

Grand Erie District School Board
Annual Energy Consumption and Greenhouse Gas
Emission Reporting:
O. Reg 507/18 Reporting 2018-2019



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Background:

In late 2018, Ontario Regulation 507/18: Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans was introduced replacing Ontario Regulation 397/11. Similarly to the previous regulation, O. Reg 507/18 requires public agencies such as municipalities, school boards, universities, colleges and hospitals to report annually on their energy consumption and greenhouse gas (GHG) emissions. O. Reg. 507/18 outlines the reporting requirements to be completed by July 1st annually and must report on the previous fiscal year. Due to the challenges created as a direct consequence of COVID-19, the ministry extended the reporting deadline to October 1, 2020.

Each school board is required to report the total consumption of all energy types for all facilities. The use of electricity, natural gas and all other energy sources for each building must be identified within the report. All data must be uploaded onto the Ministry of Energy's reporting module. From the reporting module, a report is generated using the Ministry of Energy's reporting template. **Please refer to Appendix A: Energy Consumption and Greenhouse Gas Emissions Reporting - for FY2019.** This is referred to as Grand Erie's 2018-2019 Consumption report in the remainder of this report.

The annual report must include the following information:

- Name of site and building type (i.e. school, administration, etc).
- Full Address
- Gross floor area
- Hours of operation per week
- Whether or not the school has a pool
- Number of portables on site
- Electricity (kWh) consumption for fiscal year
- Natural gas (m3) consumption for fiscal year, if applicable
- Other energy sources consumption (i.e. propane) for fiscal year, if applicable
- Total greenhouse gas emissions (kg) for each site
- Total ekWh/sq ft (equivalent kilowatt hours per square feet) for each site.

Grand Erie District School Board's 2018-2019 Energy Report was successfully completed, uploaded and available as of June 30, 2020 on the Ministry of Energy's BPS Portal. For the purpose of the report, Grand Erie reports on Branlyn and Notre Dame while the BHNCDSD reports on St. Basils and Walter Gretzky.

As per O. Reg. 507/18, Boards are required to submit their completed consumption report to the Ministry of Energy, post both reports on both the internet and intranet sites and provide a hard copy at their office to any interested member of the public.

Report Data and Variables:

The report provides readers with an insight and overview into the energy consumption and performance of sites within Grand Erie District School Board.

The most informative figures within the report are the Energy Intensity figures located in the last column. Energy Use Intensity (EUI), measured in equivalent kilowatt hours per square feet (ekWh/sqft), is the base unit used by energy managers for comparison purposes. This metric is developed by first establishing natural gas consumption which is reported as cubic metres (m³) or gigajoules (GJ). Propane consumption reported in litres are also reported. These consumptions are then converted to equivalent kilowatt hours (ekWh). Total energy consumption is calculated by adding ekWh of gas and propane use to electrical consumption, already reported in kWh. Determining intensity involves accounting for square footage of all facilities in our inventory. This produces the EUI measured in ekWh/sq ft. **Please refer to Appendix D: Energy Intensity per Site (ekWh/sqft), Appendix B: Electricity Consumption per Site (kWh/sqft) and Appendix C: Natural Gas & Propane Consumption per Site (ekWh/sqft).**

Natural Resources Canada have established a benchmark for Ontario schools of 23.69 ekWh/sq ft within their National Energy Performance Report. Within Grand Erie's 2018-2019 Consumption report, the average EUI was 20.40 ekWh/sq ft. All values below within this report use raw data and not weather-normalized data.

All Sites:

Outlined below is Grand Erie District School Board's average and median energy use intensity figures from the current and previous two Consumption reports. This represents all Grand Erie DSB-owned properties including administration sites. Overall, the combined energy use intensity has increased in the 2018-2019 year due to the increase in natural gas consumption for the year. This was caused by a longer and colder than normal Winter.

Table 1.

Energy Use Intensity (ekWh/sq foot)	2016-2017	2017-2018	2018-2019
Average	17.21	18.49	18.68
Median	16.34	18.20	18.38

Elementary:

Overall, Grand Erie Elementary sites consumed 9,705,476 kWh of electricity and 2,354,595 m³ of natural gas in the 2018-2019 year. This accounts for 60 elementary sites including Fairview Ave until demolition, Mapleview including construction and closed locations (Anna Melick until sale and Grandview Central). The chart below outlines the average and median energy use intensity (ekWh/sq. ft) for Grand Erie's Elementary sites separated by hydro, natural gas and total energy as per the 2018-2019 Consumption Report. All figures are in ekWh/sq ft.

Table 2.

Energy Use Intensity (ekWh/sq foot)	Hydro	Natural Gas	Total Energy
Average	5.18	14.37	20.12
Median	4.69	12.55	17.89

Secondary:

Overall, Grand Erie Secondary sites consumed 9,601,432 kWh of electricity and 2,556,347 m³ of natural gas in the 2018-2019 year. This accounts for 14 secondary sites including GELA on Rawdon. The chart below outlines the average and median energy use intensity (ekWh/sq ft) for Grand Erie's Secondary sites separated by hydro, natural gas and total energy as per the 2018-2019 Consumption Report. All figures are in ekWh/sq ft.

