

GREEN ENERGY ACT, 2009

ENERGY CONSUMPTION AND

GREENHOUSE GAS EMISSIONS TEMPLATE

CITY OF THUNDER BAY

June 8, 2017

In 2009 the Ministry of Energy and Infrastructure enacted the *Green Energy Act* to help public agencies including municipalities, hospitals, and schools manage and reduce their energy consumption. As part of this Act, Regulation 397/11 requires certain public agencies – municipalities, municipal service boards, school boards, universities, colleges and hospitals – to report on their annual energy consumption and greenhouse gas emissions beginning in 2013. The regulation also requires the development and implementation of conservation and demand management (CDM) plans starting in 2014.

Conservation and the wise use of energy is a key component of the *Green Energy Act*, 2009 and this regulation will help Ontario achieve its Greenhouse Gas emissions reduction targets:

Six per cent below 1990 levels by 2014

15 per cent by 2020 and

80 per cent by 2050.

These targets were set out in Go Green: Ontario's Action Plan, which was issued in 2007 and can be found at http://www.ene.gov.on.ca.

O. Reg 397/11 outlines the operations for which the municipality is required to report on its energy use and greenhouse gas emissions and prepare CDM plans. The list of prescribed operations for which the municipality must report are:

- Administrative offices and related facilities including municipal council chambers
- Public libraries
- Cultural facilities, indoor recreational facilities and community centres, including art galleries, performing arts facilities, auditoriums, indoor sports arenas, indoor ice rinks, indoor swimming pools, gyms and indoor courts for playing tennis, basketballs or other sports
- Ambulance stations and associated offices and facilities
- Fire stations and associated offices and facilities
- Police stations and associated offices and facilities
- Storage facilities where equipment or vehicles are maintained, repaired or stored
- Buildings/facilities or facilities related to the treatment or pumping of water or sewage
- Parking garages

Starting in 2015 (2013 data), municipalities were not required to report the energy use and flow rates for facilities and pumps related to the pumping of water and sewage.

The prescribed operations must also be conducted in a building/facility that the municipality owns or leases, and the municipality must be issued and be responsible for paying the utility invoice.

The City of Thunder Bay facilities and energy consumption portfolio also includes other operations that were not included in the prescribed list of required reporting. Facilities and operations that were not included are:

- Outdoor pools and operations
- Homes for the Aged
- Tourism facilities and signage
- Animal Services facilities
- Commercial facilities
- Seasonal parks
- Waterfront facilities
- Conservatory
- Cemeteries
- Golf facilities and operations
- Daycares
- Stadiums
- Parking lot lighting
- Streetlighting
- Flashing lights and traffic control lighting
- Other outdoor lighting

As a result, the greenhouse gas emission reported through O. Reg 397/11 is not inclusive of all the operations and facilities within the City of Thunder Bay's energy consumption portfolio.

For more information on the City of Thunder Bay's energy consumption, the Green Energy Act reporting template and energy management initiatives within City operations, please contact Vanessa DeGiacomo-Zwaresh at 684-2510 or email at vdegiacomozwaresh@thunderbay.ca.

