



Hôpital **Montfort**

CONSERVATION AND DEMAND MANAGEMENT PLAN REPORT CARD 2015

JULY 1ST, 2015

Table of Contents

EXECUTIVE SUMMARY	4
ADDITIONAL RECOMMENDATIONS	6
Energy Awareness Programs	6
Training Key Stakeholders – including Staff.....	6
Monitoring & Tracking Vital Components	6
INTRODUCTION	7
STRATEGIC DIRECTION & THE CDM PLAN	8
Ontario Energy Market Update.....	8
Energy Policy	8
Global Adjustment	8
Electricity Line Losses.....	10
Electricity Regulated Price Plan (RPP) and Smart Meter Time of Use Rates.....	10
Emissions Credits	11
Advanced Technologies	12
RESULTS ACHIEVED – AS REPORTED TO THE MINISTRY OF ENERGY [397/11 TEMPLATES]	13
Analysis of Energy Intensity as filed with the Ministry of Energy.....	13
Energy Intensity – Summary of 397/11 reporting – Hospital Sector – 2011.....	14
Energy Intensity – Summary of 397/11 reporting – Hospital Sector – 2012.....	18
Energy Intensity – Charting of 397/11 reporting – Hospital Sector – 2011 & 2012.....	21
ENERGY USAGE & INTENSITY – BASED ON UTILITY DATA	22
Analysis of Energy Intensity based on Utility Data	22
Energy Use – All Facilities - 2013	23
Energy Intensity – All Facilities - 2013	24
Energy Intensity – All Facilities – 2011, 2012, & 2013 – monthly details	25
Energy Intensity – Analysis – Location-by-Location.....	26
Energy Intensity – Location-by-Location – 2-Year Average	27
Energy Intensity – Location-by-Location – 2012 versus 2013.....	28
Greenhouse Gas Emissions – All Facilities – 2013 – monthly details	29
Greenhouse Gas Emissions – All Facilities – 2011, 2012, & 2013 – monthly details	30
PROJECTS UNDER CDM PLAN – SUMMARY	31
Energy Conservation Measures – Analysis & Discussion	31
Filed in CDM Plan [at page 29].....	32
Sheet A – Design, Construction and Retrofit Strategies.....	33
Sheet B – Occupant Behavior Strategies.....	34
Sheet C – Occupant Behaviour Strategies.....	34
Sheet D – Conservation Goal	34

APPENDIX A - ENERGY INTENSITY – EACH FACILITY – 2011, 2012, & 2013	35
APPENDIX B - GREENHOUSE GAS EMISSIONS – EACH FACILITY – 2011, 2012, & 2013	37
APPENDIX C – ENERGY & ENVIRONMENT ACRONYMS	39
Acronyms & Abbreviations	39
APPENDIX C – GLOSSARY OF ENERGY TERMS	40
Glossary.....	40
APPENDIX D – ENERGY UNITS	42
How much is a kilowatt hour of electricity?	42
APPENDIX E – ENERGY CONSERVATION INCENTIVES	43
Energy Conservation Incentives for Municipalities, University & Colleges, School Boards, and Hospitals [the “MUSH” sector]	43
APPENDIX F – REGULATORY CHARGES	44
Regulatory Charges - Electricity	44

EXECUTIVE SUMMARY

The information disclosed in this Conservation and Demand Management Plan Report Card, organized and assembled by a team of VIP energy experts, clarifies and expands upon the requirements of O. Reg. 397/11 under the Government of Ontario's Green Energy Act, 2009. The objective of this report is to educate and assist its readers in making more informed energy conservation decisions.

Informed energy conservation decisions require practical knowledge about:

- energy industry regulation,
- energy consumption,
- energy utility metering and billing methods, problems and limitations,
- energy conservation measures/strategies,
- energy-saving services and technologies.

Hospitals can become much more proactive in lowering their costs and reducing harmful GHG (greenhouse gas) emissions through improved management of their energy consumption and expenditures. This report card was designed to support these endeavours.

This report card covers all Hôpital Montfort (Montfort Hospital) facilities:

Hôpital Montfort - General Information					
Building Name	Operation Type	Address	City	Postal Code	Total Floor Area (m ²)
Hôpital Montfort - Admin	Administrative Offices and related Facilities	713 Montreal Road	Ottawa	K1K 0T2	6,735.50
Hôpital Montfort - Main	Facilities used for hospital purposes	713 Montreal Road	Ottawa	K1K 0T2	60,619.50
Portobello Clinic - Admin	Administrative Offices and related Facilities	1967 Portobello Boulevard	Ottawa	K4A 4E7	643.72
Portobello Clinic - Main	Facilities used for hospital purposes	1967 Portobello Boulevard	Ottawa	K4A 4E7	192.28
					68,191.00

Prescott and Russell Community Health Centre (PRCMHC) Closed November 2011
 Prescott and Russell Mental Health Crisis Service Closed December 2012
 Prescott and Russell Psychogeriatric Service (PRPS) Closed December 2012

In summary, based on utility billings, during 2013 Montfort Hospital consumed 55,855,632.9 ekWh of energy. This energy use represents an energy intensity of 819.1 ekWh/m², an increase of 11.7 ekWh/m² [1%] over 2012. This year-over-year increase is consistent with the energy use/intensity experienced by many Ontario hospitals. At least part of this increase is due more extreme winter weather.

From the Ministry of Energy's perspective - when compared to other Ontario hospitals, in 2012 Montfort Hospital ranked #108 out of 142. This means Montfort Hospital operated less efficiently than the average Hospital in Ontario and must improve its energy conservation activity if it wishes to achieve an average or better-than-average ranking. Since other hospitals are also working to maintain or improve their rankings, if Montfort Hospital wants to improve its ranking/position then in the future then it must create and take action on initiatives that prove to be more successful than those taken by other Ontario hospitals.

Montfort Hospital planned and performed energy conservation measures during the last year. Some of the major initiatives undertaken were: sign an energy performance contract with an ESCO, conduct and ASHRAE Level II energy audit, and perform lighting energy conservation measures. The results of these initiatives will be analysed and summarized in next year's report card.

Many Ontario hospitals have achieved exceptional success by taking advantage of the following comprehensive energy conservation measures:

- Energy Awareness Programs
- Training Key Stakeholders – including Staff
- Monitoring & Tracking Vital Components

More details about these initiatives are provided in the next section.

With continued effort and attention to energy-conservation developments, Montfort Hospital can significantly improve its position and become an energy-leader amongst Ontario hospitals.

ADDITIONAL RECOMMENDATIONS

To be compliant with O-REG 397/11 and to take full advantage of government programs and incentives:

Energy Awareness Programs

When people use energy resources wisely, through simple, good habits like turning off lights when lights are not needed, their communities move toward sustainability. Sustainability is more about culture than major projects and leading-edge technologies. To promote a more sustainable future, it is essential to present a positive picture of a better future and capture people's interest. Then, people must receive the knowledge they will require to grow the good habits that bring about energy conservation and sustainability.

Energy awareness programs pave the path for sustainability. Properly prepared and delivered, energy awareness programs educate, energize, and support people who are inspired to conserve energy and build sustainable communities.

The Ontario Hospital Association has reported that dedicated, consistent energy awareness programs have proven to be the most effective way to reduce energy usage and waste volumes with no capital costs and minor operational expense.

Training Key Stakeholders – including Staff

Energy conservation initiatives excel when stakeholders receive well-packaged training. Positive changes become sustainable when people combine talents with knowledge and then take decisive action aimed at long-term goals. People must embrace the monitoring of progress and the need for making adjustments to remedy shortcomings and take advantage of opportunities.

This report card provides the framework for setting short-term and long-term goals. It also provides the framework for monitoring and tracking performance.

Monitoring & Tracking Vital Components

The task of convincing today's skeptics that your actions have created energy use and cost savings can be a daunting one. The challenge is – there are so many variables, many of which are controlled by other parties. The key to success is breaking the complexity of energy use down into its most-vital components, then measuring and analysing each of those components. This report card covers a number of vital components. In addition, the following list shows samples of monitoring and tracking initiatives that allow energy users to gain advantage:

- Metering, including self-metering & sub-metering of selected equipment
- Utility bill verification
- Utility rate schedule options
- Energy cost component tracking – for example, tracking the Global Adjustment for electricity
- Detailed engineering studies – monitoring and testing equipment operation
- Energy project tracking – with or without incentive funding [incentive summary - see Appendix D]
- Real-time monitoring of facility air – temperature, humidity, “hot spots” & “cold spots”
- Weather [temperature, wind, etc] and the extent of its correlation with energy consumption

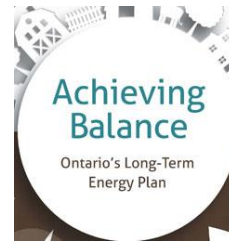
Also, from an environmental perspective, monitoring and verification enables the creation of greenhouse gas emission reduction credits – a valuable asset once cap and trade systems are implemented.

INTRODUCTION

The Province of Ontario engaged thousands of Ontarians, who worked together to create Ontario's Long-Term Energy Plan – Achieving Balance. This plan, released in December 2013, contains Ontario's long-term vision for the province's electricity system. Quoting the Province:

“The plan balances five principles to guide decision-making:

- *cost effectiveness*
- *reliability*
- *clean energy*
- *community engagement*
- *an emphasis on conservation and demand management before generation”*



building new

Ontario's Ministry of Energy required Ontario public agencies to file Conservation and Demand Management Plans – **CDM Plans** – on or before July 1st, 2014. Last year, Hôpital Montfort complied and filed its five (5)-year plan.

Throughout the last year, Hôpital Montfort have been working to achieve the goals embedded in their **CDM Plan**.

The purpose of this **CDM Report Card** is to provide objective, third-party feedback on how Hôpital Montfort has performed and to help us plan future actions so Hôpital Montfort outperform the minimum requirements of Ontario's long-term energy plans.

Hôpital Montfort CDM Report Card is a hands-on tool, designed to help:

- keep our long-term energy & environment strategies and goals in mind and
- focus our attention on the near-term actions required to achieve those long-term goals.

In addition, this tool will help Hôpital Montfort keep track of the energy and environment actions we have taken since July 2014 and the results those actions have delivered. Some actions will deliver impressive conservation results and cost savings. Those actions will provide direction for Hôpital Montfort's 'best next steps'. Some initiatives undertaken will not deliver results we expect. These will help Hôpital Montfort identify areas for improvement. Either way, simple presentation of actions, results, and recommendations for next steps will ensure that Hôpital Montfort make steady progress and achieve our long-term goals.

This CDM Report Card breaks our five (5)-year CDM Plan into manageable one (1)-year pieces with each year building on the performance of prior years. The format allows quick and easy review by our key stakeholders:

- board members,
- senior management,
- energy committees, and
- the public.

Also, our CDM Report Card can be attached to other larger reports such as your annual budget or your strategic plan.

Each year, our CDM Report Card will be revised capture initiatives you have performed and provide external updates on topics of importance to Ontario energy users, including but not limited to:

- government policy changes,
- incentive and funding programs,
- commodity pricing,
- transportation/transmission and distribution/delivery utility updates, and
- new energy & environment opportunities.

Energy and environment successes and sustainability happen when the strategies you design and the actions you take are aligned with marketplace realities and aligned with your people's interests. So, it is good to test our plans against both the Ontario marketplace considerations and the desires of your people.

Ontario Energy Market Update

The Province of Ontario remains committed to offer and expedite financial incentives to accelerate paybacks on projects.

The Conservation First Framework maps out Ontario's energy conservation goals over the next six years, emphasizing a coordinated effort within all stages of energy planning, as well as more effective teamwork among sector partners, particularly in support of local distribution companies (LDCs). The goal of the framework is a total reduction of 8.7 TWh of electricity consumption in Ontario by December 2020.

Energy Policy

Ontario's Long-Term Energy Plan

In December 2014, Ontario launched a quarterly [energy report](#), which provides an up-to-date snapshot of the province's energy sector.

More information can be found at <http://www.energy.gov.on.ca/en/ltep/>

In 2004, Hydro One's 25 year plan capital plan indicated that 85% of their infrastructure needed to be refurbished or replaced. The MOE indicated that 30% of that infrastructure work is to be avoided by offering financial incentives reducing peak demands and energy consumption respectively. The program offering cash incentives is called as **Ontario's saveONenergy incentive**.

Ontario's Conservation and Demand Management (CDM) programs have been instrumental in conserving a vast amount of demand for electricity and other sources of energy since their inception. The idea behind the programs is simple: it costs less to save energy than it costs to supply that same amount of energy. (Onkar Gill)

The Ministry of Energy estimates that for every dollar invested in energy efficiency, Ontario has avoided about two dollars in costs to the electricity system.

Global Adjustment

Most Ontario electricity consumers receive the global adjustment.

According to the IESO:

"The Global Adjustment provides both adequate energy supply and green energy for Ontario. It accounts for differences between the market price and the rates paid to regulated and contracted generators and for conservation and demand management programs. As a result, its value may be positive or negative, depending on the fluctuation of prices in the spot market."