Table 3.

Energy Use Intensity (ekWh/sq foot)	Hydro	Natural Gas	Total Energy
Average	5.13	15.11	20.69
Median	4.7	14.77	19.33

Administration:

Overall, Grand Erie administration sites consumed 814,088 kWh of electricity and 98,317 m³ of natural gas in the 2018-2019 year. The chart below outlines the average and median energy use intensity (ekWh/sq ft) for Grand Erie's Administration sites separated by hydro, natural gas and total energy as per the 2018-2019 Consumption Report. All figures are in ekWh/sq ft. Average and median wasn't provided for administration sites due to small quantity of sites.

Table 4.

Energy Use Intensity (ekWh/sq foot)	Hydro	Natural Gas	Total Energy
Education Centre/Facility Services	15.54	20.52	36.68
Joseph Brant Learning Centre	8.03	16.58	25.11
Teachers Resource Centre	16.39	12.8	29.57

Energy intensity is driven by energy consumption at each site. This is impacted by a number of variables that must be considered. It is important to note that some variables are beyond the control of the school board itself. For example, both community growth and Ministry-driven expectations require additional space and extended hours at a facility which would increase energy demand and consumption. Examples of other facility variables include:

- Year of construction and building design, including Building Automation Systems (BAS), building envelope, etc.
- Building area, including renovations, additions, portables, etc.
- HVAC equipment on site, including system type, system age, lifecycle considerations, areas with air conditioning and vented spaces.
- Site use/Facility Type – elementary, secondary, administrative or maintenance facility
- Shared use schools, including libraries, literacy centres, sports fields, childcare facilities and other third party partnerships.

- Hours of operations and specialty programming, including before and after school programs, community use, summer school, etc.

Other variables which greatly impact the energy consumption at a site include:

- Weather as colder or hotter weather conditions drive energy demand
- Location and topography of the site (lake effect, wind, etc.)
- Occupancy behaviour

Example of variable: Age of Building & Performance:

Below is an example of one of the variables. The age of the facility plays a large role in the energy performance of a building. Newer facilities include air conditioning, additional fans and pumps to draw in outside air, and were built based on different standards compared to our older facilities. As you can see, newer facilities use more hydro than schools over 100 years old, however, they use much less natural gas. All figures are in ekWh/sq ft.

Table 5.

Energy Use Intensity (ekWh/sq foot)	Hydro	Natural Gas	Total Energy
1-24 years old: 4 SCHOOLS	Average: 5.32 Median: 5.22	Average: 8.68 Median: 7.57	Average: 14.27 Median: 13.03
25-49 years old: 11 SCHOOLS	Average: 7.09 Median: 6.48	Average: 10.77 Median: 11.44	Average: 18.18 Median: 18.8
50-74 years old: 45 SCHOOLS	Average: 4.23 Median: 4.19	Average: 13.95 Median: 13.74	Average: 18.62 Median: 18.09
75-99 years old: 7 SCHOOLS	Average: 4.26 Median: 4.47	Average: 14.32 Median: 13.89	Average: 18.92 Median: 18.78
100 years +: 7 SCHOOLS	Average: 4.9 Median: 4.71	Average: 13.25 Median: 14.06	Average: 18.56 Median: 18.18

Note: this does not include administration facilities as they use energy differently.

It is important to note when reviewing this information that budget and actual expenses cannot be compared directly year over year as a metric for operational efficiencies.

Consumption is weather dependent, and costs are market dependent. Market pricing can greatly fluctuate due to weather, demand, storage and other variables. As a strategy, The Grand Erie DSB purchases energy sources (electricity, natural gas and propane) in bulk as a commodity, when available, through a consortium.

Outlined below is Grand Erie District School Board's total utility consumptions from previous Consumption reports. This accounts for all elementary, secondary and administration sites. Values below are raw data.

Table 6.

Energy Consumed	2016-2017	2017-2018	2018-2019
Total Electricity (kWh)	21,316,732	21,242,880	20,120,996
Total Natural Gas (m3)	4,196,534	4,758,286	5,009,260
Total Propane (L)	26,234	25,671	34,891

Grand Erie's Top 10 Performing Buildings:

Outlined below is Grand Erie's top 10 performing buildings based on the total energy use intensity alone (hydro + natural gas intensity) for the 2018-2019 Consumption Reporting Year. This includes full time schools only and excluded closed locations (Anna Melick and Grandview Central) and Houghton Annex

Table 7.

Site:	Energy Use Intensity:
Brantford Collegiate Institute	10.35
Branlyn Community School	10.37
Mapleview ES	11.43
Ryerson Heights ES	12.58
Hagersville ES	12.8
Caledonia Centennial PS	13.06
River Heights ES	13.45
Cobblestone ES	13.47
Walsh PS	13.91
Major Ballachey	13.98

Grand Erie's Bottom 10 Performing Buildings:

Outlined below is Grand Erie's bottom 10 performing buildings based on the total energy use intensity alone (hydro + natural gas intensity) for the 2018-2019 Consumption Reporting Year.