Confirm consecutive 12-mth period (mth-yr to mth-yr)	Jan/2015 - Dec/2015	I Greenhouse Gas Emissions Reportin	ng - for 2015													
Sector Sective 12-min period (min-yr to mth-yr)	Municipality															
Agency Sub-sector	Municipal															
Organization Name	City of Thunder Bay			1	1		1	1	Energy Type	e and Amount Purc	chased and Consumed in	Natural Units	Total (calculated in webl	(orm)		
								Annual Flow	Electric	ity	Na	tural Gas				
Operation Name	Operation Type	Address	City	Postal Cod	e Total Floor Area	Unit	hrs/wk	(Mega Litres)		Unit	Quantity		GHG Emissions	Energy Intensity (ekWh/sqft)	Energy Intensity (ekWh/Mega Litre)	Comments
									Quantity	Unit	Quantity	Unit	(kg)	(exwn/sqrt)	(exwn/iviega Litre)	
Stephenson Building	Administrative offices and related facilities, including municipal council chambers	2160 Yonge Street	Toronto	M7A 2G5	135,034.00	Square meters	70	23516 00224	2 181 065 00000	kWh	125 300 000	00 Cubic meter				max. 255 characters
101 S Syndicate (POA)	Administrative offices and related facilities, including municipal council chambers	101 S Syndicate Ave	Thunder Bay		4,200.00	Square feet	60	0.00000	62,441.10000	kWh			2,531.86172	14.86693	0.00000	
125 S Syndicate Ave (CIT)	Administrative offices and related facilities, including municipal council chambers	125 Syndicate Ave S	Thunder Bay	P7E 6H8	9,709.00	Square feet	60	0.00000	96,410.82000	kWh			3,909.26593	9.93005	0.00000	
		700 River St								kWh			60.153.01323	25.92701	0.0000	Based on hours of operations
55+ Centre	Indoor recreational facilities	700 River St	Thunder Bay	P7A 3S6	22,500.00	Square feet	76	0.00000	317,614.34483	kWh	25,004.60788	Cubic Meter	60,153.01323	25.92701	0.00000	Based on hours of operations
Archives	Administrative offices and related facilities, including municipal council chambers	235 Vickers St N	Thunder Bay	P7C 6A4	22,000.00	Square feet	60	0.00000	147,772.17000	kWh	30,279.12236	Cubic Meter	63,238.39222	21.34418	0.00000	
, a cinves	rammatative offices and related facilities, including manicipal country chambers	233 Vickers St. IV	munder buy	1700/14	22,000.00	Square rece	00	0.00000	147,772.17000		30,273.12230	cable meter	03,230.33222	21.54410	0.0000	
Armstrong EMS 43	Ambulance stations and associated offices and facilities	6 Northern Dr	Armstrong	P0T 1A0	1,600.00	Square feet	168	0.00000	7,279.03000	kWh			295.15011	4.54939	0.00000	
Armstrong EMS 46	Ambulance stations and associated offices and facilities	4 Northern Dr	Armstrong	P0T 1A0	1,600.00	Square feet	168	0.00000	6,680.19000	kWh		1	270.86834	4.17512	0.00000	
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A	Ambulance stations and associated offices and facilities	65 Queen Street, PO Box 6	Armstrong	DOT 440	2,995.00	Square feet	168	0.00000	28,731.19000	kWh	-	+	1,164.99229	9.59305	0.0000	
Armstrong EMS	Ambulance stations and associated offices and facilities	65 Queen Street, PO Box 6	Armstrong	P01 1A0	2,995.00	Square reet	168	0.00000	28,731.19000	kwn			1,164.99229	9.59305	0.00000	
Arthur St EMS	Ambulance stations and associated offices and facilities	1543 Arthur St	Thunder Bay	P7F 5N5	2,500.00	Square feet	168	0.00000	20,981.00000	kWh	12,165.15188	Cubic Meter	23,850.50220	60.10781	0.00000	
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Balmoral Police Station	Police stations and associated offices and facilities	1200 Balmoral St	Thunder Bay	P7B 5Z5	65,500.00	Square feet	168	0.00000	1,456,897.63000	kWh	94,767.17957	Cubic Meter	238,243.67351	37.61927	0.00000	
Beardmore EMS	Ambulance stations and associated offices and facilities	133 Main St	Beardmore	P0T 1G0	2,423.00	Square feet	84	0.00000	21,018.67000	kWh			852.26503	8.67465	0.00000	
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Beck St EMS	Ambulance stations and associated offices and facilities	181 Beck St	Thunder Bay	P7A 2J7	2,888.00	Square feet	168	0.00000	14,710.00000	kWh	4,330.67016	Cubic Meter	8,784.14302	21.03026	0.00000	