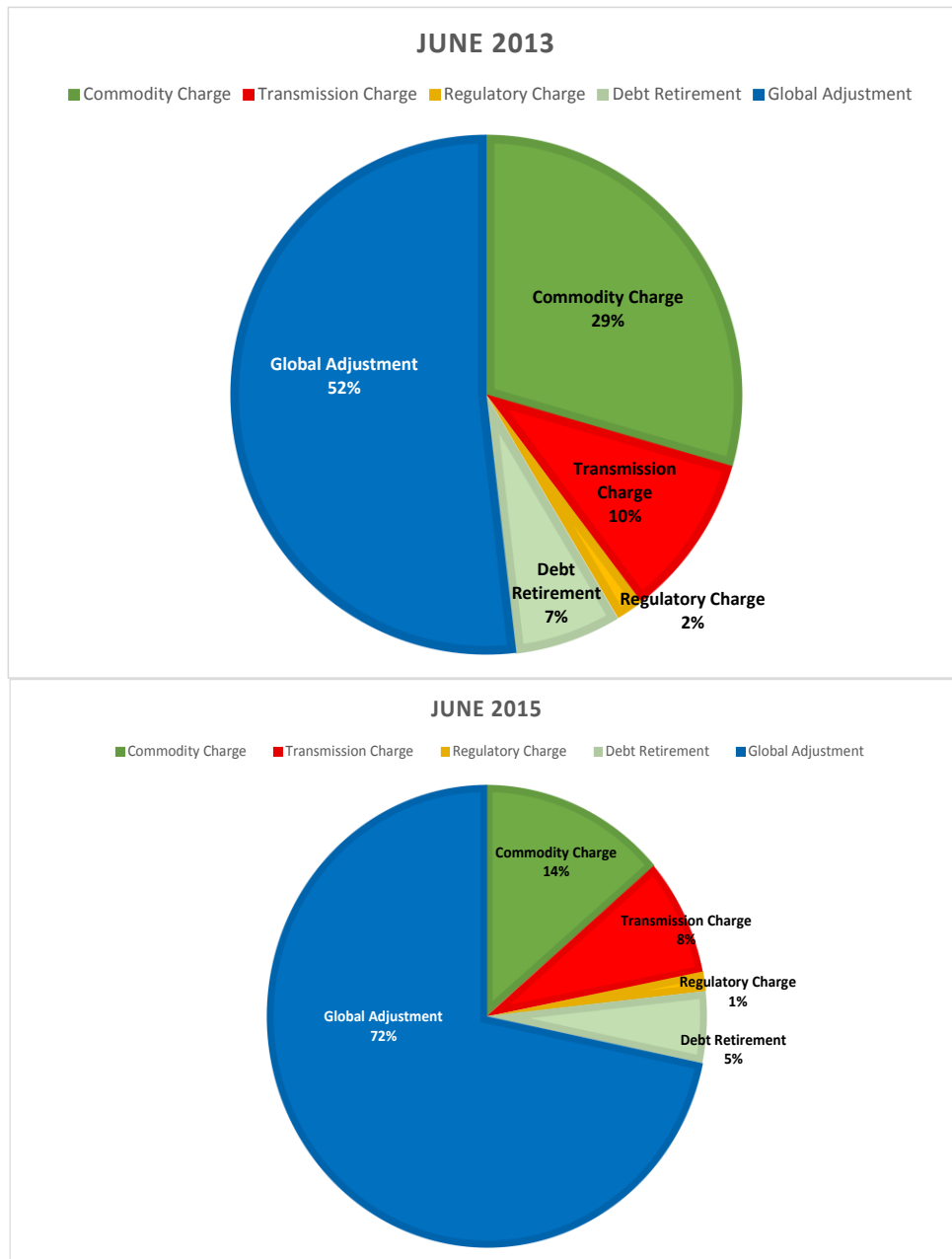
In summary, the global adjustment is an energy-accounting mechanism used to fund Ontario's generation policies, fund Ontario's energy & environment initiatives, and smooth out Ontario's quasi-deregulated 'market pricing'.

What does that mean?

In June 2015, hedging strategies protect only 14% of the costs in your bill and hedges are risky if solely used to reduce costs. On the other hand, energy conservation will reduce costs on 100% of your bill and will always work for reducing energy costs.

The diagrams below indicate two things:

1. How much of your bill is due to the Global Adjustment
2. How quickly the Global Adjustment component can change



In 2 years, the Global Adjustment component of electricity bills increased from 52% to 72%.

Important Notice:

The global adjustment complicates end users' ability to create budgets and hedge their electricity commodity costs because of the uncertainty of what it will be and because it represents such a large portion of the bill. A key point – regardless of the complications - when you undertake conservation initiatives you reduce your global adjustment costs.

Electricity Line Losses

Starting on June 1, 2015, customers enrolled with an electricity retailer saw changes in their bills. All distributors were required to change how line losses are displayed on bills to comply with [Ontario Regulation 275/04 – Information on Invoices to Low-Volume Consumers of Electricity](#). This bill format change only applies to low-volume customers who use less than 150,000 kWh of electricity a year.

What does this mean for the Customer?

The potential for billing errors becomes even higher.

What are line losses?

When electricity is delivered over a power line, it is normal for a small amount of power to be consumed or lost as heat. Equipment, such as wires and transformers, consume power before it gets to your home or business. These losses are called 'line losses' and usually typically run 3%-7% of metered consumption. In the past Local Distribution Companies increased the metered consumption by the Loss Adjustment Factor to recover these losses. Now Local Distribution Companies must show the line losses as a separate line item on the bill. This change drastically increases the chance for incorrect billing.

Important Notice:

Billing errors may increase. Perform bill verification with attention to these line-losses changes or hire a service company to verify these bills for you.

Electricity Regulated Price Plan (RPP) and Smart Meter Time of Use Rates

Some MUSH facilities receive RPP or Time of Use Rate pricing and this pricing:

- Is approved by the Ontario Energy Board
- applies to certain users,
- tiered rates, with pricing increasing with consumption volume

Important Notice:

On occasion, the distributors use their judgment to determine when RPP rates are applied and, when they are applied, RPP invoices can be tricky to reconcile. There may be ways to get you onto the IESO's Hourly Ontario Electricity Price (HOEP), which could be a cheaper way to go. The way to know for sure is by having an Electricity Price analysis done.

Emissions Credits

Wynne's green scheme could deal massive blow to Ontario and Canada

GWYN MORGAN

Special to The Globe and Mail

Published Sunday, May 03 2015, 7:20 PM EDT

Ontario Premier Kathleen Wynne listens to questions from the media during an announcement that outlined a cap-and-trade deal with Quebec aimed at curbing greenhouse emissions, in Toronto on April 13.

(Chris Young/THE CANADIAN PRESS)

"Last month's announcement by Ontario Premier Kathleen Wynne province would link up with the existing Quebec and California cap-and-trade systems prompted an editorial in this newspaper this Green Energy Act Round Two?"

Ontario's Green Energy Act offered so-called "feed-in rates" almost existing electricity rates for wind and more than 10 times for solar bees to honey, wind and solar companies rushed in. By the time realized that these subsidies were driving Ontario from one of the lowest to one of the highest power cost jurisdictions in North America, the province had signed myriad 20-year-locked-in-rate-guaranteed contracts that will drive power rates up a further 40 per cent to 50 per cent in coming years. Adding salt to this self-inflicted wound is the reality that much of the green power comes on stream when it isn't needed. "



that her carbon dioxide headlined, "Is four times power. Like the government

Full article can be read at <http://www.theglobeandmail.com/report-on-business/rob-commentary/wynnes-green-scheme-could-deal-massive-blow-to-ontario-and-canada/article24233437/>

Important Notice:

The media is ripe with articles expressing negative messages like the one above. Regardless, the signals strongly suggest emissions trading will be available to Ontarians in the future. Key point – prepare in advance so you can take advantage of emission credits. Proper energy reporting through monitoring and tracking is the one way to ensure this.

Advanced Technologies

OCE helps bring new life to a small northern Ontario town

September 25, 2014

The Atikokan Generating Station, photo courtesy of Ontario Power Generation.



On Sept. 10, Ontario Centres of Excellence (OCE) joined in celebrating the grand opening of the province's Ontario Power Generation - Atikokan Generating Station, the largest capacity completely biomass fuelled facility in North America.

Carole Champion, Ontario Centres of Excellence's Director of Industrial Engagement and Sector Lead for Energy and Environment, was thrilled to be a part of the event. As someone who worked closely with the people of Atikokan in the mid-2000s as their town underwent major upheaval and transformation, she understood the significance of the official event.

"Atikokan is a story of people who cared enough to never give up and by sheer force of will made something happen. It's a story of a community and mayor (Dennis Brown) who never gave up, a company (Ontario Power Generation) that cares about its employees and its investment in maintaining and renewing its facilities; a government that didn't just provide financial support for the bio-energy research project but worked very hard to ensure the best possible outcomes; and a research community that worked alongside OCE and the Atikokan community."

*Now viewed as one of the continent's most progressive climate change initiatives, the formerly coal-burning plant was a key focus for OCE for several years after the province announced its intentions to shut down coal plants. When the Ontario government subsequently introduced its plan to invest \$4 million toward establishing a bioenergy research program associated with the generating station, OCE was handed responsibility for establishing and managing the **Atikokan Bio-energy Research Centre (ABRC) program**.*

Source: Ontario Centres of Excellence <http://www.oce-ontario.org/news-events/news/news-archives/2014/09/25/oce-helps-bring-new-life-to-a-small-northern-ontario-town>

Important Notice:

New technologies are not limited to large-scale initiatives such as the impressive development described above. Technologies are improving 'across the spectrum'...as one example, consider LED lighting developments such as replacing 32Watt fluorescent lamps with 12Watt LED replacement lamps. Key point – energy conservation is about people working together, planning initiatives that fit culture and budgets, and then taking many small action steps.

Another area to keep in mind is that companies who work together can achieve greater success. Various sectors in the MUSH group can share ideas on what works and what does not because they face similar challenges and have similar goals. In some cases, they can participate in projects to share costs and achieve the same results with lower costs attached. Some of these projects include:

1. Energy Training
2. Energy Awareness Activities
3. Real Time Metering
4. Energy Mapping

Analysis of Energy Intensity as filed with the Ministry of Energy

The following tables and graphs – pages 14-21 – contain the energy-intensity numbers the Ministry of Energy presents pursuant to the data it has received from Ontario's hospitals under their 397/11 reporting of energy use per facility. These reporting cover the years 2011 and 2012. While hospitals have filed data under their templates this summer, the Ministry has yet to present the energy-intensity numbers for the 2013 year.

Compared to other Ontario hospitals, Montfort Hospital:

- Ranked #99 of 141 during 2011, with energy intensity of 806.13 ekWh/m² [140.77 ekWh/m² higher than the average]
- Ranked #108 of 142 during 2012, with energy intensity of 806.85 ekWh/m² [136.05 ekWh/m² higher than the average]
- RVH's energy intensity ranks in the highest 20%

The increase year-over-year, 2012 over 2011, in energy intensity of 0.72 ekWh/m² may be due, in part, to colder weather conditions. It is consistent with the increased heating degree days, 2012 over 2011. Most Ontario hospitals experienced an increase in energy intensity, 2012 over 2011. The average increase was 1%.

NOTE: The numbers presented by the Ministry of Energy reflect the information filed by the hospitals. Some filings contain very material errors, due to many causes, including incomplete utility data, utility billing corrections, template data entry errors, etc. The above numbers, however, do show what the Ministry of Energy 'sees' and what other parties 'see' when they access the Ministry data.

Energy Intensity – Summary of 397/11 reporting – Hospital Sector – 2011

Ranking	Hospital	Average Energy Intensity (ekWh/ft ²)	Average Energy Intensity (ekWh/m ²)
1	Hanover and District Hospital	1.300	13.994
2	Fort Frances Riverside Health Care	4.232	45.550
3	Campbellford Memorial Hospital	5.325	57.314
4	Toronto's Woman's College Hospital	6.578	70.804
5	Wingham and District Hospital	8.318	89.539
6	Terrace Bay McCausland Hospital	13.03	140.20
7	Little Current Manitoulin Health Centre	17.92	192.84
8	Sudbury St. Joseph's Continuing Care Centre of Sudbury	17.99	193.59
9	Clinton Public Hospital	18.16	195.44
10	Collingwood General and Marine Hospital	18.19	195.76
11	Marathon Wilson Memorial General Hospital	23.34	251.26
12	Barry's Bay St. Frances Memorial Hospital	24.29	261.50
13	Woodstock General Hospital	32.32	347.93
14	Penetanguishene Waypoint Centre for Mental Health Care	32.85	353.57
15	Red Lake Margaret Cochenour Memorial Hospital	33.58	361.43
16	Cornwall St. Joseph's Continuing Care Centre	34.07	366.69
17	Kingston Hotel Dieu Hospital	35.73	384.60
18	Sudbury Health Science North	36.45	392.32
19	Hornepayne Community Hospital	36.89	397.07
20	Ottawa Royal Ottawa Health Care Group	37.41	402.67
21	Exeter South Huron Hospital Association	39.23	422.24
22	Toronto West Park Healthcare Centre	39.46	424.71
23	St. Marys Memorial Hospital	41.13	442.71
24	Toronto Casey House	42.21	454.38
25	Toronto Providence Healthcare	42.47	457.17
26	Kingston Providence Care Centre	42.87	461.50
27	Strathroy Middlesex General Hospital	43.04	463.31
28	Toronto Baycrest	43.94	472.94
29	Guelph St. Joseph's Health Care	44.22	475.95
30	Whitby Ontario Shores Centre for Mental Health Sciences	45.03	484.69
31	Newbury Four Counties Health Services	45.14	485.88
32	Lady Dunn Health Centre	45.43	488.97
33	St. Joseph's Health Care London	45.62	491.08
34	Englehart and District Hospital	47.00	505.95
35	Thunder Bay St. Joseph's Care Group	47.38	509.99
36	Deep River and District Hospital	47.82	514.74
37	Dunnville Haldimand War Memorial Hospital	48.58	522.96
38	Toronto Centre for Addiction and Mental Health	50.91	547.96
39	Toronto Hospital for Sick Children	51.75	557.08
40	Cornwall Community Hospital	52.40	564.03