Table 8.

Site:	Energy Use Intensity:
Paris DHS	23.7
Onondaga Brant PS	23.9
Joseph Brant Learning Centre	25.11
Princess Elizabeth	25.24
McKinnon Park SS	26.31
Echo Place S	27.42
Teachers Resource Centre	29.57
Tollgate Technological Skills	29.61
Hagersville SS	29.86
Board Office	36.68

Energy Demand and Conservation:

As the Grand Erie District School Board continues to monitor energy consumption and performance data under O. Reg 507/18, energy management initiatives and strategies will continue to be implemented and developed. These initiatives and strategies can be categorized into three categories.

1. Design/Construction/Retrofit
2. Operations and Maintenance
3. Occupant Behaviour

The design, construction and retrofits encompass the original and ongoing intent of how a building and its systems are to perform as a whole. This includes but is not limited to: HVAC upgrades, Building Automation System expansion and upgrades, and building envelope upgrades, including windows, doors and masonry. Grand Erie DSB has completed an LED retrofit at all schools. This also includes the extensive work which is taking place on our masonry, windows and roofs which will improve our buildings energy performance and conservation.

In the 2018-2019 school year, the following capital projects took place assisting in the efficiency of schools:

- Roofing Projects: Brier Park, Hagersville Secondary School, Jarvis PS, Onondaga Brant PS, Paris DHS and Port Rowan: \$2,000,000.00

- Boiler and Rooftop Units: 1,276,000.00
- Window Replacement: \$243,000.00

The Operations and Maintenance includes the strategies which are used to ensure that existing buildings and equipment perform at peak efficiency. This includes but is not limited to: necessary repairs to mechanical and HVAC systems, preventative maintenance, policy and planning, and real-time energy of hydro and water monitoring. In the 2018-2019 school year, water monitoring devices, called 'Flowies' have been installed at ten locations. Within days of their installation, ongoing water leaks were detected and repaired. An ongoing floor drain and vandalism at one site that was discovered through the water monitoring devices, could have cost upwards of \$21,000 but was avoided.

Finally, an efficient building requires educated occupants. The occupant behaviour strategies will assist in educating occupants, including staff, students, community users and the wider community, in changing specific behaviours in order to reduce our energy consumption. This includes but is not limited to: staff and student conference, Building Automation training, energy workshops, Ontario EcoSchools program, partnerships with outside organizations (i.e. Conservation Authorities), and energy monitoring and dashboard.

In the 2018-2019 school year, Grand Erie invested \$25,000 to support environmental education and outreach within our Facilities. As a result, over 50% of all schools were certified as an EcoSchool.

Summary:

This report was created in order to outline the Green Energy Act's Ontario Regulation 507/18 requirements for Ontario school boards including Grand Erie District School Board. It has hopefully provided readers with a better understanding and insight into energy consumption and performance of our sites. The Grand Erie District School Board will continue to expand and improve its energy and environmental conservation initiatives for the betterment of our students, staff, school community, and the environment.

