

Municipality of Dysart et al



CONSERVATION AND DEMAND MANAGEMENT PLAN 2020-2025



July 1st, 2019 - Municipality of Dysart et al

135 Maple Avenue, Haliburton, Ontario K0M 1S0

www.dysartetal.ca

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1.0 Commitment

Declaration of Commitment:

Dysart et al will continue to allocate the necessary resources to implement a strategic energy management plan that will reduce energy consumption and its related environmental impact.

Vision:

Dysart et al will exercise stewardship in its use of finite energy resources to reduce energy consumption and associated carbon footprint, demonstrate leadership, and enhance the overall quality of life in the community.

Goals:

To continuously improve the energy efficiency of the Municipality's facilities and processes in order to reduce operating costs, energy consumption and the associated greenhouse gas emissions, while providing education and awareness opportunities to the broader community throughout the process.

Overall Target:

The Municipality will make every effort to reduce consumption of fuels and electricity in all operations by an average of 1.5% per year between now and 2025.

Objectives:

The culture of conservation within the Municipality will be maintained with the goal to:

- Reduce Greenhouse gas emissions and ensure the wise use of resources
- Enhance fiscal accountability through savings and cost avoidance leading to both direct and indirect savings
- Demonstrate energy management leadership and commitment within the Municipality of Dysart et al and the broader community
- Demonstrate sound operating and maintenance practices
- Provide an ongoing forum for discussion within the Municipality of Dysart et al on energy management to explore new ideas and trends

2.0 Organizational Understanding

Summary of Current Energy Consumption, Cost and Green House Gas Emissions:

Since 2011, we have monitored energy consumption in 29 municipal facilities in the Municipality of Dysart et al. These facilities range from sewer pump houses to solar panel connections to community centres. The total area between these facilities is 89,196 square feet.

In 2011, the total annual electric energy consumption in municipal operations was 1,680,641 kWh, total fuel oil consumed at 45,628 litres and propane at 32,800 litres for both heating and cooling processes. Our Green House Gas emissions totalled 309.54 tonnes/year.

In 2012, the total annual electric energy consumption in municipal operations was 1,483,415 kWh, total fuel oil consumed at 30,098 and propane at 46,040 litres for both heating and cooling processes. It should be noted that the fluctuation between propane and oil would relate to changing of heating system at Roads garage from oil to propane. Our Green House Gas emissions totalled 295.74 tonnes/year.

In 2013, the total annual electric energy consumption in municipal operations was 1,674,456 kWh, total fuel oil consumed at 35,709 litres and propane at 62,582 litres for both heating and cooling processes. Our Green House Gas emissions totalled 321.39 tonnes/year.

In 2014, the total annual electric energy consumption in municipal operations was 1,868,053 kWh, total fuel oil consumed at 34,618 litres and propane at 71,949 litres for both heating and cooling processes. Our Green House Gas emissions totalled 280.30 tonnes/year.

In 2015, the total annual electric energy consumption in municipal operations was 1,844,895 kWh, total fuel oil consumed at 31,265 litres and propane at 77,384 litres for both heating and cooling processes. Our Green House Gas emissions totalled 279.57 tonnes/year.

In 2016, the total annual electric energy consumption in municipal operations was 1,910,961 kWh, total fuel oil consumed at 31,086 litres and propane at 80,345 litres for both heating and cooling processes. Our Green House Gas emissions totalled 276.77 tonnes/year.

In 2017, the total annual electric energy consumption in municipal operations was 1,784,613 kWh, total fuel oil consumed at 24,825 litres and propane at 81,107 litres for

both heating and cooling processes. Our Green House Gas emissions totalled 223.75 tonnes/year.

Renewable Energy Utilized or Planned:

The Municipality of Dysart et al aspires to show leadership in the promotion and development of renewable energy systems that are compatible with the corporate asset management and land use planning objectives. Dysart et al was proactive with the development of a process to manage public requests for support for FIT applications in a timely manner.

Dysart et al has a lease agreement for a solar farm on municipal land. A draft solar policy has been developed to guide future projects.

Prior to announcements of energy reporting requirements, Dysart et al had investigated the potential to develop alternative and renewable energy systems through the commissioning of a feasibility study by Clean Development Group entitled “Introducing the Integration of Clean Energy Systems”. Solar panel technology was employed on the 4Cs building to supplement power and the Museum attempted the use of passive solar heat.

In 2017, the municipality partnered with a local sawmill, engineers and an energy company to create the “Haliburton Village Community Bioheat” project. We were granted funding at nearly three million dollars through the Municipal GHG Challenge Fund and had agreements in place to implement the project when the funding was retracted. Given the complexity and scale of this initiative and the commitment of the community to engage in conservation efforts, it is disheartening to report that we were not able to make significant advances in our GHG reductions locally.

Past Energy Initiatives:

The Municipality of Dysart et al has implemented several energy reducing initiatives in the past including the commissioning of the Clean Energy study and the Ainsworth Energy Conservation Proposal, which considered five municipal structures for energy conservation improvements. These documents remain a relevant part of this process from the perspective of providing additional background material about structures and heating systems and several outstanding valid recommendations that can be reviewed and considered as ‘projects’ as we work through individual building audits. We have the following reports and studies available at the municipal office upon request:

- Renewable Energy Feasibility Study – Clean Development Group
- Preliminary Energy Conservation Proposal – Ainsworth Inc.
- Hot2000 Building Audit Report for Sewage Plant Lab
- RETScreen 4 Building Audit Report for Municipal Building

A 2010 remodel of the museum saw the addition of insulation in the walls and in 2013 the requirement for a new roof, brought the benefit of additional insulation value as well.