41	St. Joseph's Healthcare Hamilton	52.61	566.29
42	Toronto Holland Bloorview Kids Rehabilitation Hospital	52.65	566.75
43	Pembroke Regional Hospital Inc.	54.44	585.95
44	Toronto St. Michael's Hospital	54.98	591.85
45	Kingston General Hospital	54.99	591.85
46	Blind River District Health Centre	55.35	595.77
47	Perth & Smiths Falls District Hospital	55.40	596.31
48	Kenora Lake of the Woods District Hospital	55.81	600.70
49	Matheson Bingham Memorial Hospital	55.90	601.69
50	Hôpital Général de Hawkesbury & District General Hospital	56.16	604.53
51	The Ottawa Hospital	56.40	607.04
52	St. Catharines Niagara Health System	56.47	607.88
53	Mattawa General Hospital	56.48	607.94
54	Seaforth Community Hospital	56.60	609.19
55	Owen Sound Grey Bruce Health Services	56.91	612.60
56	St. Catharines Hotel Dieu Shaver	56.94	612.92
57	Windsor Regional Hospital	57.12	614.88
58	Ottawa Bruyere Continuing Care Inc.	57.25	616.24
59	Almonte General Hospital	57.35	617.26
60	Cambridge Memorial Hospital	58.24	626.94
61	Fergus Groves Memorial Community Hospital	58.51	629.81
62	Leamington District Memorial Hospital	58.75	632.42
63	Ottawa Children's Hospital of Eastern Ontario	59.20	637.26
64	Mount Forest North Wellington Health Care Corporation	59.84	644.14
65	Lindsay Ross Memorial Hospital	60.34	649.55
66	South Bruce Grey Health Centre	60.98	656.41
67	Toronto Sunnybrook health Sciences Centre	61.14	658.15
68	Belleville Quinte Healthcare Corporation	61.21	658.90
69	Espanola General Hospital	61.44	661.39
70	Kirkland and District Hospital	61.91	666.34
71	Goderich Alexandra Marine and General Hospital	62.32	670.76
72	Simcoe Norfolk General Hospital	62.59	673.74
73	Stratford General Hospital	63.76	686.33
74	Hagersville West Haldimand General Hospital	64.03	689.16
75	Mississauga The Credit Valley Hospital and Trillium Health Centre	64.26	691.67
76	Kitchener St. Mary's General Hospital	64.76	697.09
77	Oshawa Lakeridge Health	65.17	701.45
78	Listowel Memorial Hospital	65.26	702.42
79	Iroquois Falls Anson General Hospital	65.31	702.97
80	Kapuskasing Sensenbrenner Hospital	65.42	704.21
81	Toronto North York General	65.80	708.27
82	Kitchener Grand River Hospital	66.08	711.31
83	The Scarborough Hospital	66.16	712.12
84	Guelph General Hospital	67.26	723.96
85	Toronto Runnymede Healthcare Centre	67.30	724.40

86	Toronto Rouge Valley Health System	67.50	726.58
87	Wallaceburg Sydenham District Hospital	68.48	737.13
88	Grimsby West Lincoln Memorial Hospital	69.08	743.56
89	Richmond Hill Mackenzie Health	69.21	744.96
90	Sarnia Bluewater Health	69.50	748.05
91	Arnprior and District Memorial	70.00	753.52
92	Brant Caomunity Healthcare System	70.60	759.96
93	Burlington Joseph Brant Memorial	70.61	760.00
94	Toronto St. Joseph's Health Care	71.17	766.12
95	Tillsonburg District Memorial Hospital	72.02	775.18
96	Hearst Notre Dame Hospital	73.46	790.70
97	Manitouwadge General Hospital	73.63	792.59
98	Alexandra Hospital	74.62	803.20
99	Ottawa Hopital Montfort	74.89	806.13
100	Toronto Humber River Regional Hospital	74.92	806.39
101	Napanee Lennox & Addington County General Hospital	74.95	806.72
102	Alliston Stevenson Memorial	76.82	826.92
103	Alexandria Glengarry Memorial Hospital	76.92	827.93
104	Kemptville District Hospital	77.37	832.75
105	Cobourg Northumberland Hills Hospital	77.57	834.95
106	Brockville General Hospital	77.85	837.95
107	Winchester District Memorial Hospital	79.30	853.60
108	Midland Georgian Bay General Hospital	79.54	856.15
109	Markham Stouffville Hospital	79.93	860.39
110	Hôpital de Smooth Rock Falls Hospital	80.10	862.21
111	Oakville Halton Healthcare Services	80.30	864.31
112	Hamilton Health Sciences Corporation	80.76	869.32
113	Barrie Royal Victoria Regional Health Centre	81.87	881.25
114	Cochrane Lady Minto Hospital	82.03	882.93
115	Brampton William Osler Health System	82.09	883.62
116	West Parry Sound Health Centre	82.71	890.25
117	Renfrew Victoria Hospital	85.58	921.23
118	Sioux Lookout Meno-Ya-Win Health Centre	86.09	926.72
119	The Public General Hospital Society of Chatham	86.25	928.43
120	London Health Sciences Centre	86.76	933.86
121	The Salvation Army Toronto Grace Health Centre	87.76	944.68
122	Geraldton District Hospital	87.79	944.91
123	Orangeville Headwaters Health Care Centre	88.27	950.16
124	Ottawa Queensway-Carleton Hospital	89.54	963.82
125	North Bay Regional Health Centre	91.46	984.48
126	Nipigon District Memorial Hospital	93.05	1001.53
127	Atikokan General Hospital	93.33	1004.65
128	Sault Ste. Marie Sault Area Hospital	94.97	1022.21
129	Windsor Hotel-Dieu Grace Hospital	97.96	1054.38
130	Toronto East General Hospital	98.92	1064.74

131	Huntsville Muskoka Algonquin Healthcare	99.35	1069.37
132	Peterborough Regional Health Centre	101.71	1094.78
133	Timmins and District Hospital	103.58	1114.88
134	Dryden Regional Health Centre	110.51	1189.50
135	Newmarket southlake Regional Health Centre	110.97	1194.49
136	Elliot Lake St. Joseph's General Hospital	117.73	1267.26
137	Thunder Bay Regional Health Sciences Centre	117.89	1269.01
138	Sturgeon Falls West Nipissing General	120.54	1297.52
139	Carleton Place and District Memorial Hospital	121.69	1309.87
140	St. Thomas - Elgin General Hospital	349.99	3767.23
141	Toronto University Health Network (Excluded)	4685.20	50430.99
Average		61.81	665.36

Source: Ministry of Energy

Energy Intensity – Summary of 397/11 reporting – Hospital Sector – 2012

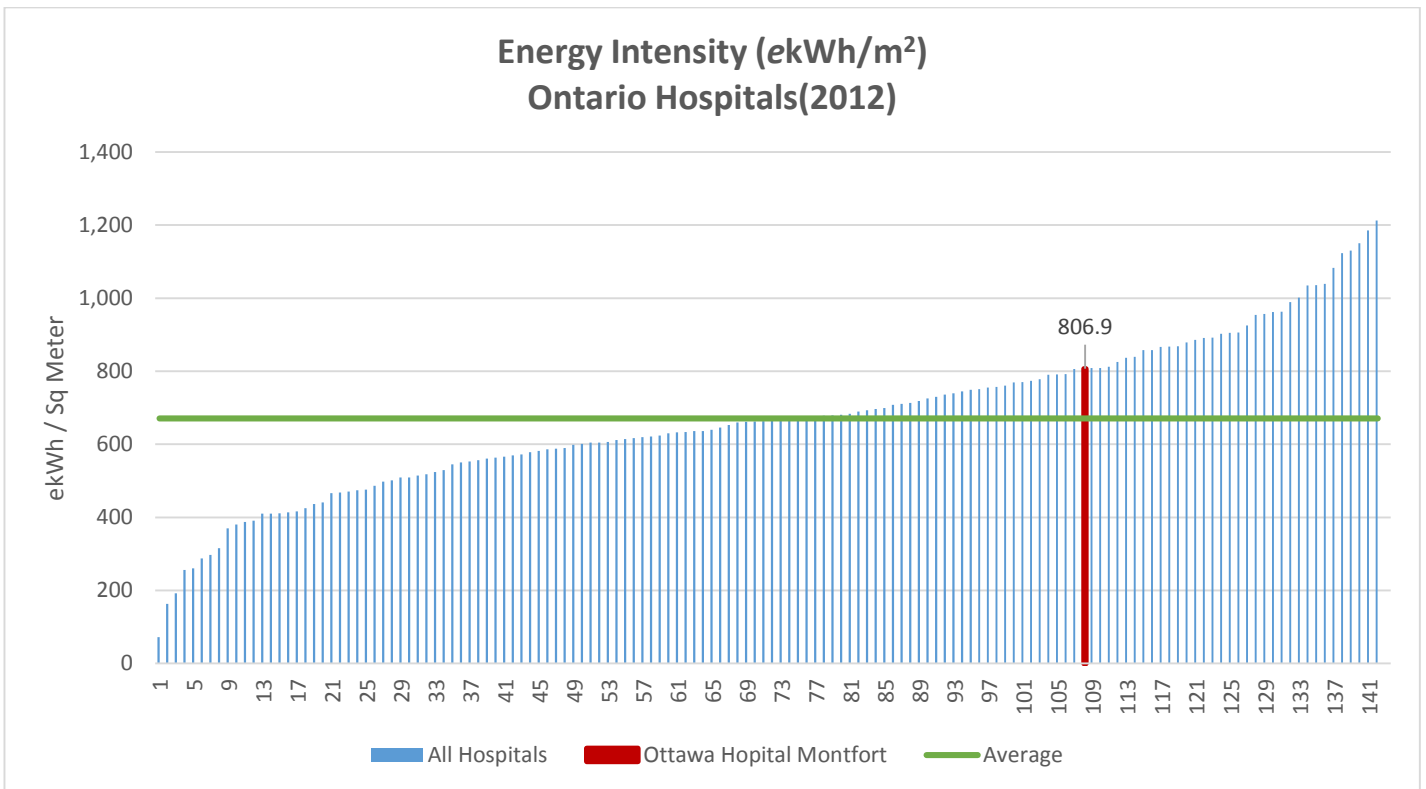
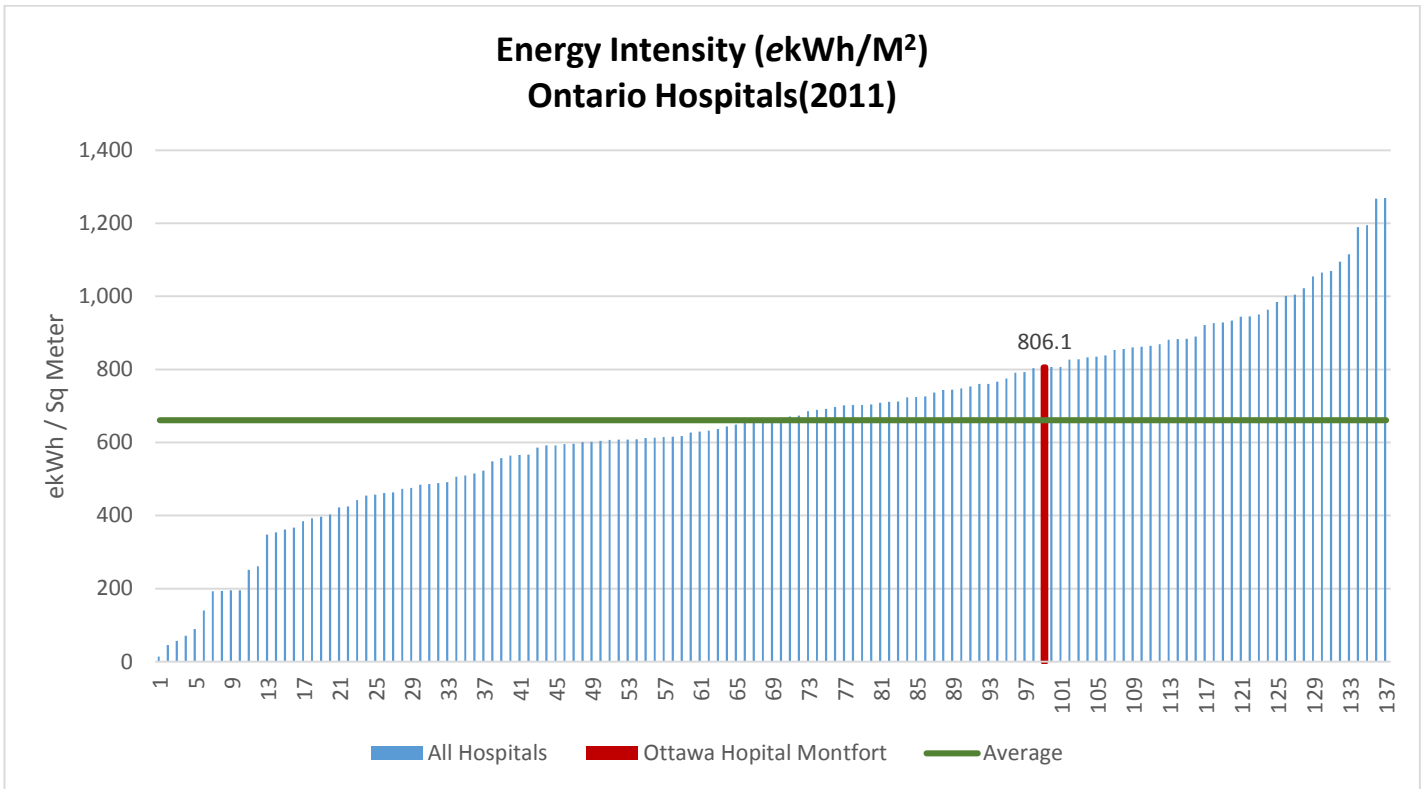
Ranking	Hospital	Average Energy Intensity (ekWh/ft ²)	Average Energy Intensity (ekWh/m ²)
1	Fort Frances Riverside Health Care	6.679	71.867
2	Atikokan General Hospital	15.15	163.06
3	Sudbury St. Joseph's Continuing Care Centre of Sudbury	17.88	192.40
4	Toronto Centre for Addiction and Mental Health	23.79	256.00
5	Cornwall St. Joseph's Continuing Care Centre	24.17	260.06
6	Penetanguishene Waypoint Centre for Mental Health Care	26.71	287.41
7	Barry's Bay St. Frances Memorial Hospital	27.62	297.15
8	Timmins and District Hospital	29.31	315.33
9	Little Current Manitoulin Health Centre	34.34	369.47
10	Toronto Casey House	35.36	380.43
11	Ottawa Royal Ottawa Health Care Group	35.98	387.19
12	Clinton Public Hospital	36.31	390.67
13	Toronto West Park Healthcare Centre	38.07	409.68
14	Exeter South Huron Hospital Association	38.11	410.02
15	Toronto Baycrest	38.20	411.04
16	Kingston Hotel Dieu Hospital	38.41	413.29
17	St. Marys Memorial Hospital	38.71	416.56
18	Toronto Providence Healthcare	39.53	425.32
19	Thunder Bay St. Joseph's Care Group	40.58	436.67
20	Strathroy Middlesex General Hospital	40.96	440.74
21	Lady Dunn Health Centre	43.30	465.92
22	Kingston Providence Care Centre	43.48	467.85
23	Whitby Ontario Shores Centre for Mental Health Sciences	43.69	470.11
24	Hornepayne Community Hospital	44.03	473.75
25	Guelph St. Joseph's Health Care	44.22	475.77
26	Wallaceburg Sydenham District Hospital	45.19	486.23
27	St. Joseph's Health Care London	46.28	497.95
28	Englehart and District Hospital	46.57	501.07
29	St. Catharines Hotel Dieu Shaver	47.29	508.81
30	St. Thomas - Elgin General Hospital	47.32	509.14
31	Newbury Four Counties Health Services	47.81	514.47
32	Toronto Hospital for Sick Children	48.14	517.99
33	Toronto Holland Bloorview Kids Rehabilitation Hospital	48.72	524.23
34	Dunnville Haldimand War Memorial Hospital	49.17	529.08
35	Blind River District Health Centre	50.62	544.71
36	Perth & Smiths Falls District Hospital	51.13	550.21
37	Matheson Bingham Memorial Hospital	51.36	552.68
38	St. Catharines Niagara Health System	51.67	555.98
39	Toronto St. Michael's Hospital	52.14	561.04
40	Seaforth Community Hospital	52.39	563.67
41	Kenora Lake of the Woods District Hospital	52.62	566.19
42	Mattawa General Hospital	52.92	569.42
43	Pembroke Regional Hospital Inc.	53.20	572.38
44	Deep River and District Hospital	53.76	578.51
45	Cornwall Community Hospital	54.10	582.12
46	Terrace Bay McCausland Hospital	54.45	585.83
47	Kingston General Hospital	54.65	588.00
48	Fergus Groves Memorial Community Hospital	54.81	589.79