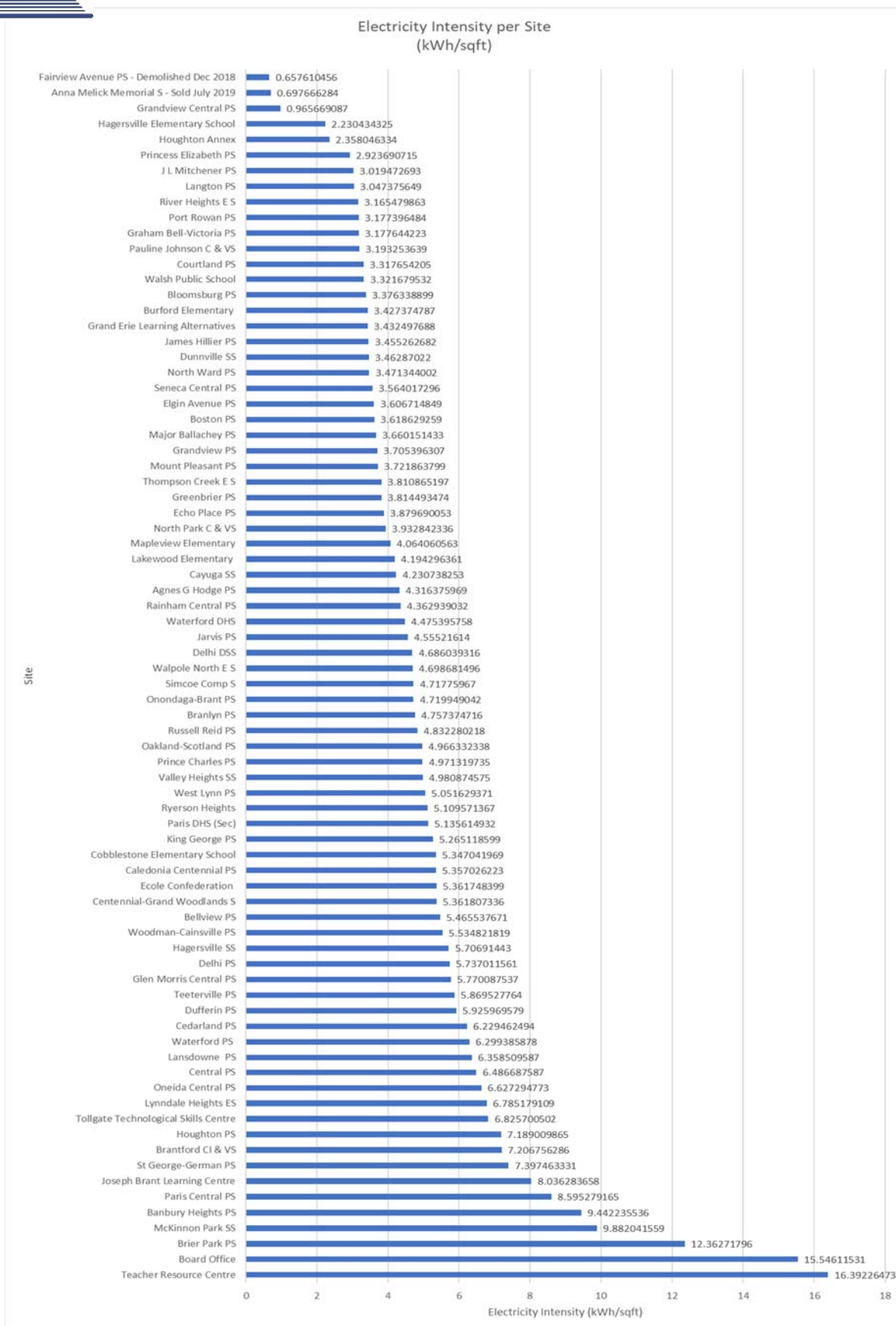
Appendix A: Energy Consumption and Greenhouse Gas Emissions Reporting for FY 2019