In 2012, the arena ice surface was rebuilt and additional dressing rooms were created. During the upgrades many energy saving changes were made such as the installation of high efficiency equipment such as compressors, soft start motors, infrared ice temperature controllers, hot water heaters, dehumidification systems, lighting, kitchen appliances and shower heads. New insulated exit and overhead doors were also added. In 2013, the Parks Department removed several unused hydro connections that were no longer required.

During earlier years of the plan, our Environment and Climate Change Committee demonstrated the design and build of solar heated fish huts. This was integrated as a building project for the Haliburton High School Environmental program students to raise funds to sustain their program. A video was created to profile this and other environmental initiatives undertaken by our municipality.

Our Environment and Climate Change Committee also participated in two “Green Living Tours” showcasing the application of alternative energy in both residential and commercial projects. In 2014, the Committee also created a short educational video regarding sustainable building design in a local cottage context that profiled local renewable energy providers.

From 2011 to present time, the Environment and Climate Change Committee has undertaken an energy conservation study using a cottage as a test case. We use this information on our website and at trade shows to demonstrate simple changes that can be made to realize significant savings. “Conserve – A Cottage Story” is now one of our educational videos accessible through our website.

In the sewage plant, variable frequency drives have been installed to reduce energy consumption in the past two years.

Streetscape upgrades included the installation of new LED street and park lighting. In 2014, solar lights were installed in Rotary Park. A main street grant in 2018 saw the addition of solar lights along paths in Head Lake Park.

Museum Lights have been changed to LED and motion sensors have been installed and the Municipal Office lights were all changed out as Part of Hydro One’s Save on Energy Program. This was also completed at the Arena and Roads Department simultaneously.

At the landfill in Kennisis Lake, a new attendant building was constructed to be energy efficient and a new propane heater was installed. In 2017, a new shed was also built at Haliburton Landfill for energy efficiency.

In 2017, our Council Chambers was outfitted with new LED lights. In 2018, we completed an addition on our municipal office and automatic shut off lights were installed for energy conservation.

A new municipal office parking lot was built in 2018 and outfitted with LED lights.

3.0 Resources Planning

Energy Leader:

The C.A.O. is designated as leader of energy planning and has been given the overall responsibility for reporting on corporate energy management to both the Province and Dysart et al Council. The CAO is supported by the Environmental Coordinator in this regard.

Energy Supply Management:

- Electricity is supplied by Hydro One
- Propane is supplied by multi-facility tender by local suppliers
- Oil is supplied by multi-facility tender by local suppliers
- Wood chips will be sourced locally through Haliburton Forest should we ever develop a community bioheat system.

Energy Use Management:

The Finance Department has been responsible for tracking utility and hydro costs for purposes of reporting energy consumption and greenhouse gas emissions. Department Heads monitor their hydro usage for anomalies as well. Tenders have been issued for propane and fuel for the majority of facilities for purposes of containing fuel costs.

4.0 Projects Execution

Municipal Level:

Dysart et al will carry out the required development of business procedures and communication programs and implement them methodically according to the planned time lines within the resource constraints that apply. The administration and implementation of this plan will be responsibility of the C.A.O. with the support of the Environmental Coordinator, however, since everyone uses energy in their daily activities, it will also be the responsibility of all Municipal staff to be aware of their energy use and work towards conservation. Through staff engagement, staff will be able to see the results of their efforts, and benchmark between corporate facilities and against general industry standards.

Asset Level:

Dysart et al will use department and facility management representatives to facilitate the implementation of facility level business procedures and communication initiatives, including energy performance reporting.

In order to sustain a corporate culture of conservation, staff must be engaged in an effective awareness and education program. Although facility management staff have the lead responsibility in ensuring Municipal facilities operate efficiently, all Municipal staff should be familiar with and utilize energy efficient measures where possible. In addition, any facilities requiring rehabilitation, renewal and/or replacement will incorporate energy saving strategies where possible.

5.0 Review

Energy Plan Review:

Senior Management and Council will review and evaluate Dysart et al's energy plan, revising and updating it as necessary, but at least on an annual basis.

6.0 Evaluation Progress

Energy Consumption:

The Municipality's energy consumption in 2012 was reduced to 1,483,415 kWh per year from 2011 levels of 1,680,641 kWh per year.

During 2012, the arena underwent 9 months of construction which impacted fuel and electricity due to a combination of construction heating and shorter ice period.

During the winter of 2013-2014, we experienced very low temperatures for long durations which will also have an impact on figures as we try to match our conservation efforts with increased fuel usage. Although we realize that we are not unique in this regard in Ontario, it is worth noting as we work through the evaluation process on an annual basis.

At the sewage plant, there was a 3.3% reduction in hydro consumption due to 3.8% reduction of influent flows.

At the roads garage, we replaced the furnace oil heating system with propane heating system in the fall of 2011 resulting in propane as the sole heating source.

In 2015, there was a spike in Hydro usage at the fire hall due to a malfunctioning oil furnace which required the use of electric heat.

Solar lights were installed in our park privies, but unfortunately did not provide sufficient light.

In 2018, extra fuel was required at the museum due to a malfunctioning heating system which has now been repaired.