49	Ottawa Bruyere Continuing Care Inc.	55.61	598.36
50	Almonte General Hospital	55.84	600.86
51	Campbellford Memorial Hospital	56.15	604.16
52	Owen Sound Grey Bruce Health Services	56.19	604.60
53	Lindsay Ross Memorial Hospital	56.37	606.49
54	Ottawa Children's Hospital of Eastern Ontario	56.82	611.34
55	Toronto East General Hospital	57.05	613.90
56	Toronto Runnymede Healthcare Centre	57.33	616.85
57	Cambridge Memorial Hospital	57.57	619.47
58	St. Joseph's Healthcare Hamilton	57.73	621.17
59	Leamington District Memorial Hospital	58.01	624.23
60	Windsor Regional Hospital	58.57	630.21
61	Hôpital Général de Hawkesbury & District General Hospital	58.78	632.50
62	Hearst Notre Dame Hospital	58.86	633.38
63	Toronto Mount Sinai Hospital	59.10	635.87
64	The Ottawa Hospital	59.10	635.96
65	Wingham and District Hospital	59.46	639.83
66	Kirkland and District Hospital	60.02	645.78
67	Toronto Rouge Valley Health System	60.66	652.69
68	Mount Forest North Wellington Health Care Corporation	61.31	659.65
69	Hagersville West Haldimand General Hospital	61.45	661.24
70	Toronto University Health Network	61.54	662.20
71	Toronto North York General	61.67	663.54
72	Napanee Lennox & Addington County General Hospital	61.90	666.00
73	Espanola General Hospital	61.94	666.47
74	Dryden Regional Health Centre	61.94	666.49
75	The Scarborough Hospital	62.15	668.73
76	Guelph General Hospital	62.29	670.23
77	Listowel Memorial Hospital	62.72	674.86
78	Simcoe Norfolk General Hospital	63.06	678.52
79	Goderich Alexandra Marine and General Hospital	63.12	679.15
80	Belleville Quinte Healthcare Corporation	63.28	680.94
81	Stratford General Hospital	63.53	683.56
82	Kitchener St. Mary's General Hospital	64.05	689.19
83	Mississauga The Credit Valley Hospital and Trillium Health Centre	64.39	692.88
84	Midland Georgian Bay General Hospital	64.71	696.31
85	Kitchener Grand River Hospital	65.01	699.55
86	Toronto Sunnybrook health Sciences Centre	65.79	707.88
87	Oshawa Lakeridge Health	66.03	710.45
88	Toronto Bridgepoint Hospital	66.31	713.52
89	Woodstock General Hospital	66.75	718.18
90	Barrie Royal Victoria Regional Health Centre	67.41	725.32
91	Burlington Joseph Brant Memorial	67.79	729.43
92	Tillsonburg District Memorial Hospital	68.37	735.65
93	Marathon Wilson Memorial General Hospital	68.76	739.82
94	Hanover and District Hospital	69.24	745.05
95	Alexandra Hospital	69.60	748.87
96	South Bruce Grey Health Centre	69.74	750.40
97	Toronto St. Joseph's Health Care	70.18	755.15
98	Iroquois Falls Anson General Hospital	70.36	757.09
99	Richmond Hill Mackenzie Health	70.70	760.75
100	Kapuskasing Sensenbrenner Hospital	71.48	769.14
101	Moose Factory Weeneebayko Area Health Authority	71.55	769.85
102	Carleton Place and District Memorial Hospital	71.91	773.72
103	Sudbury Health Science North	72.32	778.21
104	West Parry Sound Health Centre	73.43	790.08
105	Toronto Humber River Regional Hospital	73.52	791.08

106	Manitouwadge General Hospital	73.63	792.30
107	The Public General Hospital Society of Chatham	74.90	805.97
108	Ottawa Hopital Montfort	74.99	806.85
109	Cobourg Northumberland Hills Hospital	75.16	808.73
110	Sarnia Bluewater Health	75.19	809.05
111	Brockville General Hospital	75.45	811.88
112	Ottawa Queensway-Carleton Hospital	76.73	825.62
113	London Health Sciences Centre	77.73	836.36
114	Alliston Stevenson Memorial	77.97	838.98
115	Oakville Halton Healthcare Services	79.69	857.45
116	Alexandria Glengarry Memorial Hospital	79.69	857.46
117	Brampton William Osler Health System	80.55	866.75
118	Orangeville Headwaters Health Care Centre	80.60	867.23
119	Winchester District Memorial Hospital	80.72	868.58
120	Kemptville District Hospital	81.70	879.06
121	Markham Stouffville Hospital	82.30	885.52
122	Collingwood General and Marine Hospital	82.80	890.90
123	Toronto's Woman's College Hospital	82.89	891.85
124	Arnprior and District Memorial	83.86	902.38
125	Geraldton District Hospital	84.14	905.38
126	Renfrew Victoria Hospital	84.22	906.16
127	Red Lake Margaret Cochenour Memorial Hospital	85.96	924.91
128	Windsor Hotel-Dieu Grace Hospital	88.70	954.43
129	The Salvation Army Toronto Grace Health Centre	88.92	956.74
130	Sioux Lookout Meno-Ya-Win Health Centre	89.37	961.66
131	Sault Ste. Marie Sault Area Hospital	89.52	963.19
132	New Liskeard Temiskaming Hospital	91.96	989.48
133	North Bay Regional Health Centre	93.10	1001.74
134	Nipigon District Memorial Hospital	96.16	1034.70
135	Huntsville Muskoka Algonquin Healthcare	96.21	1035.17
136	Cochrane Lady Minto Hospital	96.58	1039.23
137	Sturgeon Falls West Nipissing General	100.66	1083.14
138	Peterborough Regional Health Centre	104.36	1122.88
139	Newmarket southlake Regional Health Centre	105.04	1130.21
140	Hamilton Health Sciences Corporation	106.90	1150.25
141	Thunder Bay Regional Health Sciences Centre	110.13	1185.02
142	Elliot Lake St. Joseph's General Hospital	112.69	1212.49
Average		62.34	670.80

Source: Ministry of Energy

Energy Intensity – Charting of 397/11 reporting – Hospital Sector – 2011 & 2012



Analysis of Energy Intensity based on Utility Data

The following tables and graphs – pages 23-25 – are based on utility billing data for the hospital gathered by VIP Energy and entered into the VIP 'portal'. The consumption data was aggregated and energy intensity was calculated based on current 'footprint' data.

Compared to Ministry of Energy reporting for 2012:

- Ministry of Energy calculates Montfort Hospital's energy intensity at 806.85 ekWh/m²
- VIP Energy's portal calculates Montfort Hospital's energy intensity at 807.4 ekWh/m²

The difference of 0.55 ekWh/m² is within the bounds seen in similar calculations for hospitals.

Comparing VIP portal calculations for the 2012 and 2013 years:

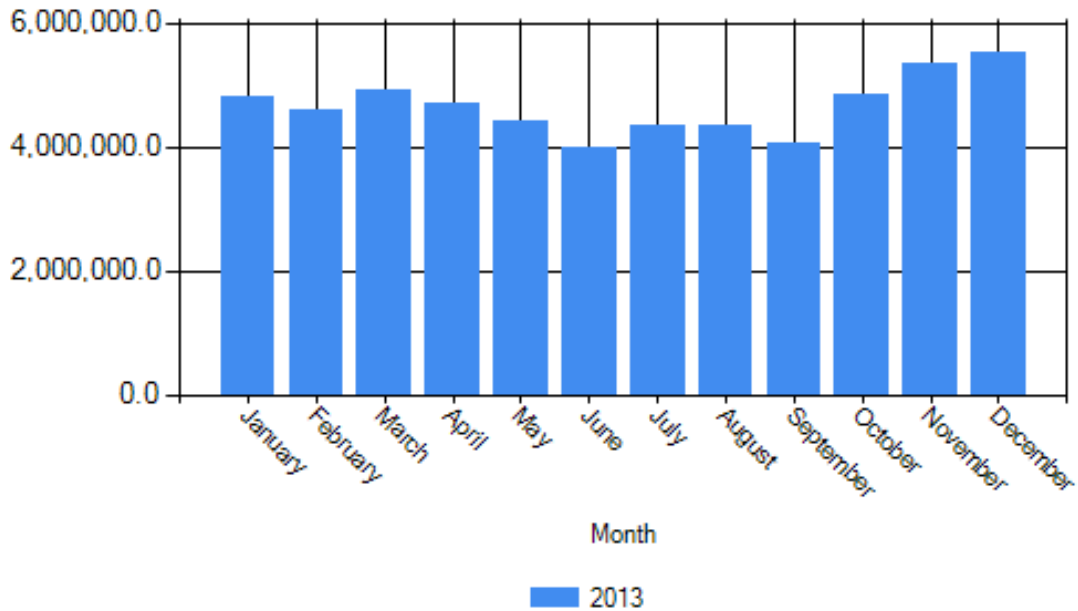
- 2012 was 807.4 ekWh/m²
- 2013 was 819.1 ekWh/m²

This increase of approximately 1%, 2013 over 2012, is consistent with the increases VIP has seen in other hospitals. It could be due, in part, to increased heating degree days. When the Ministry reports its 2013 energy-intensity numbers, VIP will update and expand this section of the report card.