Energy Consumption and Greenhouse Gas Emissions Reporting - for FY2019																	
Confirm consecutive 12-month period (month		Sep 01, 2018 - Aug 31, 2019															
Type of Public Agency (Sector):	School Boards																
Agency Sub-sector	School Board																
Organization Name	Grand Erie District School Board																
Operation Name	Operation Type	Address	City	Postal Code	Total Floor Area	Unit	Avg hrs/wk	Swimming Pool (Yes/No)	Number of Portables	Electricity Quantity	Electricity Unit	Natural Gas Quantity	Natural Gas Unit	Propane Quantity	Propane Unit	GHG Emissions (Kg)	Energy Intensity (ekWh/sq ft)
Agnes G Hodge PS	School	52 Clench Avenue	Brantford	N3T 1B6	43,771.25	Square feet	80	No	0	188,933.17163 kWh		44,783.76215	Cubic Meter			90,251.98725	15.18999
Anna Melick Memorial S - Sold July 2019	School	1347 Hutchinson Rd., R.R. #8 Rd	Dunnville	N1A 2W7	18,297.00	Square feet	5	No	0	12,765.20000 kWh		25,572.55418	Cubic Meter			48,725.34752	15.55143
Banbury Heights PS	School	141 Banbury Rd	Brantford	N3P 1E3	47,071.23	Square feet	80	No	0	444,457.64063 kWh		41,801.80452	Cubic Meter			92,164.45464	18.88028
Bellview PS	School	97 Tenth Avenue	Brantford	N3S 1G5	36,515.35	Square feet	80	No	0	199,576.02099 kWh		48,857.89617	Cubic Meter			98,269.12993	19.68561
Bloomsburg PS	School	25 Concession 12, R.R. #3	Waterford	N0E 1Y0	24,999.28	Square feet	80	No	0	84,406.04150 kWh		33,644.98452	Cubic Meter			66,104.14586	17.67961
Board Office	Administrative of	349 Erie Avenue	Brantford	N3S 2H7	21,872.56	Square feet	80	No	3	340,033.33984 kWh		43,498.57167	Cubic Meter			92,286.87918	36.68187
Boston PS	School	2993 Cockshutt Rd., R.R. #1	Waterford	N0E 1Y0	21,840.53	Square feet	80	No	0	79,032.78088 kWh		34,761.52147	Cubic Meter			68,056.33165	20.53386
Branlyn PS	School	238 Brantwood Park Rd	Brantford	N3P 1N9	86,329.81	Square feet	100	No	0	410,703.25537 kWh		45,594.99133	Cubic Meter			98,338.58146	10.37042
Brantford CI & VS	School	120 Brant Ave	Brantford	N3T 3H3	210,340.20	Square feet	80	No	0	1,515,870.55859 kWh		62,219.56892	Cubic Meter			162,424.94019	10.35050
Brier Park PS	School	10 Blackfriar Lane	Brantford	N3R 6C5	33,759.01	Square feet	80	No	3	417,353.11914 kWh		28,223.96029	Cubic Meter			65,692.93134	21.24799
Burford Elementary	School	35 Alexander St	Burford	N0E 1A0	48,938.45	Square feet	80	No	0	167,730.40963 kWh		60,766.11322	Cubic Meter			119,842.15249	16.62372
Caledonia Centennial PS	School	110 Shetland St	Caledonia	N3W 2H1	34,520.89	Square feet	80	No	6	184,929.31299 kWh		25,021.08343	Cubic Meter			52,769.82724	13.06014
Cayuga SS	School	70 Highway #54	Cayuga	N0A 1E0	131,945.00	Square feet	80	No	0	558,224.75879 kWh		194,432.34004	Cubic Meter			384,093.45693	19.89168
Cedarland PS	School	60 Ashgrove Ave	Brantford	N3R 6E5	32,514.66	Square feet	80	No	0	202,548.85498 kWh		36,289.64588	Cubic Meter			74,595.09789	18.09114
Centennial-Grand Woodlands S	School	41 Ellenson Dr	Brantford	N3R 3E7	29,510.91	Square feet	80	No	0	158,231.81372 kWh		42,557.59152	Cubic Meter			85,135.96521	20.68809
Central PS	School	135 George St	Brantford	N3T 6B4	23,713.82	Square feet	80	No	2	153,824.14185 kWh		16,742.98439	Cubic Meter			36,199.93410	13.99036
Cobblestone Elementary School	School	179 Grandville Circle	Paris	N3L 0A9	49,319.17	Square feet	80	No	1	263,711.67188 kWh		37,118.86353	Cubic Meter			79,104.45428	13.47507
Courtland PS	School	1012 Queen Street, Box 245	Courtland	N0J 1E0	25,679.59	Square feet	80	No	0	85,195.99976 kWh		28,575.14744	Cubic Meter			56,542.31668	15.14379
Delhi DSS	School	393 James St	Delhi	N4B 2B6	80,070.30	Square feet	80	No	0	375,212.57385 kWh		101,853.34489	Cubic Meter			203,653.46503	18.20509
Delhi PS	School	227 Queen St	Delhi	N4B 2K6	35,287.56	Square feet	80	No	1	202,445.13969 kWh		54,597.21206	Cubic Meter			109,204.81223	22.18040
Dufferin PS	School	106 Chestnut Ave	Brantford	N3T 4C6	36,249.22	Square feet	80	No	4	214,811.77499 kWh		57,664.61281	Cubic Meter			115,369.53225	22.83245
Dunnville SS	School	110 Helena St	Dunnville	N1A 2S5	150,609.50	Square feet	80	No	0	521,541.15235 kWh		222,822.01282	Cubic Meter			436,683.81160	19.18633
Echo Place PS	School	723 Colborne St	Brantford	N3S 3R5	18,379.09	Square feet	80	No	0	71,305.17265 kWh		40,713.85755	Cubic Meter			79,081.64360	27.42263
Ecole Confederation	School	54 Ewing D Dr	Brantford	N3R 5H8	43,709.90	Square feet	80	No	4	234,361.48633 kWh		53,574.44422	Cubic Meter			108,214.20395	18.38802
Elgin Avenue PS	School	80 Elgin Ave	Simcoe	N3Y 4A8	40,112.00	Square feet	80	No	0	144,672.54602 kWh		48,137.90823	Cubic Meter			95,285.61341	16.36098