Brodie St Library	Public libraries	216 Brodie St S	Thunder Bay	P7E 1C2	23,232.00	Square feet	62	0.00000	293,937.10000	kWh	43,746.20300	Cubic Meter	94,626.31407	32.66451	0.00000	Based on hours of operations
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Brown Street EMS	Ambulance stations and associated offices and facilities	1321 Brown St	Thunder Bay	P7E 2M4	3,972.00	Square feet	168		11,158.00000	kWh	4,434.34000	Cubic Meter	8,836.11752	14.67401	0.00000	
Canada Games Complex	Indoor swimming pools	420 Winnipeg Ave	Thunder Bay	P7B 6B7	113,022.00	Square feet	92	0.00000	2,030,081.82000	kWh	516,160.55613	Cubic Meter	1,058,182.84139	66.49786	0.00000	Based on hours of operations
Churchill Pool	Indoor swimming pools	130 Churchill Dr W	Thunder Ray	P7C 1V5	11,015.00	Square feet	92	0.00000	346,190.88000	kWh	70,602.64418	Cubic Meter	147,520.61316	99.54971	0.00000	Based on hours of operations
Charchin Pool	ilidool swillining pools	130 Churchin Di W	Thunder Bay	F/C 1V3	11,013.00	Square reet	32	0.00000	340,130.88000	KVVII	70,002.04418	Cubic Meter	147,320.01310	33.34371	0.00000	based on flours of operations
City Hall	Administrative offices and related facilities, including municipal council chambers	500 Donald St E	Thunder Bay	P7E 5V3	43,500.00	Square feet	65	0.00000	737,929.20000	kWh	87,506.61000	Cubic Meter	195,363.91275	38.34322	0.00000	
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Conmee EMS	Ambulance stations and associated offices and facilities	Fire #5750 Hwy 11/17	Conmee	P0T 1W0	3,000.00	Square feet	84	0.00000	8,953.06000	kWh			363.02868	2.98435	0.00000	
		1020 Dawson Rd											216.37629	1.33408	0.0000	
County Park #16	Public libraries	1020 Dawson Rd	Thunder Bay	P7B 1K6	4,000.00	Square feet	40	0.00000	5,336.30000	kWh			216.37629	1.33408	0.00000	Used for storage
County Park #17	Public libraries	1020 Dawson Rd	Thunder Bay	P7B 1K6	4,000.00	Square feet	40	0.00000	18,343.74000	kWh			743.80197	4.58594	0.00000	Used for storage
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County Park Library	Public libraries	1020 Dawson Rd	Thunder Bay	P7B 1K6	4,122.00	Square feet	40		29,242.08000	kWh			1,185.70786	7.09415	0.00000	based on hours of operations
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Current River Arena	Indoor ice rinks	425 Grenville Ave	Thunder Bay	P7A 2B9	26,310.00	Square feet	126	0.00000	509,345.21000	kWh	54,739.42269	Cubic Meter	124,144.76008	41.47106	0.00000	April - October ice plant runs continuous to maintain ice quality
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Constant Birms Constant in Co.	Community and the	450 Dewe Ave	Thursday C	D74 20-	0.000.00	Court 1		0.00000	437 336 30000	kWh	11 022 20500	Cubinata	26.002.30161	30.55986	0.00000	Last des efficients and annual services
Current River Community Centre	Community centres	450 Dewe Ave	Thunder Bay	P/A 2G7	8,000.00	Square feet	65	0.00000	127,336.30000	kwn	11,022.30599	Cubic Meter	20,002.30161	30.55986	0.0000	Includes office hours and regular programming hours
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Nakina EMS	Ambulance stations and associated offices and facilities	204-B Thornton St, Box 429	Nakina	POT 2HO	2,100.00	Square feet	84	0.00000	23,526.06000	kWh			953.93468	11.20289	0.00000	
Neebing Arena	Indoor ice rinks	1715 Bowlker Rd	Thunder Bay	P7K 1L4	25,000.00	Square feet	126	0.00000	286,673.99000	kWh	51,978.94311	Cubic Meter	109,896.85023	33.56378	0.00000	April to October ice plant runs continuously to maintain ice quality
Neebing Fire Station	Fire stations and associated offices and facilities	2065 - 20th Side Rd	Thunder Bay	P7K 1H6	5,150.00	Square feet	168	0.00000	81,062.20000	kWh	10,429.07000	Cubic Meter	23,004.39141	37.26214	0.00000	New facility - opened Oct 2014