Energy Use – All Facilities - 2013

Hôpital Montfort & Portobello Clinic

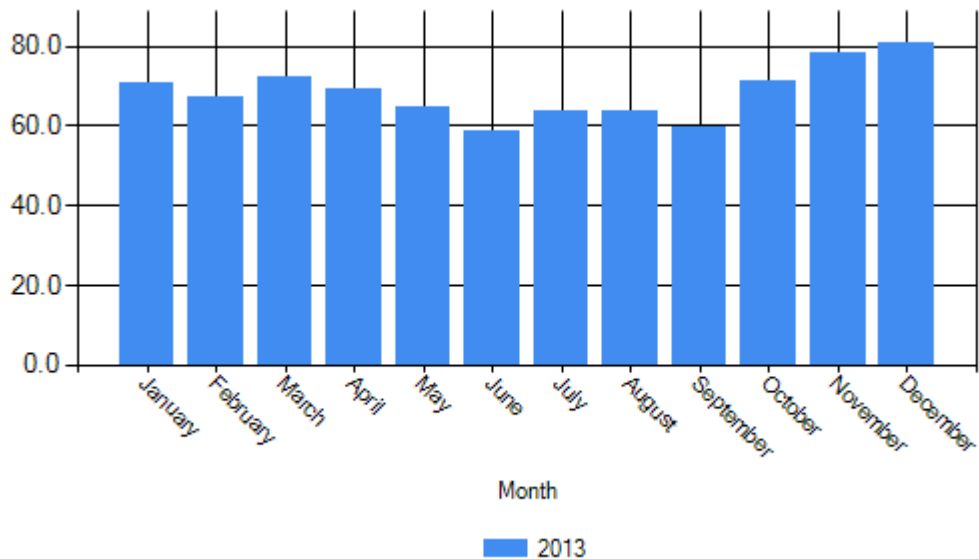
Energy Consumption Report - Total ekWh January 2013 - December 2013



Month	2013 ekWh
January	4,820,875.8
February	4,579,871.7
March	4,922,183.9
April	4,704,331.3
May	4,405,075.3
June	3,988,516.7
July	4,340,609.6
August	4,345,456.8
September	4,056,267.2
October	4,842,579.1
November	5,343,430.6
December	5,506,434.9
Annual Totals	55,855,632.9

Hôpital Montfort & Portobello Clinic

Energy Consumption Report - ekWh/m² January 2013 - December 2013



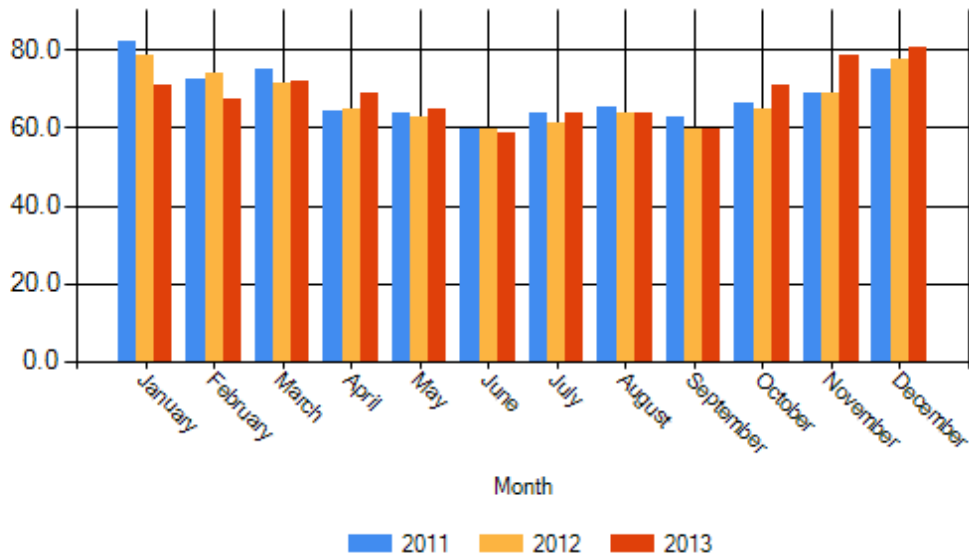
Month	2013 ekWh/m ²
January	70.7
February	67.2
March	72.2
April	69.0
May	64.6
June	58.5
July	63.7
August	63.7
September	59.5
October	71.0
November	78.4
December	80.8
Annual Totals	819.1

Energy Intensity – All Facilities – 2011, 2012, & 2013 – monthly details

Hôpital Montfort & Portobello Clinic

Energy Consumption Report - ekWh/m²

January 2011 - December 2013



Month	2011 ekWh/m ²	Variance		2012 ekWh/m ²	Variance		2013 ekWh/m ²
		#	%		#	%	
January	82.2	-3.5	-4 %	78.7	-8.0	-10 %	70.7
February	72.7*	1.2	2 %	73.9	-6.7	-9 %	67.2
March	75.0	-3.5	-5 %	71.5	0.7	1 %	72.2
April	64.2	0.7	1 %	65.0	4.0	6 %	69.0
May	64.0	-1.5	-2 %	62.5	2.1	3 %	64.6
June	59.7	0.1	0 %	59.8	-1.3	-2 %	58.5
July	63.9	-2.9	-5 %	61.0	2.6	4 %	63.7
August	65.1	-1.4	-2 %	63.7	0.0	0 %	63.7
September	63.0	-3.2	-5 %	59.9	-0.4	-1 %	59.5
October	66.4	-1.4	-2 %	65.0	6.1	9 %	71.0
November	68.8	0.1	0 %	68.9	9.4	14 %	78.4
December	75.3	2.5	3 %	77.7	3.0	4 %	80.8
Annual Totals	820.3	-12.8	-2 %	807.4	11.7	1 %	819.1

*Includes Estimated Data

Energy Intensity – Analysis – Location-by-Location

The following tables and graphs – pages 27-28 – were built using utility billing data for each facility. VIP Energy gathered the utility data from a number of sources and entered it into the VIP ‘portal’. Energy intensity was calculated by totalling energy-use data for all fuel sources and dividing the resulting ‘ekWh’ by current ‘footprint’ data.

High Energy Intensity – i.e., least efficient facility [test #1]

The following graphs provide ‘clear pictures’, showing how energy intensity at each location ranks relative to the energy intensity at all other locations. Further analysis will be required to determine the best places to make energy-improvement investments and to estimate the extent of savings that can be achieved at each facility.

Considering the 2-year average ‘picture’ and the facility-by-facility details at page 27 the facility that ranked the least efficient is Montfort Hospital, which occupies approximately 99% of the footprint.

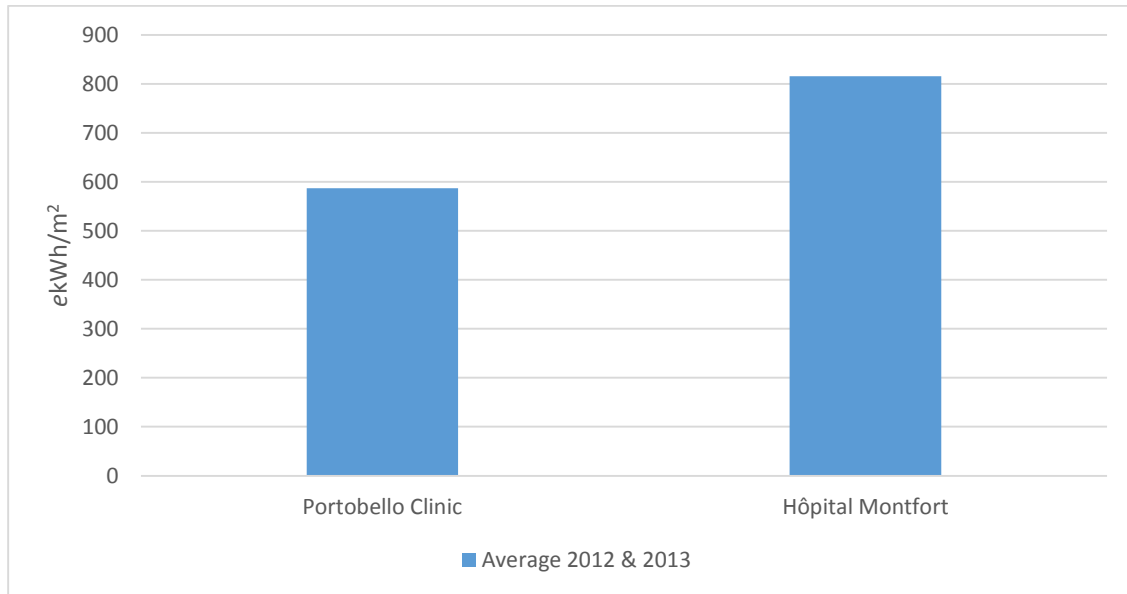
Unusual Increases in Energy Intensity [test #2]

Page 28 shows energy intensity for each of the two years, with the years presented ‘side by side’. This red flags facilities where large increases in energy intensity happened year over year [2012 over 2013]. The facility with the largest increase is Portobello Clinic, which occupies approximately 1% of the footprint.

Energy Intensity – Location-by-Location – 2-Year Average

Hôpital Montfort & Portobello Clinic

Energy Consumption Report - ekWh/m²
2-Year Average: January 2012 – December 2013

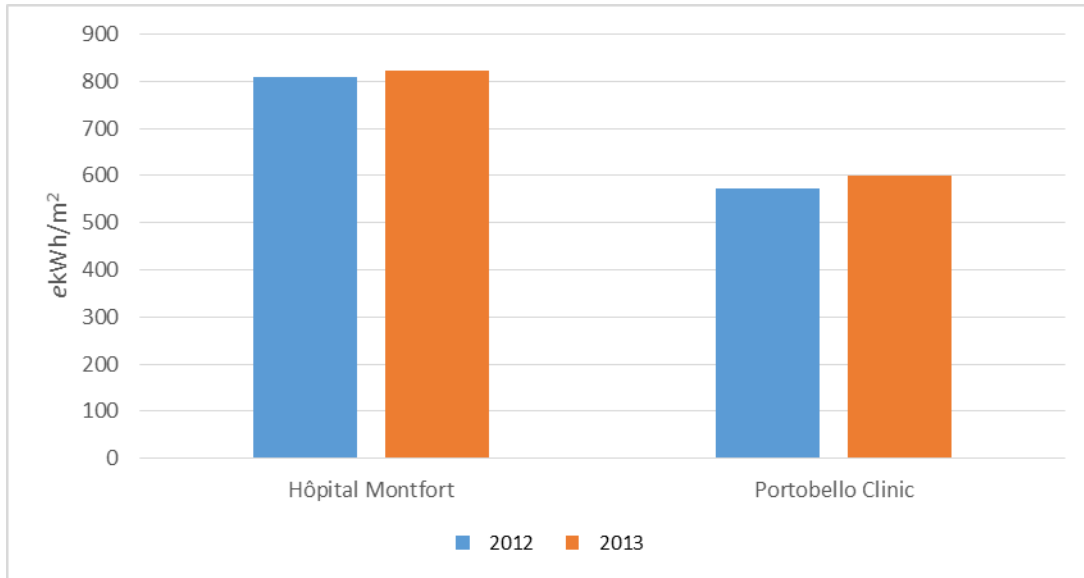


Location	2012 ekWh/m ²	2013 ekWh/m ²	Average 2012 & 2013
Portobello Clinic	573.3	600.8	587.05
Hôpital Montfort	810.3	821.8	816.05

Energy Intensity – Location-by-Location – 2012 versus 2013

Hôpital Montfort & Portobello Clinic

Energy Consumption Report - ekWh/m²
January 2012 – December 2012 versus January 2013 – December 2013



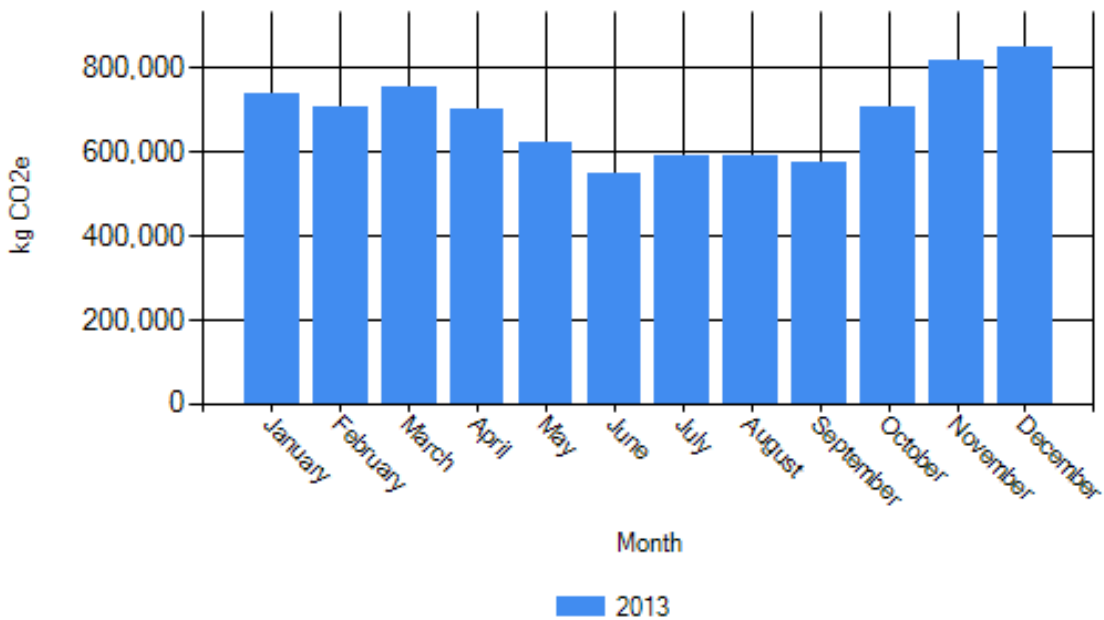
Location	2012	2013	Variance
	ekWh/m ²	ekWh/m ²	ekWh/m ²
Hôpital Montfort	810.3	821.8	11.5
Portobello Clinic	573.3	600.8	27.5