Fairview Avenue PS - Demolished Dec 2018	School	223 Fairview Ave W	Dunnville	N1A 1M4	33,330.00	Square feet	80	No	0	21,918.15649 kWh		6,644.57646	Cubic Meter			13,210.05334	2.77633
Glen Morris Central PS	School	522 Glen Morris Rd E	Glen Morris	N0B 1W0	15,058.76	Square feet	80	No	0	86,890.36340 kWh				34,891.08992 Litre		56,334.04777	22.05986
Graham Bell-Victoria PS	School	56 Grand St	Brantford	N3R 4B2	34,097.51	Square feet	80	No	0	108,349.75566 kWh		44,196.53213	Cubic Meter			86,760.67554	16.95316
Grand Erie Learning Alternatives	School	365 Rawdon St	Brantford	N3S 6J3	20,343.79	Square feet	80	No	0	69,830.01215 kWh		37,417.43749	Cubic Meter			72,805.75478	22.97970
Grandview Central PS	School	11 Thrush St	Dunnville	N1A 1X7	20,343.00	Square feet	80	No	0	19,644.60623 kWh		34,373.80974	Cubic Meter			65,568.51162	18.92355
Grandview PS	School	68 North Park St	Brantford	N3R 4J9	33,568.60	Square feet	80	No	0	124,384.96646 kWh		45,742.57678	Cubic Meter			90,157.47769	18.18744
Greenbrier PS	School	33 White Oaks Ave	Brantford	N3R 5N8	22,068.00	Square feet	80	No	0	84,178.24197 kWh		29,238.91702	Cubic Meter			57,767.18465	17.89573
Hagersville Elementary School	School	40 Parkview Road	Hagersville	N0A 1H0	29,332.00	Square feet	80	No	0	65,423.09961 kWh		29,179.19216	Cubic Meter			57,100.09029	12.80284
Hagersville SS	School	70 Parkview Rd	Hagersville	N0A 1H0	132,583.00	Square feet	80	No	1	756,639.83594 kWh		301,428.74310	Cubic Meter			592,246.51415	29.86927
Houghton Annex	School	505 Fairground SR, R.R. #5	Langton	N0E 1G0	4,920.09	Square feet	40	No	0	11,601.80019 kWh		2,228.81850	Cubic Meter			4,556.67443	7.17247
Houghton PS	School	505 Fairground Sideroad	Langton	N0E 1G0	30,778.23	Square feet	80	No	3	221,264.99910 kWh		35,554.60293	Cubic Meter			73,758.43047	19.46608
J L Mitchener PS	School	Box 99 60 Munsee St South	Cayuga	N0A 1E0	35,848.25	Square feet	80	No	0	108,242.81195 kWh		41,267.36621	Cubic Meter			81,219.55539	15.25383
James Hillier PS	School	62 Queensway Dr	Brantford	N3R 4W8	30,101.95	Square feet	80	No	2	104,010.14449 kWh		39,859.07967	Cubic Meter			78,431.94397	17.52789
Jarvis PS	School	14 Monson St	Jarvis	N0A 1J0	31,950.96	Square feet	80	No	0	145,543.52869 kWh		35,721.78702	Cubic Meter			71,837.09521	16.43727
Joseph Brant Learning Centre	School	347 Erie Ave	Brantford	N3S 2H7	18,963.57	Square feet	80	No	3	152,396.62769 kWh		30,481.01360	Cubic Meter			62,131.24286	25.11880
King George PS	School	265 Rawdon St	Brantford	N3S 6G7	39,243.16	Square feet	80	No	0	206,619.89160 kWh		45,770.48484	Cubic Meter			92,640.11900	17.66062
Lakewood Elementary	School	713 St. George St	Port Dover	N0A 1N0	90,437.10	Square feet	80	No	0	379,319.99945 kWh		124,539.69910	Cubic Meter			246,666.26503	18.82966
Langton PS	School	23 Albert Street	Langton	N0E 1G0	20,870.57	Square feet	80	No	0	63,600.46680 kWh		37,008.08199	Cubic Meter			71,847.74562	21.89275
Lansdowne PS	School	21 Preston Blvd	Brantford	N3T 5B1	29,050.92	Square feet	80	No	0	184,720.55334 kWh		31,929.64970	Cubic Meter			65,825.18074	18.03942
Lynndale Heights ES	School	55 Donly Drive South	Simcoe	N3Y 5G7	35,521.11	Square feet	80	No	0	241,017.09351 kWh		42,814.43393	Cubic Meter			88,067.69787	19.59509
Major Ballachey PS	School	105 Rawdon St	Brantford	N3S 6C7	47,797.17	Square feet	80	No	0	174,944.88025 kWh		46,427.99614	Cubic Meter			92,947.29437	13.98349
Mapleview Elementary	School	223 Fairview Ave W	Dunnville	N1A 1M4	45,176.00	Square feet	80	No	0	183,598.00000 kWh		31,313.63967	Cubic Meter			64,627.36634	14.30668
McKinnon Park SS	School	91 Haddington St	Caledonia	N3W 2H2	122,141.80	Square feet	80	No	10	1,207,010.34375 kWh		188,874.68848	Cubic Meter			392,756.32730	26.31637
Mount Pleasant PS	School	667 Mt. Pleasant Road	Mt. Pleasant	N0E 1K0	21,936.77	Square feet	80	No	0	81,645.67014 kWh		27,319.03900	Cubic Meter			54,062.57900	16.95721
North Park C & VS	School	280 North Park St	Brantford	N3R 4L1	173,603.40	Square feet	80	No	5	682,754.80123 kWh		221,792.58304	Cubic Meter			439,501.08476	17.51070
North Ward PS	School	107 Silver St	Paris	N3L 1V2	43,853.93	Square feet	80	No	0	152,232.07687 kWh		67,493.39242	Cubic Meter			132,102.98345	19.82802
Oakland-Scotland PS	School	15 Church Street West	Scotland	N0E 1R0	23,201.64	Square feet	80	No	0	115,227.05503 kWh		33,604.87694	Cubic Meter			66,939.01669	20.35943
Oneida Central PS	School	661 4th Line	Caledonia	N3W 2B2	22,554.18	Square feet	80	No	3	149,473.19922 kWh		36,015.96279	Cubic Meter			72,509.38577	23.59841

