



2019 Energy Conservation and Demand Plan

Introduction

Ontario Shores Centre for Mental Health Sciences (Ontario Shores) is committed to reducing energy and water consumption and our carbon footprint where possible.

Per Ontario Regulation 507/18, Ontario's broader public sector organizations are required to develop and publish an Energy Conservation and Demand Management (ECDM) Plan every five years. We are posting our 2019-2024 ECDM plan with technical advice and analysis provided by Enerlife Consulting Inc.

This plan has been approved in principle by our Senior Management team and funding availability will be assessed each year.

The 2014 – 2019 Plan

The below chart provides a snapshot of the targets set in our previous 2014 - 2019 ECDM plan and the actual outcome. Electricity and water consumption was much better than planned, however gas consumption did not achieve target. Overall we achieved significant savings for the organization.

	2014 Plan Target savings			Actual savings (2018 vs 2013 baseline)		
	Units	%	\$	Units	%	\$
Electricity (kWh)	585,314	5.60%	\$64,385	1,985,887	18.8%	\$218,448
Natural Gas (m3)	205,900	19.00%	\$41,180	-58,524	-5.4%	(\$11,705)
Water (m3)	0	0	0	15,672	21.0%	\$62,531
Total			\$105,565			\$269,274

Energy reporting by year, per Ontario Regulation 507/18 is [available here](#).

The 2019-2024 Plan

Goals

- Reduce energy consumption and conserve water
- Reduce greenhouse gas emissions and related taxes where possible
- Fully engage front line Plant Services staff in energy and water conservation (provide training and regular feedback on our progress)
- Maximize funding opportunities for energy saving initiatives
- Maximize incentives
- Develop facility design standards which meet requirements while lowering energy consumption

2019-2024 ECDM Energy and Water Efficiency Targets

Utility	2019-2024 ECDM Target Energy Efficiency				Combined Heat and Power Plant			Total Target Energy Efficiency		
	Percent	Units	\$/year	GHG (1) tonnes/yr	Units	\$/year	GHG tonnes/yr	Units	\$/year	GHG tonnes/yr
Electricity kWh	11.69%	998,916	\$79,913	21	6,494,000	\$519,520	136	7,492,916	\$599,433	157
Natural Gas m3	32.40%	358,926	\$71,785	689	(920,116)	(\$184,024)	(1,767)	(561,190)	(\$112,239)	(1,078)
Total Energy	23.50%		\$151,698	710		\$335,496	(1,631)		\$487,194	(921)
Water m3	16.40%	10,723	\$42,785						\$42,785	
TOTALS			\$194,483	710		\$335,496	(1,631)		\$529,979	(921)

Specific Measures

Year 2019/20

Lighting

- LED retrofit in patient rooms

Ventilation

- Test and re-balance to match current use and occupancy
- Further scheduling of air supplies to unoccupied areas
- Inlet vane replacement with variable frequency drives on administrative side

Building Automation System

- Further refine sequences to optimize energy utilization

Year 2020/21

Heating Plant

- Reconfigure heating plant to eliminate steam boilers
- Utilize hot water boilers + Combined Heat and Power for domestic hot water and space heating
- Heat recovery chiller to reclaim internally generated heat in winter (discontinue free cooling)

Cooling Plant

- Test and optimize

Year 2021/22

Building Automation and Lighting Controls

- Implement demand-based integrated controls for air handling systems and heating/cooling plants
- Further refine building automation system to match reconfigured heat and cooling plants

Year 2022/23

Building Envelope

- Thermographic analysis
- Air sealing, re-insulation

Monitoring

We will monitor our usage on an ongoing basis, review and report on this plan annually, and adjust our measures as needed.