Greenhouse Gas Emissions – All Facilities – 2013 – monthly details

Hôpital Montfort & Portobello Clinic

Greenhouse Gas Report - Total CO₂e

January 2013 - December 2013



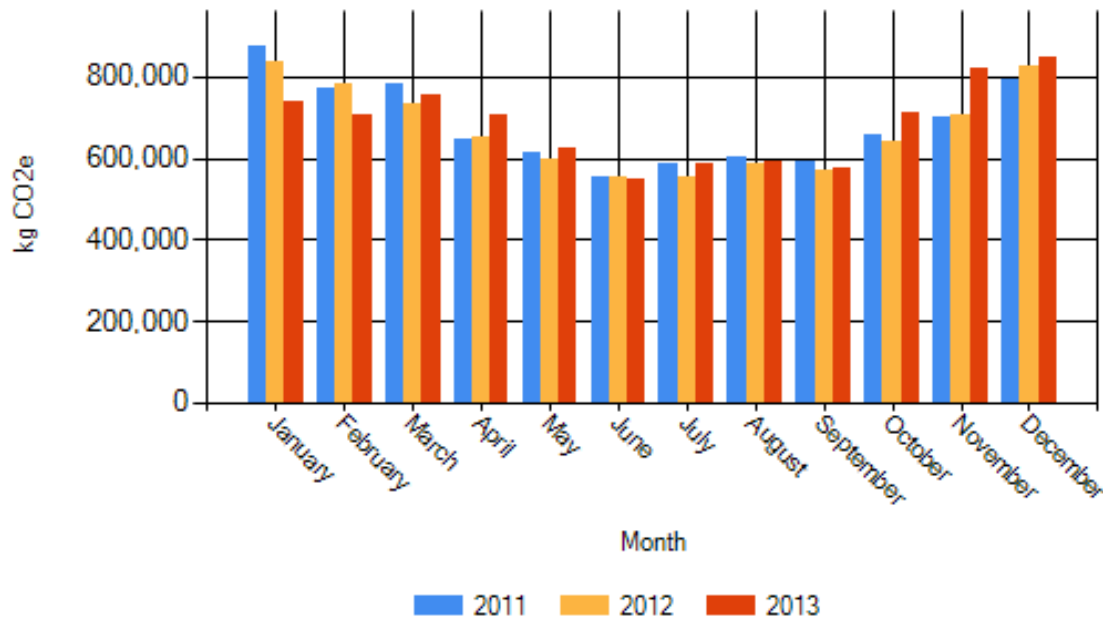
Month	2013 CO ₂ e
January	737,647.0
February	706,171.2
March	755,308.6
April	703,916.1
May	624,191.9
June	550,028.1
July	588,752.6
August	592,334.4
September	574,681.0
October	709,702.0
November	819,905.8
December	849,547.9
Annual Total	8,212,186.7

Greenhouse Gas Emissions – All Facilities – 2011, 2012, & 2013 – monthly details

Hôpital Montfort & Portobello Clinic

Greenhouse Gas Report - Total CO₂e

January 2011 - December 2013



Month	2011 CO ₂ e	Variance		2012 CO ₂ e	Variance		2013 CO ₂ e
		#	%		#	%	
January	874,493.3	-36,612.7	-4 %	837,880.5	-100,233.6	-12 %	737,647.0
February	770,737.2*	13,073.6	2 %	783,810.7	-77,639.5	-10 %	706,171.2
March	783,147.4	-49,619.0	-6 %	733,528.4	21,780.2	3 %	755,308.6
April	644,311.4	6,854.2	1 %	651,165.7	52,750.5	8 %	703,916.1
May	613,312.5	-16,032.0	-3 %	597,280.6	26,911.3	5 %	624,191.9
June	555,837.5	-2,987.2	-1 %	552,850.3	-2,822.2	-1 %	550,028.1
July	585,834.6	-30,198.0	-5 %	555,636.6	33,116.1	6 %	588,752.6
August	602,831.3	-16,884.9	-3 %	585,946.4	6,388.0	1 %	592,334.4
September	593,214.3	-24,161.1	-4 %	569,053.2	5,627.8	1 %	574,681.0
October	655,690.1	-14,200.0	-2 %	641,490.1	68,211.9	11 %	709,702.0
November	699,294.1	6,786.4	1 %	706,080.5	113,825.3	16 %	819,905.8
December	791,615.3	32,230.2	4 %	823,845.5	25,702.4	3 %	849,547.9
Annual Total	8,170,319.0	-131,750.6	-2 %	8,038,568.4	173,618.3	2 %	8,212,186.7
*Includes Estimated Data							

Energy Conservation Measures – Analysis & Discussion

To be completed after obtaining input from Hôpital Montfort.

Future Energy Reduction Projects Summary	
Year	Actions Planned
2014	<ul style="list-style-type: none"> • Sign an energy performance contract with an Energy Service Company (ESCO) • Conduct an ASHRAE Level II Energy Audit • Continue light management program • Review light retrofit proposal for parking garage • Installation of light occupancy sensors • Implementation of an LED light replacement program • Conduct an in-house Dollars and Sense seminar for Staff • Participate with Hydro Ottawa in an energy saving booth • Conduct an annual steam trap audit • Energy awareness training and seminars
2015	<ul style="list-style-type: none"> • Review Energy Audit recommendations and implement selected measures • Start design and procurement phase of systems to be replaced as per the Energy Audit recommendations • Conduct an annual steam trap audit
2016	<ul style="list-style-type: none"> • Replace two boilers in E Wing with higher efficiency equipment • Replace chiller and cooling tower with higher efficiency equipment • Replace one emergency generator • Conduct an annual steam trap audit
2017	<ul style="list-style-type: none"> • Replace air handling systems #1 and #2 • Replace air handling systems #3 and #4 • Implement other energy savings measures identified in the energy audit and per the energy performance contract • Conduct an annual steam trap audit
2018	<ul style="list-style-type: none"> • Replace air handling systems #5 and #6 • Conduct an annual steam trap audit

Sheet A – Design, Construction and Retrofit Strategies

Design, Construction and Retrofit Strategies											Energy Payback Period	% related to Electricity	% related to Natural Gas		
Lighting	Quantity of Time that Measure will be in place (years)	2014-15		2015-16		2016-17		2017-18		2018-19				2014/15 - 2018/19	
		Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)			
High Efficiency Lighting Systems (T-8, T-5, CFL, LED ...)	15	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ 1,184,825	1,170,198	1,170,198	7.5	100	0
Daylight Sensors	10	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	5	100	0
Outdoor Lighting	15	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ 470,166	464,361	464,361	7.5	100	0
Occupancy Sensors	10	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	5	100	0
Daylight Harvesting	10	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	5	100	0
Other (Describe)		\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	0.001	0	100

HVAC	Quantity of Time that Measure will be in place	2014-15		2015-16		2016-17		2017-18		2018-19		2014/15 - 2018/19			
		Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)	Energy Payback Period	% related to Electricity	% related to Natural Gas
Efficient Boilers (near condensing)	30	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	15	5	95
High Efficiency Boilers (condensing)	15	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	10	5	95
High-efficiency boiler burners	10	\$ -	-	\$ -	-	\$ -	-	\$ 1,105,695	5,743,311	\$ -	-	11,486,621	5	5	95
Geothermal	15	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	40	100	0
Heat recovery/enthalpy wheels	30	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	8	20	80
Economizers	15	\$ -	-	\$ -	-	\$ -	-	\$ 518,533	820,991	\$ -	-	1,641,983	7.5	50	50
Energy efficient HVAC systems	30	\$ -	-	\$ -	-	\$ 427,027	67,611	\$ 6,413,793	1,015,493	\$ -	-	2,233,820	75	50	50
Energy efficient Rooftop units	15	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	30	50	50
High Efficiency Domestic Hot Water	15	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	10	15	85
Efficient Chillers and Controls	25	\$ -	-	\$ -	-	\$ -	-	\$ 2,679,594	198,488	\$ -	-	396,977	100	100	0
High-efficiency motors	20	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	15	100	0
VFD	15	\$ -	-	\$ -	-	\$ -	-	\$ 117,432	214,280	\$ -	-	428,560	5	75	25
Demand Ventilation	10	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	5	50	50
Entrance Heater Controls	20	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	5	50	50
Other (Describe)		\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	0		100

Controls	Quantity of Time that Measure will be in place	2014-15		2015-16		2016-17		2017-18		2018-19		2014/15 - 2018/19			
		Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)	Energy Payback Period	% related to Electricity	% related to Natural Gas
Building Automation Systems - New	10	\$ -	-	\$ -	-	\$ -	2,460	\$ -	-	\$ -	-	2,137,379	15	50	50
Building Automation Systems - Upgrade	10	\$ -	-	\$ -	-	\$ 64,511,912	511,912	\$ -	-	\$ -	-	1,535,736	15	50	50
Other (Describe)		\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	0		100

Building Envelope	Quantity of Time that Measure will be in place	2014-15		2015-16		2016-17		2017-18		2018-19		2014/15 - 2018/19			
		Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)	Energy Payback Period	% related to Electricity	% related to Natural Gas
Glazing	30	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	80	20	80
Increased Wall Insulation	50	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	40	20	80
New Roof	25	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	200	20	80
New Windows	30	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	80	20	80
Treatments	10	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	10	20	80
Shading Devices	30	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	20	100	0
Other (Weather-stripping)	10	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ 320,270	1,916,350	1,916,350	5		100

 = Default value
 = Calculated Value
\$ 0.135 = cost of 1 ekWh electricity
\$ 0.0334 = cost of 1 ekWh natural gas
0.0955 m² = 1 ekWh (as per NRCan conversion table)
\$0.35 = cost of 1 m² of natural gas

Sheet B – Occupant Behavior Strategies

Operations and Maintenance Strategies													Energy Payback Period	% related to Electricity	% related to Natural Gas	
Policy and Planning	Quantity of Time that Measure will be in place (years)	2014-15		2015-16		2016-17		2017-18		2018-19		2014/15 - 2018/19				
		Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)		
New Hospital design/construction guidelines and specifications	5	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	5	50	50
Day and Night Temperature Guidelines for all Buildings	10	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	5	20	80
Night time blackout of sites	10	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	7	100	0
Interior	10	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	7	100	0
Exterior	10	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	7	100	0
Procures only Energy Star certified appliances	5	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	5	100	0
Daylight Harvesting (servicing)	3	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	5	100	0
Demand Ventilation (servicing)	3	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	5	50	50
Other (Describe)		\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	0		100
Energy Audits																
Walk Through Audit	5	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	1000	50	50
Engineering Audit	5	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	1000	50	50
Other (System Recommissioning)	5	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	5	50	100
Real Time Monitoring																
Real-time energy data for operators to identify and Other (Describe)	5	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	3	80	20
		\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	0.001		100
Operations and Maintenance Strategies Total		\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-			
										\$ 125,820		752,850	752,850			

\$ 0.135 = cost of 1 ekWh electricity
 \$ 0.0334 = cost of 1 ekWh natural gas
 0.0955 m³ = 1 ekWh
 \$0.35 = cost of 1 m³ of natural gas

Sheet C – Occupant Behaviour Strategies

Occupant Behaviour Strategies													Energy Payback Period	% related to Electricity	% related to Natural Gas	
Training and Education	Quantity of Time that Measure will be in place (years)	2014-15		2015-16		2016-17		2017-18		2018-19		2014/15 - 2018/19				
		Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)		
Building Operator Training	3	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	3	60	40
NRCan Benchmarking Program	5	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	1000	50	50
Building Automation Training (site specific)	3	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	1	60	40
Ongoing training and awareness programs for energy conservation	5	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	10	90	10
Provide detailed information on Building Operational costs	1	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	1000	50	50
Provide detailed information on energy	1	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	1000	50	50
Participate in Environmental Programs	1	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	5	90	10
Other tools (Define)		\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-	0		100
Occupant Behaviour Strategies Total		\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	-	-			

\$ 0.135 = cost of 1 ekWh electricity
 \$ 0.0334 = cost of 1 ekWh natural gas
 0.0955 m³ = 1 ekWh
 \$0.35 = cost of 1 m³ of natural gas