Onondaga-Brant PS	School	21 Brant School Rd., R.R. #1	Brantford	N3T 5L4	19,669.81 Square feet	80	No	1	92,840.50087 kWh	35,506.84302 Cubic Meter	69,873.44722	23.90462
Paris Central PS	School	7 Broadway St E	Paris	N3L 2R2	25,969.96 Square feet	80	No	0	223,219.05609 kWh	28,798.54198 Cubic Meter	61,042.97770	20.38061
Paris DHS (Sec)	School	231 Grand River St N	Paris	N3L 2N6	151,358.80 Square feet	80	No	6	777,320.51338 kWh	264,392.84846 Cubic Meter	522,836.52443	23.70017
Pauline Johnson C & VS	School	627 Colborne St	Brantford	N3S 3M8	184,625.60 Square feet	80	No	0	589,556.36914 kWh	221,406.44499 Cubic Meter	436,017.21448	15.93828
Port Rowan PS	School	48 College Avenue	Port Rowan	N0E 1M0	22,997.13 Square feet	80	No	0	73,071.00000 kWh	28,026.75917 Cubic Meter	55,147.24951	16.12954
Prince Charles PS	School	40 Morton Ave	Brantford	N3R 2N5	28,610.81 Square feet	80	No	0	142,233.48438 kWh	46,101.45432 Cubic Meter	91,363.36928	22.09617
Princess Elizabeth PS	School	60 Tecumseh St	Brantford	N3S 2B5	26,128.11 Square feet	80	No	0	76,390.51260 kWh	54,880.56075 Cubic Meter	106,015.85679	25.24671
Rainham Central PS	School	RR 1 572 Concession 5	Fisherville	N0A 1G0	24,310.31 Square feet	80	No	1	106,064.40039 kWh	28,627.02222 Cubic Meter	57,257.01205	16.87786
River Heights E S	School	37 Forfar St.	Caledonia	N3W 1L6	57,724.13 Square feet	80	No	0	182,724.57114 kWh	55,898.39963 Cubic Meter	111,082.16922	13.45712
Russell Reid PS	School	43 Cambridge Dr.	Brantford	N3R 5E3	29,103.50 Square feet	80	No	0	140,636.26733 kWh	35,331.92248 Cubic Meter	70,955.00702	17.73450
Ryerson Heights	School	33 Dowden Ave	Brantford	N3T 0A3	65,411.56 Square feet	80	No	1	334,225.03406 kWh	46,020.58729 Cubic Meter	96,883.44619	12.58679
Seneca Central PS	School	2767 Reg Rd #9	York	N0A 1R0	16,836.89 Square feet	80	No	0	60,006.96716 kWh	22,626.91547 Cubic Meter	44,552.14317	17.84657
Simcoe Comp S	School	40 Wilson Ave	Simcoe	N3Y 2E5	163,363.00 Square feet	80	No	0	770,707.37292 kWh	227,067.17797 Cubic Meter	452,072.19895	19.48989
St George-German PS	School	3 College Street	St. George	N0E 1N0	41,420.30 Square feet	80	No	0	306,405.15039 kWh	44,449.73656 Cubic Meter	93,091.53146	18.80254
Teacher Resource Centre	Administrative of	108 Tollgate Rd	Brantford	N3R 4Z6	19,622.56 Square feet	80	No	0	321,658.19824 kWh	24,338.05756 Cubic Meter	55,518.54518	29.57400
Teeterville PS	School	229 Teeter St. PO Box 1	Teeterville	N0E 1S0	21,394.14 Square feet	80	No	0	125,573.49872 kWh	30,389.75062 Cubic Meter	61,166.12878	20.96597
Thompson Creek E S	School	800 Cross St W	Dunnville	N1A 1N7	52,463.30 Square feet	80	No	0	199,930.56410 kWh	50,586.77132 Cubic Meter	101,548.26401	14.05850
Tollgate Technological Skills Centre	School	112 Tollgate Rd	Brantford	N3R 4Z6	98,764.00 Square feet	80	No	6	674,133.48438 kWh	211,806.47010 Cubic Meter	420,366.32734	29.61773
Valley Heights SS	School	2561 #59 Highway	Langton	N0E 1G0	110,141.30 Square feet	80	No	0	548,600.00079 kWh	134,146.89761 Cubic Meter	269,831.77941	17.92500
Walpole North E S	School	1895 Regional Rd. #55, R.R. #5	Hagersville	N0A 1H0	20,637.35 Square feet	80	No	1	96,968.33456 kWh	28,145.47217 Cubic Meter	56,077.80997	19.19297
Walsh Public School	School	933 St. John's Road West ,RR#2	Simcoe	N3Y 4K1	39,052.72 Square feet	80	No	3	129,720.62068 kWh	38,924.86227 Cubic Meter	77,425.38049	13.91466
Waterford DHS	School	227 Main St., South	Waterford	N0E 1Y0	123,794.70 Square feet	80	No	0	554,030.27527 kWh	166,686.69388 Cubic Meter	331,512.85057	18.78545
Waterford PS	School	100 East Church St	Waterford	N0E 1Y0	26,836.06 Square feet	80	No	4	169,050.69739 kWh	40,706.90082 Cubic Meter	81,956.67579	22.42038
West Lynn PS	School	18 Parker Dr	Simcoe	N3Y 1A1	29,041.31 Square feet	80	No	0	146,705.93457 kWh	40,862.65152 Cubic Meter	81,590.89920	20.00547
Woodman-Cainsville S	School	51 Woodman Dr	Brantford	N3S 4K3	26,173.05 Square feet	80	No	4	144,863.16821 kWh	24,864.99281 Cubic Meter	51,290.84366	15.63145