7.0 Energy Consumption and GHG Emissions

Energy Consumption and Greenhouse Gas Emissions Reporting - for 2011										
Operation Name	Address	Area (Sq Ft)	Average Hrs/wk	Annual Flow Megalitres	Electricity kWh	Fuel Oil litres	Propane litres	GHG Emissions kg	Energy Intensity kWh/sqf	Energy Intensity kWh/megalitre
Dysart Pump Station	8 Concession Lot 15	0	1	1	4385			350.80		4,385.00
Municipal Office	135 Maple Ave	3720	42.5		36455	5524.2	3296.1	23,072.26	32.03	
Medical Centre	7217 County Rd 1	20334	39.5		34226		8819.6	16,355.40	4.73	
Dysart Ice Plant	C Concession Lot Block	855	50		281189			22,495.12	328.88	
Arts Council/Drive Test	G Concession Lot 4 10	2436	24		44802	719.2		5,545.71	21.57	
64 Maple Ave (pump house)	64 Maple Ave	0	14	1	21156			1,692.48		21,156.00
Dysart Facility PTP Ltd	1150 Peninsula Dr	0	5	1	4142			331.36		4,142.00
Dysart Facility PTP Ltd	10 Concession Lot 9	0	20	1	11969			957.52		11,969.00
Library	78 Maple Ave	5981	44		73753	2719.5		13,317.42	17.23	
Dysart Facility PTP Ltd	9 Concession Lot 8	0	20	1	14031			1,122.48		14,031.00
4C's (solar panels)	33 York St	2176	35		5042		1850.3	3,260.19	8.30	
Caboose (info centre)	York St	270	56		1124			89.92	4.16	
Dysart Facility PTP Ltd	1238 Wonderland Rd	0	15	1	12030			962.40		12,030.00
Municipal Office Addition	135 Maple Ave	2399	42.5		23948			1,915.84	9.98	
Fire Department	5 South St	6000	5		26238	4785.5		15,151.04	12.97	
Dysart Facility PTP Ltd	Blk D Concession Lot 6	0	2	1	3288			263.04		3,288.00
Dysart Facility PTP Ltd	Blk T Concession Lot 4	0	50	1	13705			1,096.40		13,705.00
Dysart Community Centre	H Concession Lot 4	17639	112		244598	9698.4	1208.9	47,885.84	20.27	
Dysart Facility PTP Ltd	8 Concession Lot 14	0	20	1	14986			1,198.88		14,986.00
CANOE FM/Land Trust	739 Mountain St	3318	50		50334	2759		11,551.63	24.13	
Business Incubator	710 Mountain St	1820	40		13344	4553.3		13,486.22	34.30	
Dysart Facility PTP Ltd	6 Concession Lot 3	0	10	1	8602			688.16		8,602.00
Rotary Washrooms Closed	8 Concession Lot 16	625	0	1	98			7.84	0.16	98.00
Dysart Facility PTP Ltd	2057 Wigamog Rd	0	5	1	6832			546.56		6,832.00
Dysart Facility PTP Ltd	5316 County Rd 21	3203	45	294060	641665			51,333.20	200.33	2.18
Museum	66 Museum Rd	3000	42		16310	4330.7		13,116.38	21.00	
Dysart Facility PTP Ltd	0 Grass Lake Rd	0	20	1	3636			290.88		3,636.00
Roads Garage	12323 Hwy 118	11820	40		66449	10538.4	12543.9	53,426.00	22.69	
Rails End Gallery	York St	3600	30		0		5081.2	7,845.29		
Traffic Lights	Concession Lot 6	0	80		2304			184.32		

Energy Consumption and Greenhouse Gas Emissions Reporting - for 2012										
Operation Name	Address	Area (Sq Ft)	Average Hrs/wk	Annual Flow Megalitres	Electricity kWh	Fuel Oil litres	Propane litres	GHG Emmissions kg	Energy Intensity ekWh/sqft	Energy Intensity ekWh/megalitre
Dysart Pump Station	8 Concession Lot 15	0	1	1	10730			1030.51		10,730.00
Municipal Office	135 Maple Ave	3720	42.5		44505	4784.5	3758.9	23153.02	32.93	
Medical Centre	7217 County Rd 1	20334	39.5		32804		8893	16854.47	4.69	
Dysart Ice Plant	C Concession Lot Block	855	50		123076			11820.22	143.95	
Arts Council/Drive Test	G Concession Lot 4 10	2436	24		43023			4134.66	17.66	
64 Maple Ave (pump house)	64 Maple Ave	0	14	1	16074			1543.75		16,074.00
Dysart Facility PTP Ltd	1150 Peninsula Dr	0	5	1	12309			1182.16		12,309.00
Dysart Facility PTP Ltd	10 Concession Lot 9	0	20	1	10887			1045.59		10,887.00
Library	78 Maple Ave	5981	44		76657	2945.7		15419.09	18.12	
Dysart Facility PTP Ltd	9 Concession Lot 8	0	20	1	12231			1174.67		12,231.00
4C's (solar panels)	33 York St	2176	35		4321		2608	4433.88	10.41	
Caboose (info centre)	York St	270	56		2282			219.16	8.45	
Dysart Facility PTP Ltd	1238 Wonderland Rd	0	15	1	17639			1694.05		17,639.00
Municipal Office Addition	135 Maple Ave	2399	42.5		27420			2633.42	11.43	
Fire Department	5 South St	6000	5		26174	5177.9		16676.12	13.66	
Dysart Facility PTP Ltd	Blk D Concession Lot 6	0	2	1	4557			437.65		4,557.00
Dysart Facility PTP Ltd	Blk T Concession Lot 4	0	50	1	13705			1316.23		13,705.00
Dysart Community Centre	H Concession Lot 4	17639	112		194036	4503.9	292.7	31405.13	13.87	
Dysart Facility PTP Ltd	8 Concession Lot 14	0	20	1	15082			1448.48		15,082.00
CANOE FM/Land Trust	739 Mountain St	3318	50		49843	3216.7		13585.10	25.47	
Business Incubator	710 Mountain St	1820	40		10047	5338.9		15567.64	37.14	
Dysart Facility PTP Ltd	6 Concession Lot 3	0	10	1	11751			1128.57		11,751.00
Rotary Washrooms Closed	8 Concession Lot 16	625	0	1	298			28.62	0.48	298.00
Dysart Facility PTP Ltd	2057 Wigamog Rd	0	5	1	13975			1342.16		13,975.00
Dysart Facility PTP Ltd	5316 County Rd 21	3203	45	283619	621066			59647.18	193.90	2.19
Museum	66 Museum Rd	3000	42		18499	4130.6		13074.48	21.01	
Dysart Facility PTP Ltd	0 Grass Lake Rd	0	20	1	4076			391.46		4,076.00
Roads Garage	12323 Hwy 118	11820	40		64044		26872.6	47561.03	21.40	
Rails End Gallery	York St	3600	30			0	3614.8	5570.35	7.06	
Traffic Lights	Concession Lot 6	0	80		2304			221.28		