Sheet D – Conservation Goal

Conservation Goal

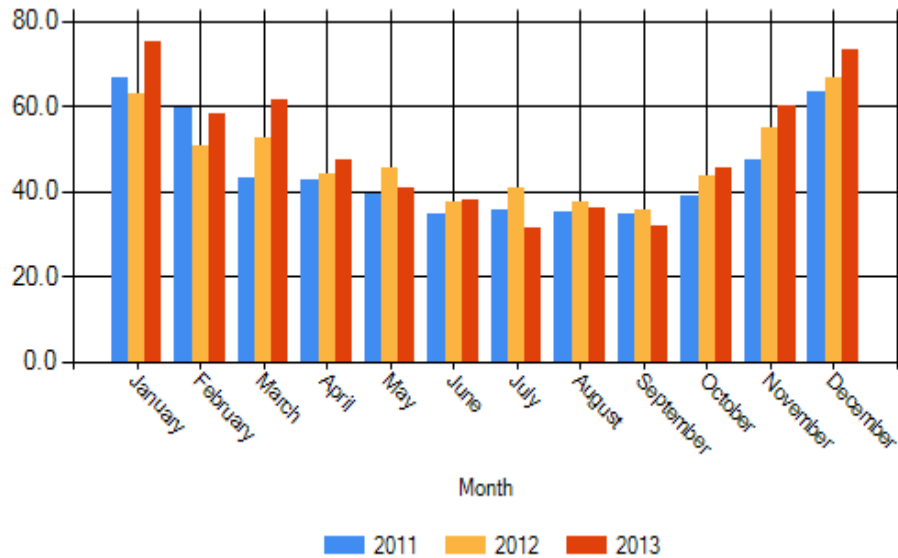
	FY2014	1 ft² = 0.0929 m²
Total Building Area (m²)	68,191	From 397 Template UCD Inaccurate
Total Building Area (ft²)	734,001	From 397 Template UCD Inaccurate
Energy Consumption for the Hospital (ekWh)	55,163,513	From 397 Template UCD Inaccurate

	2014-15		2015-16		2016-17		2017-18		2018-19		2014/15 - 2018/19
	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)
Appendix B; Design, Construction and Retrofit Strategies Total	\$ -	0	\$ -	0	\$ 1,973,638	1,291,983	\$ 10,835,047	7,992,564	\$ 1,975,261	3,550,909	23,411,985
Appendix C; Operations and Maintenance Strategies Total	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ 125,820	752,850	752,850
Appendix D; Occupant Behaviour Strategies Total	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	0
TOTAL	\$ -	0	\$ -	0	\$ 1,973,638	1,291,983	\$ 10,835,047	7,992,564	\$ 2,101,081	4,303,759	24,164,834
Percentage reduction		0		0		2		14		8	8.761165723
Conservation Goal (ekWh/m²)		0.00		0.00		18.95		117.21		63.11	354.37
Conservation Goal (ekWh/ft²)		0		0		1.76		10.89		5.86	32.92

Portobello Clinic - 1967 Portobello Boulevard

Energy Consumption Report - ekWh/m²

January 2011 - December 2013

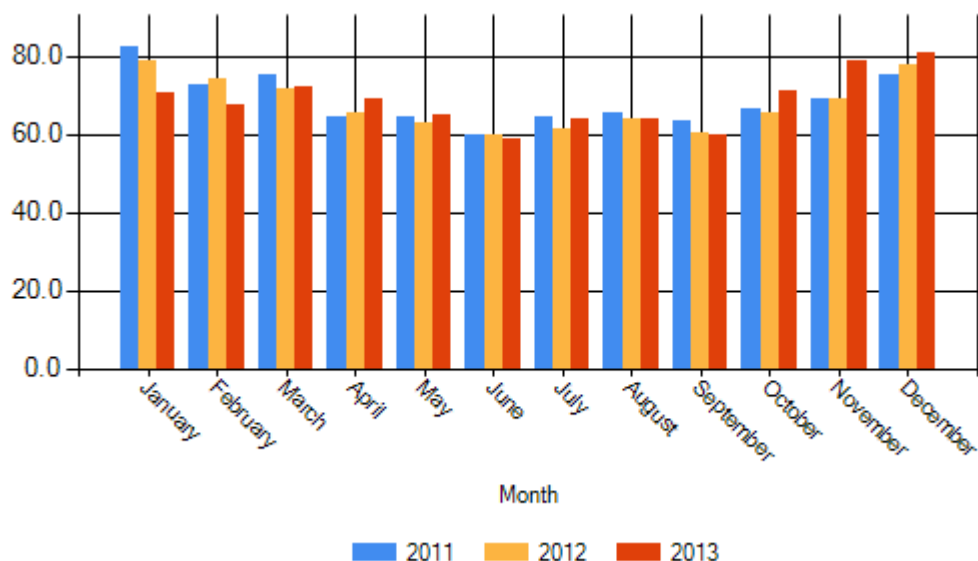


Month	2011 ekWh/m ²	Variance		2012 ekWh/m ²	Variance		2013 ekWh/m ²
		#	%		#	%	
January	66.7	-3.5	-5 %	63.2	12.2	19 %	75.4
February	59.8	-9.0	-15 %	50.9	7.3	14 %	58.1
March	43.1	9.4	22 %	52.5	9.2	17 %	61.7
April	42.9	1.3	3 %	44.3	3.1	7 %	47.4
May	39.4	6.2	16 %	45.6	-4.6	-10 %	40.9
June	34.8	2.8	8 %	37.6	0.6	2 %	38.2
July	35.6	5.4	15 %	41.0	-9.6	-23 %	31.5
August	35.2	2.5	7 %	37.7	-1.3	-3 %	36.4
September	34.5	1.2	3 %	35.7	-3.6	-10 %	32.1
October	38.9	4.7	12 %	43.6	2.0	5 %	45.6
November	47.5	7.3	15 %	54.8	5.3	10 %	60.1
December	63.5	3.1	5 %	66.6	6.8	10 %	73.4
Annual Totals	541.9	31.4	6 %	573.3	27.4	5 %	600.8

Hôpital Montfort - 713 Montreal Road

Energy Consumption Report - ekWh/m²

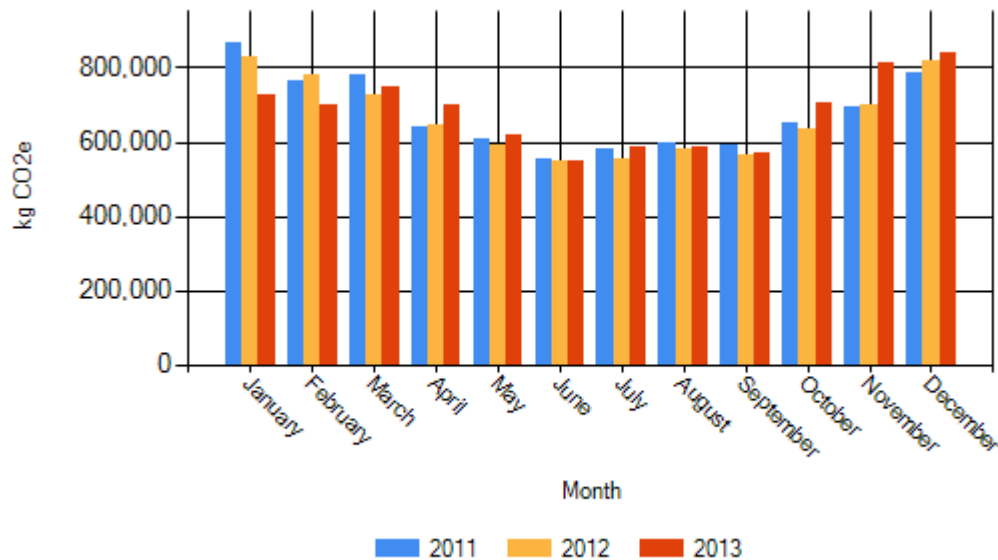
January 2011 - December 2013



Month	2011 ekWh/m ²	Variance		2012 ekWh/m ²	Variance		2013 ekWh/m ²
		#	%		#	%	
January	82.3	-3.5	-4 %	78.9	-8.2	-10 %	70.6
February	72.9*	1.3	2 %	74.1	-6.9	-9 %	67.3
March	75.4	-3.6	-5 %	71.7	0.6	1 %	72.3
April	64.5	0.7	1 %	65.2	4.0	6 %	69.3
May	64.3	-1.6	-3 %	62.7	2.2	3 %	64.9
June	60.0	0.0	0 %	60.0	-1.3	-2 %	58.7
July	64.2	-3.0	-5 %	61.3	2.8	5 %	64.1
August	65.5	-1.5	-2 %	64.0	0.0	0 %	64.1
September	63.4	-3.2	-5 %	60.2	-0.3	-1 %	59.8
October	66.7	-1.5	-2 %	65.2	6.1	9 %	71.3
November	69.1	0.0	0 %	69.1	9.5	14 %	78.6
December	75.4	2.4	3 %	77.9	3.0	4 %	80.8
Annual Totals	823.7	-13.4	-2 %	810.3	11.5	1 %	821.8
*Includes Estimated Data							

Hôpital Montfort - 713 Montreal Road

Greenhouse Gas Report - Total CO₂e
January 2011 - December 2013

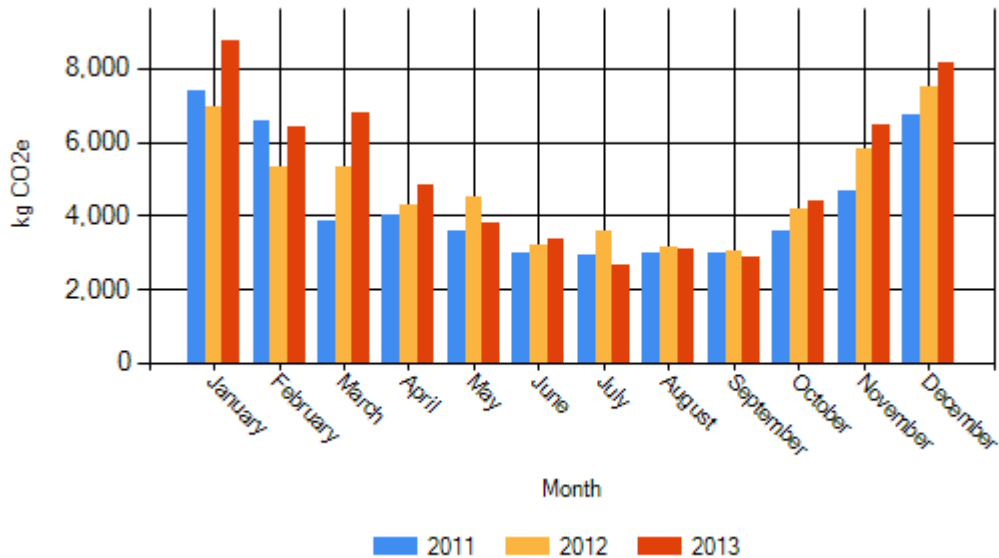


Month	2011 CO ₂ e	Variance		2012 CO ₂ e	Variance		2013 CO ₂ e
		#	%		#	%	
January	867,077.4	-36,132.6	-4 %	830,944.8	-102,047.7	-12 %	728,897.1
February	764,157.4	14,328.6	2 %	778,486.0	-78,719.8	-10 %	699,766.3
March	779,290.6	-51,061.3	-7 %	728,229.3	20,275.8	3 %	748,505.1
April	640,305.6	6,592.9	1 %	646,898.5	52,181.2	8 %	699,079.7
May	609,719.0	-16,922.1	-3 %	592,796.9	27,609.7	5 %	620,406.6
June	552,875.9	-3,253.9	-1 %	549,622.0	-2,932.9	-1 %	546,689.2
July	582,880.0	-30,819.9	-5 %	552,060.0	34,055.4	6 %	586,115.5
August	599,871.5	-17,080.4	-3 %	582,791.1	6,437.4	1 %	589,228.5
September	590,246.9	-24,242.0	-4 %	566,005.0	5,799.5	1 %	571,804.5
October	652,122.9	-14,793.7	-2 %	637,329.1	67,994.3	11 %	705,323.5
November	694,636.4	5,630.4	1 %	700,266.8	113,176.0	16 %	813,442.7
December	784,894.2	31,443.1	4 %	816,337.3	25,045.7	3 %	841,383.0
Annual Total	8,118,077.7	-136,310.9	-2 %	7,981,766.8	168,874.8	2 %	8,150,641.5

Portobello Clinic - 1967 Portobello Boulevard

Greenhouse Gas Report - Total CO₂e

January 2011 - December 2013



Month	2011 CO ₂ e	Variance		2012 CO ₂ e	Variance		2013 CO ₂ e
		#	%		#	%	
January	7,415.9	-480.2	-6 %	6,935.7	1,814.1	26 %	8,749.8
February	6,579.8	-1,255.1	-19 %	5,324.7	1,080.2	20 %	6,405.0
March	3,856.8	1,442.4	37 %	5,299.2	1,504.3	28 %	6,803.5
April	4,005.9	261.3	7 %	4,267.2	569.3	13 %	4,836.5
May	3,593.5	890.1	25 %	4,483.6	-698.3	-16 %	3,785.3
June	2,961.5	266.7	9 %	3,228.2	110.7	3 %	3,338.9
July	2,954.6	621.9	21 %	3,576.5	-939.4	-26 %	2,637.2
August	2,959.8	195.5	7 %	3,155.3	-49.4	-2 %	3,105.9
September	2,967.4	80.9	3 %	3,048.3	-171.7	-6 %	2,876.5
October	3,567.2	593.7	17 %	4,161.0	217.6	5 %	4,378.6
November	4,657.7	1,156.0	25 %	5,813.7	649.4	11 %	6,463.1
December	6,721.1	787.1	12 %	7,508.2	656.6	9 %	8,164.9
Annual Total	52,241.3	4,560.3	9 %	56,801.6	4,743.5	8 %	61,545.1