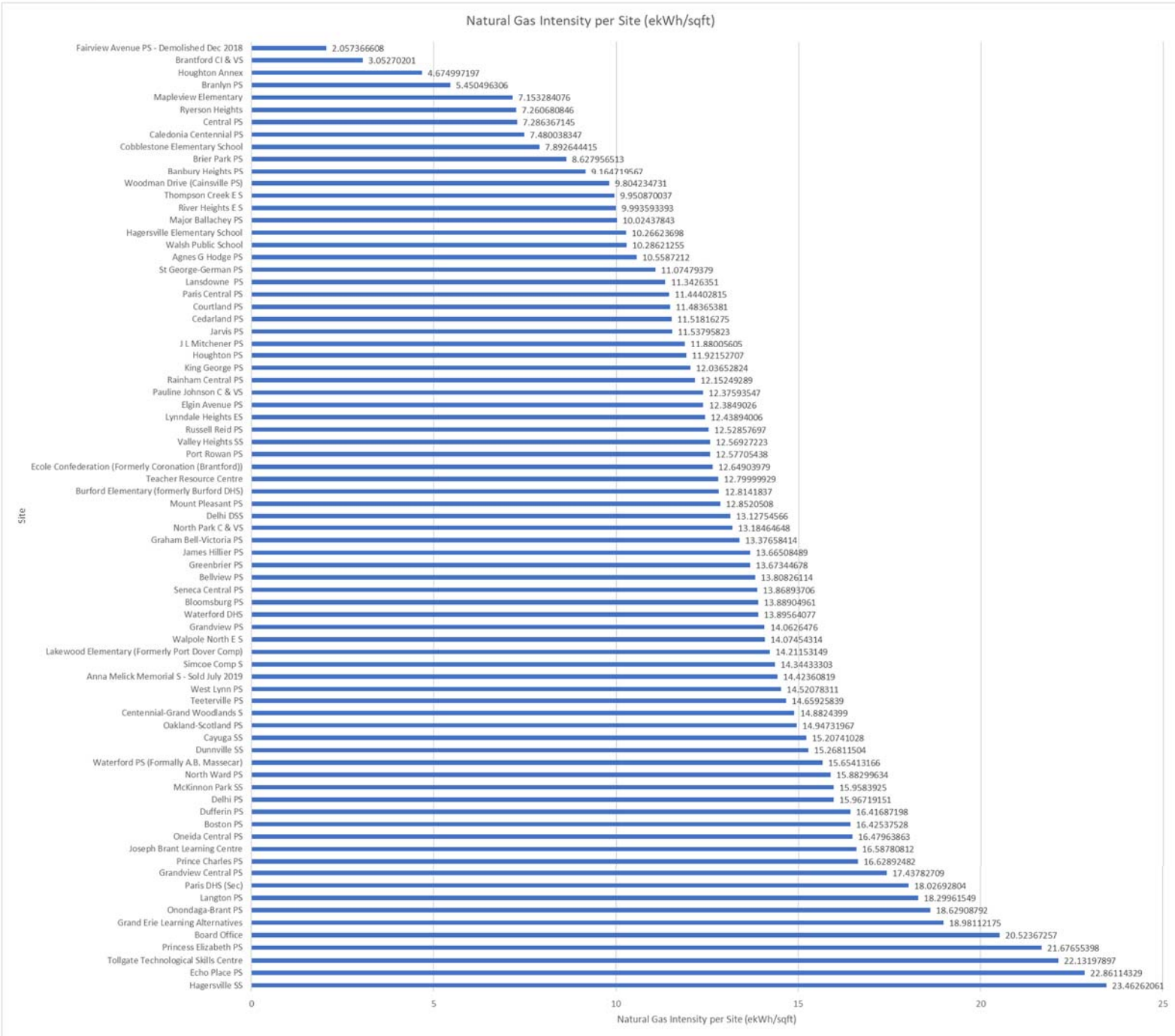


Appendix B: Electricity Intensity per Site (kWh/sqft) for 2018-2019





Appendix C: Natural Gas Intensity per Site (ekWh/sqft) for 2018-2019





Appendix D: Energy Intensity per Site (ekWh/sqft) for 2018-2019