Energy Consumption and Greenhouse Gas Emissions Reporting - for 2013										
Operation Name	Address	Area (Sq Ft)	Average Hrs/wk	Annual Flow Megalitres	Electricity kWh	Fuel Oil litres	Propane litres	GHG Emmissions kg	Energy Intensity ekWh/sqft	Energy Intensity ekWh/megalitre
4C's (solar panels)	33 York St	2176	35	0	3760		3101.5	5065.166996	11.74874372	0
64 Maple Ave (pump house)	64 Maple Ave	0	14	1	27614.31			2099.018932	0	27614.31
Caboose (info centre)	York St	270	56	0	3158.29			240.0679395	11.69737037	0
Dysart Community Centre	H Concession Lot 4	17639	112	0	202200	10058	5917.9	51999.21466	19.96762869	0
Dysart Facility PTP Ltd	5316 County Rd 21	0	45	320609	646320			49128.07584	0	2.015913465
Dysart Facility PTP Ltd	0 Grass Lake Rd	0	20	1	4260.72			323.8658486	0	4260.72
Dysart Facility PTP Ltd	6 Concession Lot 3	0	10	1	14017.02			1065.461724	0	14017.02
Dysart Facility PTP Ltd	1150 Peninsula Dr	0	5	1	8873.01			674.4552361	0	8873.01
Dysart Facility PTP Ltd	10 Concession Lot 9	0	20	1	11287.83			858.010534	0	11287.83
Dysart Facility PTP Ltd	2057 Wigamog Rd	0	5	1	11904.46			904.8818135	0	11904.46
Dysart Facility PTP Ltd	Blk D Concession Lot 6	0	2	1	4969.16			377.7157899	0	4969.16
Dysart Facility PTP Ltd	9 Concession Lot 8	0	20	1	12613.96			958.8123275	0	12613.96
Dysart Facility PTP Ltd	Blk T Concession Lot 4	0	50	1	17796.56			1352.752119	0	17796.56
Dysart Facility PTP Ltd	8 Concession Lot 14	0	20	1	17250.76			1311.264769	0	17250.76
Dysart Facility PTP Ltd	1238 Wonderland Rd	0	15	1	16347.73			1242.623653	0	16347.73
Dysart Ice Plant	C Concession Lot Block	855	50	0	244471			18582.72965	285.9309942	0
Dysart Lib old bld	710 Mountain St	1820	40	0	12992.5085	4051.9		12070.16515	31.13350721	0
Dysart Pump Station	8 Concession Lot 15	0	1	1	11630.65			884.0689678	0	11630.65
Fire Department	5 South St	6000	5	0	27671.16	6310.7		19364.08918	15.94774622	0
Library	78 Maple Ave	5981	44	0	71616.29	3085.7		13883.5683	17.53440503	0
Medical Centre	7217 County Rd 1	20334	39.5	0	38492.16		11096.4	20025.24092	5.729615939	0
Municipal Office	135 Maple Ave	3720	42.5	0	39705.18	5176.5	7041.2	28026.98172	38.97846411	0
Museum	66 Museum Rd	3000	42	0	19229.28	4044.6		12524.26799	20.94035895	0
New Offices	135 Maple Ave	2399	42.5	0	24709.23			1878.197991	10.29980409	0
Old County Lib (old health unit)	739 Mountain St	3318	50	0	54553.39	2981.7		12302.12693	26.12703065	0
Old OPP	G Concession Lot 4 10	2436	24	0	47554.87			3614.740778	19.52170361	0
Rails End Gallery	York St	3600	30	0			5527.3	8517.480863	10.79444074	0
Roads Garage	12323 Hwy 118	11820	40	0	73312		29897.86	51644.71564	23.98566405	0
Traffic Lights	Concession Lot 6	1	80	0	6144			467.017728	6144	0