Nipigon EMS	Ambulance stations and associated offices and facilities	125 HOGAN RD, UNIT R	Nipigon	POT 2JO	2,080.00	Square feet	84	0.00000			5,086.34000	Cubic Meter	9,616.37174	25.98870	0.00000	
North Central Fire Station	Fire stations and associated offices and facilities	60 Water St S	Thunder Bay	P7B 6E8	24,711.00	Square feet	168	0.00000	219,303.53000	kWh	31,011.59000	Cubic Meter	67,523.66890	22.21229	0.00000	
North End Community Centre	Community centres	954 Huron Ave	Thunder Bay	P7A 6L4	4,916.00	Square feet	45	0.00000	60,880.00000	kWh	14,744.43000	Cubic Meter	30,344.77970	44.25967	0.00000	Includes office hours and regular programming hours
North McIntyre Community Centre	Community centres	2051 Government Rd	Thunder Bay	P7G 2E9	10,200.00	Square feet	60	0.00000	52,320.00000	kWh	13,541.90157	Cubic Meter	27,724.15610	19.23925	0.00000	Includes office hours and regular programming hours
North Neebing Community Centre	Community centres	2145 Rosslyb Rd	Thunder Bay	P7K 1H6	3,490.00	Square feet	1	0.00000	13,555.66000	kWh	6,208.16000	Cubic Meter	12,286.96982	22.78928	0.00000	Fire Services moved to new facility and facility remained unoccupied. Scheduled for decommissioning in 2016.
Oliver Road Community Centre	Community centres	563 Oliver Rd	Thunder Bay	P7B 2H2	9,644.00	Square feet	60	0.00000	50,640.00000	kWh	11,072.69000	Cubic Meter	22,987.67740	17.45314	0.00000	Includes office hours and regular programming hours
Parks North Admin/Garage	Storage facilities where equipment or vehicles are maintained, repaired or stored	645 Cumberland St N	Thunder Bay	P7A 4S2	19,273.00	Square feet	60	0.00000	65,999.99000	kWh	32,081.72000	Cubic Meter	63,330.73363	21.11541	0.00000	
Port Arthur Arena	Indoor ice rinks	420 Lisgar St	Thunder Bay	P7B 6T4	30,087.00	Square feet	126	0.00000	709,196.36000	kWh	104,134.00000	Cubic Meter	225,635.04602	60.35528	0.00000	Summer ice in 2015 - ice plant ran continuously to maintain quality of ice
Red Rock EMS - Frost St	Ambulance stations and associated offices and facilities	30 Frost St	Red Rock	POT 2PO	700.00	Square feet	84	0.00000	7,921.74000	kWh			321.21071	11.31677	0.00000	
Red Rock EMS	Ambulance stations and associated offices and facilities	4 Taylor St, Box 217	Red Rock	POT 2PO	1,638.00	Square feet	84	0.00000	14,303.00000	kWh	3,206.41000	Cubic Meter	6,642.08336	29.53603	0.00000	
Shuniah EMS	Ambulance stations and associated offices and facilities	1700A Lakeshore Dr	Shuniah	P7A 0T1	4,750.00	Square feet	84	0.00000	26,508.63000	kWh			1,074.87193	5.58076	0.00000	
South Neebing Community Centre	Community centres	1841 Mountain Rd	Thunder Bay	P7J 1A8	6,960.00	Square feet	45	0.00000	28,589.00000	kWh	6,755.21000	Cubic Meter	13,930.80919	14.42268	0.00000	Includes office hours and regular programming hours
Terrace Bay EMS	Ambulance stations and associated offices and facilities	20 Cartier Dr, Box 400	Terrace Bay	POT 2W0	2,790.00	Square feet	84	0.00000	42,453.24000	kWh			1,721.39398	15.21622	0.00000	
Thunder Bay Community Auditorium	Auditoriums	1 Paul Shaffer Dr	Thunder Bay	P7B 6C7	60,000.00	Square feet	90	0.00000	759,631.52000	kWh	72,719.58000	Cubic Meter	168,287.14025	25.54132	0.00000	Hours of operations vary depending on number of events - approx 140 events per year - hours depend on type of show - range from 9:30am to 1am or 24 hours a day. Box office is
Thunder Bay Training Centre	Fire stations and associated offices and facilities	750 Hammond Ave	Thunder Bay	P7B 6T5	13,717.00	Square feet	40	0.00000	81,907.96000	kWh	11,504.43000	Cubic Meter	25,071.78994	14.88478	0.00000	Based on hours of operations
Traffic Control & Streetlighting Admin/Garage	Storage facilities where equipment or vehicles are maintained, repaired or stored	625 Cumberland St N	Thunder Bay	P7A 4S2	10,552.00	Square feet	60	0.00000	46,500.00000	kWh	15,775.71000	Cubic Meter	31,711.46527	20.29575	0.00000	
