gas	6,709.69	m3	71,309.29	12,732.27	12,732.27
Chaffey	Electricity	12,221.00	kWh	12,221.00	977.68	17,453.03
	Natural Gas	8,682.23	m3	92,273.03	16,475.35	
Civic Centre	Electricity	439,839.00	kWh	439,839.00	35,187.12	97,384.55
	Natural Gas	32,777.00	m3	348,347.40	62,197.43	
CN Stn	Electricity	13,333.00	kWh	13,333.00	1,066.64	1,066.64
	Natural Gas					
Canada Summit Centre	Electricity	1,748,042.00	kWh	1,748,042.00	139,843.36	692,602.91
	Natural Gas	291,295.00	m3	3,095,825.00	552,759.55	
Fire Hall Huntsville	Electricity	62,896.00	kWh	62,896.00	5,031.68	26,423.25
	Natural Gas	11,273.00	m3	119,807.19	21,391.57	
Fire Hall South Mary Lake	Electricity	22,681.00	kWh	22,681.00	1,814.48	11,866.03
	Natural Gas	5,297.00	m3	56,295.46	10,051.55	
Huntsville Public Library	Electricity	99,718.00	kWh	99,718.00	7,977.44	29,450.61
	Natural Gas	11,316.00	m3	120,264.18	21,473.17	
Kent Park	Electricity	1,332.00	kWh	1,332.00	106.56	106.56
	NONE					
Madill	Electricity	104,734.00	kWh	104,734.00	8,378.72	35,094.94
	Natural Gas	14,079.00	m3	149,628.80	26,716.22	
Marsh Rd	Electricity					
	Natural Gas					
McCulley-Quonset	Electricity	11,484.00	kWh	11,484.00	918.72	7,761.26
	Propane	5,288.80	Litres	38,322.82	6,842.54	
MHP Stn	Electricity					
	Natural Gas	1,459.00	m3	15,505.96	2,768.59	2,768.59
MHP Museum	Electricity	15,561.00	kWh	15,561.00	1,244.88	6,535.27
	Propane	4,089.10	Litres	29,629.76	5,290.39	
P.S. Community Hall	Electricity	12,452.00	kWh	12,452.00	996.16	11,738.44
	Natural Gas	5,661.00	m3	60,163.98	10,742.28	
Reservoir Hill	Electricity	8,904.00	kWh	8,904.00	712.32	712.32
	NONE					
Utterson	Electricity	37,551.00	kWh	37,551.00	3,004.08	16,568.84
	Natural Gas	7,148.40	m3	75,971.77	13,564.76	
Waterloo Summit Centre	Electricity	247,608.00	kWh	247,608.00	19,808.64	83,212.94
	Natural Gas	33,413.00	m3	355,106.68	63,404.30	
HPL Annex	Electricity	10,650.00	kWh	10,650.00	852.00	8,486.02
	Natural Gas	4,023.00	m3	42,755.64	7,634.02	
Total	Electricity	2,878,804.00	kWh	2,878,804.00	230,304.32	1,075,033.00
	Natural Gas	433,133.33	m3	4,603,254.36	821,911.07	
	Propane	17,636.40	Litres	127,794.00	22,817.61	
kg CO23/yr = kg of equivalent Carbon Dioxide per year						
GHG - Greenhouse Gas						20 buildings (HPL Annex)
kWh - Kilowatt Hours						
ekWh/yr- equivalent kilowatt hours per year						
kg - kilograms						
L - litres						
m3 - cubic meters						