Energy Consumption and Greenhouse Gas Emissions Reporting - For 2014										
Operation Name	Address	Area (Sq Ft)	Average Hrs/wk	Annual Flow Megalitres	Electricity kWh	Fuel Oil litres	Propane litres	GHG Emissions kg	Energy Intensity ekWh/sqft	Energy Intensity ekWh/megalitre
4C's (solar panels)	33 York St	2,176	35	0	4,567.00		2,651.60	4268.80	10.67	0.00
64 Maple Ave (pump house)	64 Maple Ave	0	14	1	22,023.77			881.19	0.00	22023.77
Caboose (info centre)	York St	270	56	0	3,075.22			123.04	11.39	0.00
Dysart Community Centre	H Concession Lot 4	17,639	112	0	243,600.00	5,882.00	9,995.30	41237.46	21.39	0.00
Dysart Facility PTP Ltd	6 Concession Lot 3	0	10	1	12,853.76			514.29	0.00	12853.76
Dysart Facility PTP Ltd	1150 Peninsula Dr	0	5	1	10,606.58			424.38	0.00	10606.58
Dysart Facility PTP Ltd	5316 County Rd 21	0	45	323775	712,800.00			28519.84	0.00	2.20
Dysart Facility PTP Ltd	1238 Wonderland Rd	0	15	1	16,823.82			673.14	0.00	16823.82
Dysart Facility PTP Ltd	8 Concession Lot 14	0	20	1	17,035.90			681.62	0.00	17035.90
Dysart Facility PTP Ltd	10 Concession Lot 9	0	20	1	12,993.11			519.87	0.00	12993.11
Dysart Facility PTP Ltd	Blk T Concession Lot 4	0	50	1	17,546.12			702.04	0.00	17546.12
Dysart Facility PTP Ltd	Blk D Concession Lot 6	0	2	1	4,426.67			177.12	0.00	4426.67
Dysart Facility PTP Ltd	9 Concession Lot 8	0	20	1	13,495.70			539.98	0.00	13495.70
Dysart Facility PTP Ltd	2057 Wigamog Rd	0	5	1	13,241.45			529.80	0.00	13241.45
Dysart Facility PTP Ltd	0 Grass Lake Rd	0	20	1	3,758.58			150.38	0.00	3758.58
Dysart Ice Plant	C Concession Lot Block	855	50	0	348,200.00			13931.83	407.25	0.00
Dysart Lib old bld	710 Mountain St	1,820	40	0	15,067.73	4,311.40		12395.23	33.81	0.00
Dysart Pump Station	8 Concession Lot 15	0	1	1	6,561.05			262.51	0.00	6561.05
Fire Department	5 South St	6,000	5	0	29,008.58	5,586.20		16439.79	14.87	0.00
Library	78 Maple Ave	5,981	44	0	69,345.27	4,546.40		15209.69	19.79	0.00
Medical Centre	7217 County Rd 1	20,334	39.5	0	39,225.83		10,141.70	17197.66	5.44	0.00
Municipal Office	135 Maple Ave	3,720	42.5	0	35,862.56	6,663.80	6,440.20	29585.67	41.12	0.00
Museum	66 Museum Rd	3,000	42	0	22,342.25	4,596.90		13467.17	23.96	0.00
New Offices	135 Maple Ave	2,399	42.5	0	19,096.46			764.07	7.96	0.00
Old County Lib (old health unit)	739 Mountain St	3,318	50	0	53,388.97	3,031.40		10427.50	25.94	0.00
Old OPP	G Concession Lot 4 10	2,436	24	0	46,230.12			1849.71	18.98	0.00
Rails End Gallery	York St	3,600	30	0			7,369.10	11355.67	14.39	0.00
Roads Garage	12323 Hwy 118	11,820	40	0	72,764.32		35,351.50	57387.47	27.18	0.00
Traffic Lights	Concession Lot 6	1	80	0	2,112.00			84.50	2112.00	0.00

Energy Consumption and Greenhouse Gas Emissions Reporting - For 2015										
Operation Name	Address	Area (Sq Ft)	Average Hrs/wk	Annual Flow Megalitres	Electricity kWh	Fuel Oil litres	Propane litres	GHG Emissions kg	Energy Intensity ekWh/sqft	Energy Intensity ekWh/megalitre
4C's (solar panels)	33 York St	2,176	35	0	3,657.00		2,450.80	3924.9276	9.59903	0.00
64 Maple Ave (pump house)	64 Maple Ave	0	14	1	16,744.15			678.94179	0.00000	16744.1500
Caboose (info centre)	York St	270	56	0	1,122.99			45.53500	4.15922	0.0000
Dysart Community Centre	H Concession Lot 4	17,639	112	0	243,720.00	6,495.00	15,836.90	52051.60629	24.09796	0.0000
Dysart Facility PTP Ltd	2057 Wigamog Rd	0	5	1	8,839.28			358.41513	0.00000	8839.2800
Dysart Facility PTP Ltd	1238 Wonderland Rd	0	15	1	15,023.81			609.18545	0.00000	15023.8100
Dysart Facility PTP Ltd	0 Grass Lake Rd	0	20	1	3,501.07			141.96139	0.00000	3501.0700
Dysart Facility PTP Ltd	5316 County Rd 21	0	45	29757	713,520.00			28931.80896	0.00000	2.4125
Dysart Facility PTP Ltd	6 Concession Lot 3	0	10	1	13,220.42			536.06159	0.00000	13220.4200
Dysart Facility PTP Ltd	8 Concession Lot 14	0	20	1	16,131.84			654.11385	0.00000	16131.8400
Dysart Facility PTP Ltd	10 Concession Lot 9	0	20	1	15,342.00			622.08742	0.00000	15342.0000
Dysart Facility PTP Ltd	1150 Peninsula Dr	0	5	1	5,844.34			236.97630	0.00000	5844.3400
Dysart Facility PTP Ltd	Blk D Concession Lot 6	0	2	1	8,575.99			347.73924	0.00000	8575.9900
Dysart Facility PTP Ltd	Blk T Concession Lot 4	0	50	1	15,993.51			648.50484	0.00000	15993.5100
Dysart Facility PTP Ltd	9 Concession Lot 8	0	20	1	12,559.26			509.25287	0.00000	12559.2600
Dysart Ice Plant	C Concession Lot Block	855	50	0	367,200.00			14889.22560	429.47368	0.0000
Dysart Lib old bld	710 Mountain St	1,820	40	0	16,462.34	3,132.00		9234.02355	27.59249	0.0000
Dysart Pump Station	8 Concession Lot 15	0	1	1	8,916.26			361.53651	0.00000	8916.2600
Fire Department	5 South St	6,000	5	0	28,392.90	5,444.50		16042.83215	14.51208	0.0000
Library	78 Maple Ave	5,981	44	0	64,455.13	3,840.50		13117.89323	17.69724	0.0000
Medical Centre	7217 County Rd 1	20,334	39.5	0	33,467.53		15,448.20	25162.47044	6.98716	0.0000
Municipal Office	135 Maple Ave	3,720	42.5	0	35,518.19	5,472.40	5,151.90	24347.05473	35.13957	0.0000
Museum	66 Museum Rd	3,000	42	0	25,909.94	3,928.60		11795.93011	22.75050	0.0000
New Offices	135 Maple Ave	2,399	42.5	0	18,251.49			740.06142	7.60796	0.0000
Old County Lib (old health unit)	739 Mountain St	3,318	50	0	46,643.30	2,952.20		9966.02007	23.64721	0.0000
Old OPP	G Concession Lot 4 10	2,436	24	0	40,400.14			1638.14488	16.58462	0.0000
Rails End Gallery	York St	3,600	30	0			5,798.10	8934.77933	11.32329	0.0000
Roads Garage	12323 Hwy 118	11,820	40	0	63,370.00		32,698.40	52957.23799	24.81031	0.0000
Traffic Lights	Concession Lot 6	1	80	0	2,112.00			85.63738	2112.00000	0.0000