Acronyms & Abbreviations

CDD	Cooling Degree Day
CDM	Conservation and Demand Management
DSM	Demand-Side Management
EA	Environmental Assessment
ECO	Environmental Commissioner of Ontario
EV	Electric Vehicle
FIT	Feed-in Tariff
GHG	Greenhouse Gas
GWh	Gigawatt-hour (one billion or 10 ⁹ watt-hours)
HDD	Heating Degree Day
HOEP	Hourly Ontario Energy Price
ICI	Industrial Conservation Initiative
IESO	Independent Electricity System Operator
IPSP	Integrated Power System Plan
IRRP	Integrated Regional Resource Plan
Km	Kilometre
kW	Kilowatt
kWh	Kilowatt-hour
LDC	Local Distribution Company
LED	Light-Emitting Diode
LTEP	Long-Term Energy Plan
m³	Cubic Metre
MOECC	Ministry of the Environment and Climate Change
MTO	Ministry of Transportation
MW	Megawatt (one million or 10 ⁶ watts)
MWh	Megawatt-hour (one million or 10 ⁶ watt-hours)
OEB	Ontario Energy Board
OPA	Ontario Power Authority
PJ	Petajoule (one quadrillion or 10 ¹⁵ joules)
RIP	Regional Infrastructure Plan
RPP	Regulated Price Plan
TOU	Time-of-Use
TWh	Terawatt-hour (one trillion or 10 ¹² watt-hours)
TWh/yr	Terawatt-hour Per Year

Glossary

Baseload Power: Generation sources designed to operate more or less continuously through the day and night and across the seasons of the year. Nuclear and many hydro generating stations are examples of baseload generation.

Bioenergy: Energy produced from living or recently living plants or animal sources. Sources for bioenergy generation can include agricultural residues, food-process by-products, animal manure, waste wood and kitchen waste.

Demand Response (DR): Programs designed to reduce the amount of electricity drawn from the grid during peak demand periods. Customers could be responding to changes in the price of electricity during the day, incentive payments and/or other mechanisms.

Dispatchable Generation: Generation sources such as natural gas that can be increased or decreased at the request of power grid operators; that is, output can be increased or decreased as demand or availability of other supply sources changes.

Distribution: A distribution system carries electricity from the transmission system and delivers it to consumers. Typically, the network would include medium-voltage power lines, substations and pole-mounted transformers, low-voltage distribution wiring and electricity meters.

Feed-in Tariff (FIT): A guaranteed rate that provides stable prices through long-term contracts for energy generated using renewable resources.

Global Adjustment (GA): The GA is the difference between the total payments made to certain contracted or regulated generators and demand management projects, and market revenues. The GA serves a number of functions in Ontario's electricity system; it provides more stable electricity prices for Ontario's consumers and generators; it maintains a reliable energy supply; and, it recovers costs associated with conservation initiatives that benefit all Ontarians. The GA is calculated each month by taking into account the following components: Generation contracts administered by the Ontario Electricity Financial Corporation; OPG's nuclear and baseload hydroelectric generation; and OPA contracts with generators and suppliers of conservation services. Consumers on the regulated price-plan (RPP) pay a fixed price set every six months by the Ontario Energy Board which includes the GA, while customers who have a retail contract pay the contract price for their electricity plus the Global Adjustment.

Greenhouse Gas (GHG): Gas that contributes to the capture of heat in the Earth's atmosphere. Carbon dioxide is the most prominent GHG. It is released into the Earth's atmosphere as a result of the burning of fossil fuels such as coal, oil or natural gas. GHGs are widely acknowledged as contributing to climate change.

Grid Parity: The point at which new generation technologies become cost competitive with conventional technologies.

Integration: The way an electricity system combines and delivers various generation sources, conservation and demand management to ensure consumers have dependable and reliable electricity.

Intermittent Power Generation: Generation sources that produce power at varying times, such as wind and solar generators whose output depends on wind speed and solar intensity.

Kilowatt (kW): A standard unit of power that is equal to 1,000 watts (W). Ten 100-watt light bulbs operated together require one kW of power.

Kilowatt-hour (kWh): A measure of energy production or consumption over time. Ten 100-watt light bulbs, operated together for one hour, consume one kWh of energy.

Load or Demand Management: Measures undertaken to control the level of energy use at a given time, by increasing or decreasing consumption or shifting consumption to some other time period.

Local Distribution Company (LDC): A utility that owns and/or operates a distribution system for the local delivery of energy (gas or electricity) to consumers.

Megawatt (MW): A unit of power equal to 1,000 kilowatts (kW) or 1 million watts (W).

Megawatt-hour (MWh): A measure of energy production or consumption over time: a one MW generator, operating for 24 hours, generates 24 MWh of energy.

MicroFIT: A program that allows Ontario residents to develop a very small or micro renewable electricity generation project (10 kilowatts or less in size) on their properties. Under the microFIT Program, they are paid a guaranteed price for all the electricity they produce for at least 20 years.

Net Metering: A program made available to customers with renewable energy installations which allow them to generate electricity for their own use before it is made available to the electricity grid. When renewable energy is made available to the electricity grid from the renewable installation, the customer receives a credit on their electricity bill.

North of Dryden: The North of Dryden area refers to the part of the Ontario transmission system bounded by Dryden to the southwest, Red Lake to the northwest, and Pickle Lake to the northeast, as well as a group of remote First Nation communities, an operating mine and the mine development area known as the Ring of Fire north of the existing transmission system.

Ontario Clean Energy Benefit (OCEB): A five-year program that provides a benefit equal to 10% of the total cost of electricity on eligible consumers' bills, including tax, limited to the first 3,000 kWh of electricity consumed each month. The program is scheduled to end December 31, 2015.

Peaking Capacity: Generating sources typically used only to meet the peak demand (highest demand) for electricity during the day; typically provided by hydro or natural gas generators.

Peak Demand: Peak demand, peak load or on peak are terms describing a period in which demand for electricity is highest.

Photovoltaic: A technology for converting solar energy into electrical energy (typically by way of photovoltaic cells or panels comprising a number of cells).

Program Administrator Cost (PAC) Test: The PAC Test measures conservation program benefits and costs, from the perspective of a program administrator. For the PAC test, avoided energy costs only include avoided costs associated with the electricity system.

Pumped Storage: The most-deployed and mature energy storage technology in the world that uses off-peak electricity to pump water from lower to upper reservoir, and releases this water to generate electricity on demand.

Smart Grid: A Smart Grid delivers electricity from suppliers to consumers using modern information and communications technologies to improve the reliability and efficiency of the electricity system. It empowers consumers with the ability to manage their energy consumption — saving energy, reducing costs and providing choices.

Supply Mix: The different types of resources that are used to meet electricity demand requirements in a particular jurisdiction. Normally the mix is expressed in terms of the proportion of each type within the overall amount of energy produced.

Terawatt-hour (TWh): A unit of power equal to 1 billion kilowatt-hours. Ontario's electricity consumption in 2012 was around 141.3 TWh.

Total Resource Cost (TRC) Test: The TRC Test measures benefits and costs from a societal perspective. For the TRC Test only, avoided supply costs include avoided energy costs associated with electricity, natural gas, water, fuel oil and propane savings, where applicable. Incentive costs are a transfer from a program-sponsoring organization to participating customers, and consequently do not impact the net benefit from a societal perspective.


Transmission: The movement of electricity, usually over long distance, from generation sites to consumers and local distribution systems. Transmission of electricity is done at high voltages. Transmission also applies to the long distance transportation of natural gas and oil.

How much is a kilowatt hour of electricity?

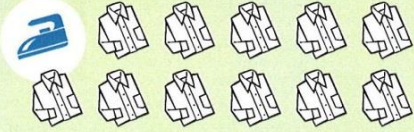
How Much is a Kilowatt Hour?

Electricity helps us perform everyday tasks such as cooling our homes and cooking meals. Here's a quick guide to what one kilowatt-hour of electricity will do for you:


Brew 90 cups of coffee




Iron 11 shirts




Surf the web for five hours



Blow dry your hair three times




Bake one birthday cake




The typical Ontario household uses between 800 and 1000 kWh a month, often more in the summer when air conditioners are running. You can see changes in the province's demand for electricity throughout the day at the IESO web site at www.ieso.ca

THE SMALL PRINT: Electricity consumption varies by appliance model and use. You can use a plug-in energy meter to find out exactly how much energy your appliances use.




Power to Ontario. On Demand.
The IESO balances the supply of and demand for electricity in Ontario and then directs its flow across the province's transmission lines.

DID YOU KNOW...




1 hour

Forty 25-watt CFL light bulbs on for 1 hour equals 1 kWh (kilowatt-hour)



Learn more: Ontario.ca/emPOWERme



APPENDIX E – ENERGY CONSERVATION INCENTIVES

Energy Conservation Incentives for Municipalities, University & Colleges, School Boards, and Hospitals [the “MUSH” sector]

Eligible Measures	M	U	S	H
Energy Audits	IESO Union Gas	IESO Union Gas	IESO Union Gas	IESO Union Gas
Functional Performance Testing	IESO Union Gas	IESO Union Gas	IESO Union Gas	IESO Union Gas
Existing Building Commissioning	IESO Union Gas	IESO Union Gas	IESO Union Gas	IESO Union Gas
Measurement and Verification Program	IESO	IESO	IESO	IESO
Detailed Engineering Studies	IESO	IESO	IESO	IESO
Custom Projects	IESO Union Gas	IESO Union Gas	IESO Union Gas	IESO Union Gas
Equipment Retrofits*	Lighting	IESO	IESO	IESO
	HVAC	IESO Union Gas Enbridge Gas	IESO Union Gas Enbridge Gas	IESO Union Gas Enbridge Gas
	Boilers	IESO Union Gas Enbridge Gas	IESO Union Gas Enbridge Gas	IESO Union Gas Enbridge Gas
	Domestic Hot Water	IESO Union Gas Enbridge Gas	IESO Union Gas Enbridge Gas	IESO Union Gas Enbridge Gas
Utility Bill Analysis [†]	IESO	IESO	IESO	IESO
In-House Metering Program [†]	IESO	IESO	IESO	IESO
Demand Response	IESO	IESO	IESO	IESO

*Retrofit equipment must meet minimum efficiency levels and/or be listed under specific energy efficiency standards

[†] These measures can be used to increase incentives from other measures, or as part of larger projects associated with

Regulatory Charges - Electricity

1. The **Wholesale Market Service Charge** covers services provided by the Independent Electricity System Operator (IESO) to operate the wholesale electricity market and maintain the reliability of the high voltage power grid. It also covers certain costs incurred by local utilities to connect renewable generation (such as wind and solar power). Although the Wholesale Market Service Charge is set by the OEB to allow these costs to be passed on to consumers, we do not set all of the costs that are recovered through that charge. Below are the charges we approve.

Included within this charge:

- **Physical Limitations and Losses:** When electricity is delivered over a transmission line, it is normal for a small amount of power to be consumed, or lost, as heat. Also covered are other costs incurred by the IESO to operate the high voltage power grid.
 - **Energy Reliability:** Sometimes the balance between generation and demand is affected by an unexpected event, such as equipment failure or a surge in consumption. The IESO buys reserve electricity that is available on short notice to restore the balance.
 - **IESO Administration Fee:** The IESO charges an administrative fee to manage the high voltage power system and operate the wholesale electricity market in Ontario. Every year the OEB sets the fee that the IESO can charge.
 - **OPA Administration Fee:** This fee pays the administration costs of the Ontario Power Authority (OPA)*, whose mandate includes planning for electricity generation, demand management, conservation and transmission in the province. Every year, the OEB sets this fee. It does not include the costs payable under contract for electricity generation supply or for OPA conservation and demand management programs. (*Note: *The Ontario Power Authority merged with the Independent Electricity System Operator on January 1, 2015.*)
 - **Rural and Remote Electricity Rate Protection:** It helps offset the higher cost of providing service to consumers in those areas. The OEB calculates this charge every year according to rules set by the government.
 - **Renewable Connections:** Utilities can recover some costs for connecting renewable generation facilities, subject to OEB approval
2. The **Standard Supply Service Charge** covers part of a utility's administrative costs to provide electricity to customers that buy their power from the utility (i.e. customers that are not served by a retailer). This charge, set by the OEB, is the same for all utilities across the province.
 3. **Debt Retirement Charge (DRC)** This 0.7¢/kWh charge is set by the Ontario Ministry of Finance to pay down the remaining debt of the former Ontario Hydro. The government announced its plans to remove the DRC cost from residential electricity bills after December 31, 2015.
 4. **Ontario Clean Energy Benefit (OCEB)** The Ontario Clean Energy Benefit takes 10% off your electricity cost - up to 3,000 kWh/month of electricity use. Some exceptions apply. For more information, visit Ontario.ca/OCEB or call 1-888-668-4636. To learn more about how Ontario is building a strong, clean electricity system, visit Ontario.ca/energyplan. The OCEB will be ending on December 31, 2015.