2017 Energy Consumption Data						
Building	Energy Type	Consumption		Energy	GHG Emissions	Combined GHG Emissions
				(ekWh/yr)	(kg CO2e/yr)	(kg CO2e/yr)
Aspdin	Electricity	3,682.00	kWh	3,682.00	294.56	8,982.29
	Propane	6,715.00	Litres	48,657.12	8,687.73	
Brunel	Electricity		kWh			
	Propane		Litres			
Burrow Pit Lane	Electricity					
	Natural Gas	4,519.76	m3	48,035.11	8,576.67	8,576.67
Chaffey	Electricity		kWh			
	Natural Gas		m3			
Civic Centre	Electricity	445,396.00	kWh	445,396.00	35,631.68	112,478.56
	Natural Gas	40,497.02	m3	430,394.18	76,846.88	
CN Stn	Electricity	18,899.47	kWh	18,899.47	1,511.96	1,511.96
	Natural Gas					
Canada Summit Centre	Electricity	1,678,625.00	kWh	1,678,625.00	134,290.00	615,018.80
	Natural Gas	253,336.00	m3	2,692,404.34	480,728.80	
Fire Hall Huntsville	Electricity	61,560.00	kWh	61,560.00	4,924.80	28,050.85
	Natural Gas	12,187.04	m3	129,521.41	23,126.05	
Fire Hall South Mary Lake	Electricity	20,118.00	kWh	20,118.00	1,609.44	13,668.53
	Natural Gas	6,354.94	m3	67,539.03	12,059.09	
Huntsville Public Library	Electricity	91,008.00	kWh	91,008.00	7,280.64	30,123.88
	Natural Gas	12,038.01	m3	127,937.52	22,843.24	
Kent Park	Electricity	1,098.00	kWh	1,098.00	87.84	87.84
	NONE					
Madill	Electricity	114,370.00	kWh	114,370.00	9,149.60	37,608.65
	Natural Gas	14,997.44	m3	159,389.82	28,459.05	
Marsh Rd	Electricity	5,768.00	kWh	5,768.00	461.44	2,808.13
	Natural Gas	1,236.66	m3	13,143.02	2,346.69	
McCulley-Quonset	Electricity	11,089.00	kWh	11,089.00	887.12	9,504.47
	Propane	6,660.60	Litres	48,262.93	8,617.35	
MHP Stn	Electricity					
	Natural Gas	1,264.00	m3	13,433.54	2,398.56	2,398.56
MHP Museum	Electricity	18,921.00	kWh	18,921.00	1,513.68	9,221.24
	Propane	5,957.40	Litres	43,167.52	7,707.56	
P.S. Community Hall	Electricity	10,805.00	kWh	10,805.00	864.40	11,170.23
	Natural Gas	5,431.00	m3	57,719.58	10,305.83	
Reservoir Hill	Electricity	8,571.00	kWh	8,571.00	685.68	685.68
	NONE					
Utterson	Electricity	29,117.00	kWh	29,117.00	2,329.36	12,979.23
	Natural Gas	5,612.30	m3	59,646.40	10,649.87	
Waterloo Summit Centre	Electricity	256,132.00	kWh	256,132.00	20,490.56	86,778.71
	Natural Gas	34,932.74	m3	371,258.22	66,288.15	
HPL Annex	Electricity	8,842.00	kWh	8,842.00	707.36	7,907.50
	Natural Gas	3,794.36	m3	40,325.65	7,200.14	
Total	Electricity	2,784,001.47	kWh	2,784,001.47	222,720.12	999,561.78
	Natural Gas	396,201.27	m3	4,210,747.81	751,829.02	
	Propane	19,333.00	Litres	140,087.60	25,012.64	
kg CO23/yr = kg of equivalent Carbon Dioxide per year						
GHG - Greenhouse Gas				19 buildings (sold brunel & chaffey; gained Marsh Rd)		
kWh - Kilowatt Hours						
ekWh/yr- equivalent kilowatt hours per year						
kg - kilograms						
L - litres						
m3 - cubic meters						

2013-2017 Combined GHG Emissions



2013-2017 Total Energy Consumption (GJ/Year)



CORPORATION OF THE TOWN OF HUNTSVILLE

Huntsville Town Council

Date: June 24, 2019

No. 165-19

Moved by: 

Seconded by: 

BE IT RESOLVED THAT: The Energy Conservation and Demand Management Plan as attached to Report CS-2019-24 be approved and submitted to the Province in compliance with Ontario Regulation 507/18.

RECORDED VOTE

MEMBERS OF COUNCIL	YEA	NAY
Councillor Alcock		
Councillor Armour		
Councillor FitzGerald		
Councillor Schumacher		
Deputy Mayor Terziano		
Councillor Thompson		
Councillor Wiebe		
Councillor Withey		
Mayor Aitchison		
TOTAL:		

DECLARATION OF PECUNIARY INTEREST

MEMBERS OF COUNCIL	PERSONAL	BUSINESS	EMPLOYMENT	OTHER
Councillor Alcock				
Councillor Armour				
Councillor FitzGerald				
Councillor Schumacher				
Deputy Mayor Terziano				
Councillor Thompson				
Councillor Wiebe				
Councillor Withey				
Mayor Aitchison				

Carried: 