Energy Consumption and Greenhouse Gas Emissions Reporting - For 2016										
Operation Name	Address	Area (Sq Ft)	Average Hrs/wk	Annual Flow Megalitres	Electricity kWh	Fuel Oil litres	Propane litres	GHG Emmissions kg	Energy Intensity ekWh/sqft	Energy Intensity ekWh/megalitre
4C's (solar panels)	33 York St	2,176	35	0	3,370.77		7,026.30	10,947.24008	24.25072	0.00000
64 Maple Ave (pump house)	64 Maple Ave	0	14	1	14,395.00			511.71346	0.00000	14,395.00000
Caboose (info centre)	York St	270	56	0	530.86			18.87091	1.96614	0.00000
Dysart Community Centre	H Concession Lot 4	17,639	112	0	228,600.00	5,880.90	21,893.80	57,949.44722	25.27970	0.00000
Dysart Facility PTP Ltd	2057 Wigamog Rd	0	5	1	12,458.90			442.88862	0.00000	12,458.89000
Dysart Facility PTP Ltd	1238 Wonderland Rd	0	15	1	16,310.19			692.05344	0.00000	19,468.14000
Dysart Facility PTP Ltd	0 Grass Lake Rd	0	20	1	3,891.52			138.33586	0.00000	3,891.52300
Dysart Facility PTP Ltd	5316 County Rd 21	0	45	313643	709,200.00			579.79463	0.00000	16,310.19000
Dysart Facility PTP Ltd	6 Concession Lot 3	0	10	1	12,138.79			25,210.64160	0.00000	2.26117
Dysart Facility PTP Ltd	8 Concession Lot 14	0	20	1	19,468.14			431.50971	0.00000	12,138.79000
Dysart Facility PTP Ltd	10 Concession Lot 9	0	20	1	10,924.05			181.68764	0.00000	5,111.05100
Dysart Facility PTP Ltd	1150 Peninsula Dr	0	5	1	5,111.05			270.28325	0.00000	7,603.33200
Dysart Facility PTP Ltd	Blk D Concession Lot6	0	2	1	7,603.33			497.66880	0.00000	13,999.91000
Dysart Facility PTP Ltd	Blk T Concession Lot 4	0	50	1	16,437.65			388.32813	0.00000	10,924.05000
Dysart Facility PTP Ltd	9 Concession Lot 8	0	20	1	13,999.91			584.32558	0.00000	16,437.65000
Dysart Ice Plant	C Concession Lot Block	855	50	0	455,000.00			16,174.34000	532.16374	0.00000
Dysart Lib old bld	710 Mountain St	1,820	40	0	18,980.95	3,597.40		10,514.18501	31.73238	0.00000
Dysart Pump Station	8 Concession Lot 15	0	1	1	7,166.90			254.76914	0.00000	7,166.90500
Fire Department	5 South St	6,000	5	0	25,234.54	6,052.99		17,452.69053	15.07858	0.00000
Library	78 Maple Ave	5,981	44	0	63,350.21	3,030.20		10,540.04298	16.05234	0.00000
Medical Centre	7217 County Rd 1	20,334	39.5	0	25,879.39		12,220.60	19,751.70927	5.49803	0.00000
Municipal Office	135 Maple Ave	3,720	42.5	0	35,642.46	5,119.40	3,461.50	20,603.49191	30.95550	0.00000
Museum	66 Museum Rd	3,000	42	0	20,420.15	4,459.40		12,923.05016	22.82752	0.00000
New Offices	135 Maple Ave	2,399	42.5	0	18,838.47			669.66993	7.85263	0.00000
Old County Lib (old health unit)	739 Mountain St	3,318	50	0	46,862.89	2,945.50		9,722.28401	23.69163	0.00000
Old OPP	G Concession Lot 4 10	2,436	24	0	50,246.70			1,786.16969	20.62672	0.00000
Rails End Gallery	York St	3,600	30	0			5,992.00	9,233.57613	11.70197	0.00000
Roads Garage	12323 Hwy 118	11,820	40	0	66,786.05		29,751.00	48,219.92549	23.34620	0.00000
Traffic Lights	Concession Lot 6	1	80	0	2,112.00			75.07738	2,112.00000	0.00000