Transit Adminstration/Garage	Administrative offices and related facilities, including municipal council chambers	570 Fort William Rd	Thunder Bay	P7B 2Z8	91,247.00	Square feet	140	0.00000	789,211.64000	kWh	164,397.13000	Cubic Meter	342,814.60628	27.79694	0.00000	
Upsala EMS	Ambulance stations and associated offices and facilities	20 North Rd	Upsala	POT 2YO	1,982.00	Square feet	84	0.00000	52,746.78000	kWh			2,138.77644	26.61291	0.00000	
Vale Community Centre	Community centres	420 Vale Ave	Thunder Bay	P7C 5E7	6,528.00	Square feet	53	0.00000	36,000.00000	kWh	10,238.98000	Cubic Meter	20,817.82004	22.18407	0.00000	Includes office hours and regular programming hours
Vickers Heights Community Centre	Community centres	1695 Broadway Ave	Thunder Bay	P7K 1M6	3,760.00	Square feet	45	0.00000	27,426.00000	kWh	6,839.20000	Cubic Meter	14,042.44563	26.62540	0.00000	Includes office hours and regular programming hours
Vickers Street Fire Station	Fire stations and associated offices and facilities	330 Vickers St N	Thunder Bay	P7C 4B2	13,000.00	Square feet	168	0.00000	135,489.96000	kWh	45,836.30000	Cubic Meter	92,153.19326	47.89446	0.00000	
Victoriaville Civic Centre	Administrative offices and related facilities, including municipal council chambers	111 Syndicate Ave S	Thunder Bay	P7E 6S4	39,000.00	Square feet	60	0.00000	572,763.00000	kWh	8,241.36000	Cubic Meter	38,805.73186	16.93206	0.00000	
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Volunteer Pool Community Centre	Community centres	180 Martha St	Thunder Bay	P7A 8C1	6,624.00	Square feet	63	0.00000	44,514.61000	kWh	7,808.18000	Cubic Meter	16,567.33434	19.24792	0.00000	Includes office hours and regular programming hours
Volunteer Pool	Indoor swimming pools	180 Martha St	Thunder Bay	P7A 8C1	21,000.00	Square feet	85	0.00000	400,631.53000	kWh	70,273.66000	Cubic Meter	149,106.08626	54.64211	0.00000	Based on hours of operations
Waterfront Parkade	Parking garages	18 Court St N	Thunder Bay	P7C 5K4	3,000.00	Square feet	40	0.00000	3,781.40000	kWh	2,451.69000	Cubic Meter	4,788.55952	9.94580	0.00000	
Waterfront/Pool 6	Administrative offices and related facilities, including municipal council chambers	53 Water Street S	Thunder Bay	P7B 6E8	8,525.00	Square feet	60	0.00000	104,947.53000	kWh	22,805.36000	Cubic Meter	47,371.84181	40.74109	0.00000	
Waverly St Library	Public libraries	285 Red River Rd	Thunder Bay	P7B 1A9	23,300.00	Square feet	58	0.00000	378,380.00000	kWh	38,967.10000	Cubic Meter	89,014.80361	34.01346	0.00000	Based on hours of operations
West Arthur Community Centre	Community centres	1914 Arthur St W	Thunder Bay	P7K 1C7	8,184.00	Square feet	42	0.00000	70,796.72000	kWh	7,840.11000	Cubic Meter	17,693.38905	18.83183	0.00000	Facility operates as South side 55+ centre with increased daily programming. Includes office hours and regular programming.
West Thunder Community Centre	Community centres	915 Edward St S	Thunder Bay	P7E 6R2	14,456.00	Square feet	87	0.00000	185,651.76000	kWh	23,603.81000	Cubic Meter	52,153.80805	30.19561	0.00000	Includes office hours and regular programming hours
Whalen Building	Administrative offices and related facilities, including municipal council chambers	34 N. Cumberland	Thunder Bay	P7A 4L3	80,000.00	Square feet	60	0.00000	904,758.57000	kWh	48,837.92000	Cubic Meter	129,020.44067	17.79746	0.00000	
WPCP - Atlantic Ave	Facilities related to the treatment of sewage	901 Atlantic Ave	Thunder Bay	P7E 2T2	117,631.00	Square feet	168	29396.00000	12,111,156.00000	kWh	967,995.82000	Cubic Meter	2,321,202.18667	190.41579	761.96760	
WTP - Bare Point	Facilities related to the treatment of water	RR#13 Bare Point Rd	Thunder Bay	P7A 8C6	67,339.00	Square feet	168	14658.00000	6,713,670.00000	kWh	465,339.82000	Cubic Meter	1,152,009.91903	173.14183	795.41533	