Energy Consumption and Greenhouse Gas Emissions Reporting - For 2017										
Operation Name	Address	Area (Sq Ft)	Average Hrs/wk	Annual Flow Megalitres	Electricity kWh	Fuel Oil litres	Propane litres	GHG Emmissions kg	Energy Intensity ekWh/sqft	Energy Intensity ekWh/megalitre
4C's (solar panels)	33 York St	2,176	35	0	3,033.17		2,327.40	3,638.95390	8.91364	0.00000
64 Maple Ave (pump house)	64 Maple Ave	0	14	1	10,814.00			187.06057	0.00000	10,814.00000
Caboose (info centre)	York St	270	56	0	2,435.43			42.12812	9.02012	0.00000
Dysart Community Centre	H Concession Lot 4	17,639	112	0	234,840.00	6,016.20	14,382.20	42,680.24793	22.72216	0.00000
Dysart Facility PTP Ltd	6 Concession Lot 3	0	10	1	13,482.82			233.22582	0.00000	13,482.82000
Dysart Facility PTP Ltd	Blk T Concession Lot 4	0	50	1	16,434.08			284.27672	0.00000	16,434.08000
Dysart Facility PTP Ltd	10 Concession Lot 9	0	20	1	9,899.05			171.23382	0.00000	9,899.05300
Dysart Facility PTP Ltd	5316 County Rd 21	0	45	372894	642,240.00			11,109.46752	0.00000	1.72231
Dysart Facility PTP Ltd	0 Grass Lake Rd	0	20	1	3,075.08			53.19265	0.00000	3,075.07500
Dysart Facility PTP Ltd	2057 Wigamog Rd	0	5	1	15,704.36			271.65402	0.00000	15,704.36000
Dysart Facility PTP Ltd	Blk D Concession Lot 6	0	2	1				0.00000	0.00000	0.00000
Dysart Facility PTP Ltd	1150 Peninsula Dr	0	5	1	4,880.22			84.41811	0.00000	4,880.22400
Dysart Facility PTP Ltd	9 Concession Lot 8	0	20	1	15,853.82			274.23938	0.00000	15,853.82000
Dysart Facility PTP Ltd	8 Concession Lot 14	0	20	1	15,882.80			274.74067	0.00000	15,882.80000
Dysart Facility PTP Ltd	1238 Wonderland Rd	0	15	1	16,732.69			289.44207	0.00000	16,732.69000
Dysart Ice Plant	C Concession Lot Block	855	50	0	387,800.00			6,708.16440	453.56725	0.00000
Dysart Lib old bld	710 Mountain St	1,820	40	0	15,609.54	2,951.20		8,342.00621	26.05325	0.00000
Dysart Pump Station	8 Concession Lot 15	0	1	1	5,671.85			98.11159	0.00000	5,671.84600
Fire Department	5 South St	6,000	5	0	25,947.53	1,978.10	2,687.10	10,000.03056	11.02648	0.00000
Library	78 Maple Ave	5,981	44	0	59,379.18	2,945.70		9,084.09008	15.23613	0.00000
Medical Centre	7217 County Rd 1	20,334	39.5	0	27,016.91		14,075.80	22,157.92110	6.19542	0.00000
Municipal Office	135 Maple Ave	3,720	42.5	0	35,119.79	5,111.40	3,453.70	19,910.07495	30.77708	0.00000
Museum	66 Museum Rd	3,000	42	0	19,630.51	3,257.70		9,249.88626	18.24709	0.00000
New Offices	135 Maple Ave	2,399	42.5	0	32,143.60			556.01999	13.39875	0.00000
Old County Lib (old health unit)	739 Mountain St	3,318	50	0	43,957.33	2,564.20		7,773.86091	21.57737	0.00000
Old OPP	G Concession Lot 4 10	2,436	24	0	54,693.95			946.09595	22.45236	0.00000
Rails End Gallery	York St	3,600	30	0			6,039.10	9,306.15647	11.79395	0.00000
Roads Garage	12323 Hwy 118	11,820	40	0	70,086.30		38,142.00	59,988.56455	28.61639	0.00000
Traffic Lights	Concession Lot 6	1	80	0	2,249.00			38.90320	2,249.00000	0.00000

8.0 Programs

Actions	Status/Comments
Increase Energy Awareness by adding as an item to management team agendas.	Active.
Encourage employee participation by inviting employees from all departments to recommend ideas to reduce energy.	Active - Staff have been asked to submit comments with regard to programs, process and projects and the results have been included here.
Engage in Energy Accounting by ensuring that monthly utility usage and costs are monitored to identify trends and to emphasize anomalies to better predict future usage requirements.	Active.
Efficiency Standards will be developed to identify and implement temperature regulations for each building to include standards for indoor temperatures for occupied and unoccupied space and hot water temperature.	Ensure thermostats or timers are set appropriately for season and hours of operation. It is important to note that we are currently experiencing technical issues with our new furnace in the municipal office.
Asset purchases will be subject to consideration of energy use ratings as long as the primary function of the equipment is sufficient.	Active: e.g. New Energy Star rated photocopier purchased in 2014 for Municipal Building.
A Lights Out strategy will be developed to encourage staff to turn off lights in rooms that aren't in use continuously such as kitchens and bathrooms or in rooms that are well lit with natural daylight.	Consider motion sensors and timers. Our new municipal office addition has automatic shut off lights and new areas of our arena have automatic lights. Our museum is shutting out their lights between visitors.
Hold an Annual Energy Lunch and Learn for staff and council to review the ongoing requirement for energy conservation and demand management and to highlight efficiencies achieved through employee participation.	
Create a Fresh Air Campaign and consider shutting down air conditioning and heating systems and opening windows and doors when the temperatures are conducive.	
Develop a light bulb inventory and determine replacement wattage required to change out lights to more efficient versions as they stop functioning	Ongoing.
Review options with staff to conserve energy with routine office equipment by utilizing power bars and timers to shut down all computers, printers, adding machines, etc. at the end of the day to reduce phantom loads.	Ongoing.

9.0 Processes

Actions	Status/Comments
Enhance Building Envelopes in several municipal buildings including the Municipal Office, Community Centre, Rails End, Sewer Plant Lab and Roads Garage	Ongoing.
Dysart et al will endeavour to undertake additional complete building audits over the next five years for	Two primary buildings have been modelled to date using Hot2000 and RETScreen.

purposes of developing more current and complete base line data for ongoing benchmarking purposes.	Committee members and staff will continue to work on skills development with regard to using these programs to develop better analysis tools for energy planning purposes.
The Annual Energy Consumption and Greenhouse Gas Emissions Reporting will be reviewed annually to analyze changes in reported consumption.	Annual process.
The Municipality of Dysart et al Environment and Climate Change Committee will continue to review energy conservation and new alternative energy ideas to bring trends to Council and staff for consideration.	Participants from the Committee and selected staff participated in two building audits under the guidance of a professional home energy auditor during 2014 for purposes of understanding how buildings are evaluated for efficiency and what options there are to make changes. Our Building Department staff have initiated a new inspection zone process that has reduced their overall mileage each year.
Municipality of Dysart et al will recommend that Energy Conservation be placed on the agenda for future Municipal Day workshops where neighbouring municipalities join to discuss issues of common interest.	2015 recommendation, but no joint meeting held.
Municipality of Dysart et al will recommend that Energy Conservation be placed on the agenda for future meetings of the Municipal Administrators, Clerks and Treasurers for purposes of sharing best practices.	Fall 2014 recommendation made.
Energy Planning will be added to all future agendas for Management Team Meetings at the Municipality of Dysart et al	July 2014
Municipality of Dysart et al will contact local organizations and schools and lake associations to make them aware of the recent development of three new Dysart et al videos related to the reduction of energy – Conservation, Alternative Energy and Net Zero Build. These will also be posted on corporate website and shown at annual Home Show.	Staff will continue to use social media and other resources to promote.

10.0 Identified Projects

Actions	Status/Comments
Energy Video Project developed by Environment and Climate Change Committee. This has been completed, including videos on energy conservation, alternative energy and a net zero build.	Completed videos linked on website and shared with the public, organizations and through the education and library system.
Municipal Building Envelope audited in 2014 by members of the Environment and Climate Change Committee and staff, led by Pam Sayne of Know Your Home Inspections. Requires substantial insulation in exterior walls and attic as well as weather stripping, caulking and blocking air behind electrical outlets.	2014 – Audit performed using RETscreen technology. Weather stripping original entrance door, creating air lock for mail slot, closing attic hatch and insulating around electrical panel completed.

Museum Building requires weather stripping on entrance doors	<p>2010 renovation included the addition of insulation in the front of the building and in the upstairs gallery.</p> <p>2013 saw the installation of a new roof which required additional layers of Styrofoam insulation.</p> <p>Less paper reliance in the museum.</p> <p>Staff are ensuring that lights are turned off when visitors are not in the building.</p>
Head Lake Park Electrical Upgrades when event organizers wanted to use the outlets in the park, the photocells on the lamp posts needed to be covered during the day to allow power to turn on as they were light activated.	In 2014, we installed new photo cells on lamp posts that now run separately from the light sensors so lights aren't running continuously during a week-long event.
<p>Sewage Plant Lab Building audited in 2014 by members of staff and EGE Committee led by Pam Sayne of Know Your Home Inspections.</p> <p>Requires insulation, weather stripping, etc.</p>	<p>Audit Performed using Hot2000 technology.</p> <p>Information will be provided to Council for evaluation of options during budget process annually.</p>
Municipal Admin Server Room investigate options for air conditioning server room that doesn't require the temperature control of such a large open space adjacent to already cool office space.	Air conditioning system has been upgraded for server room.
Roads Garage requires new weather stripping around garage doors.	Complete.
Investigate Purchase of Replacement Photocopier	In 2014, staff purchased a new photocopier with estimates of 30% savings over the previous model based on energy star ratings.
A.J. LaRue Arena/Community Centre requires additional end wall insulation as they are currently a single layer of board which adds significantly to fuel costs.	<p>Stand heaters added and walls reinsulated in 2015.</p> <p>Upgraded condenser cooling pump and tank in 2018.</p> <p>In 2018/2019, will be upgrading the ice surface lights to LED (this is 80% complete).</p> <p>Upgraded to a bigger condenser to improve energy efficiency in 2019.</p>
Fire Hall	<p>Electric heater, oil furnace and window A/C upgraded to high efficiency propane furnace, heater and pump.</p> <p>All lighting changed to LED in 2018.</p>
Rails End – consider as a location for a complete audit due to high energy usage.	<p>Upgraded water treatment system.</p> <p>Will be adding weather stripping to sills.</p>
Reduced Reliance on Paper	New financial software in 2018 continues to promote paperless processes such as electronic fund transfers (reducing cheques by 95%), electronic pay slips, etc.

	Planning and GIS reduced paper use through changes to internal processes.
Fleet Management	<p>The Building Department has replaced inspection vehicles with more fuel-efficient models.</p> <p>Public Works admin vehicle has been switched from truck to fuel-efficient car.</p>