



West Parry Sound Health Centre
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BROADER PUBLIC SECTOR: ENERGY REPORTING AND CONSERVATION & DEMAND MANAGEMENT PLAN

West Parry Sound Health Centre

2019-2024

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INTRODUCTION

The purpose of West Parry Sound Health Centre's (WPSHC) energy management plan is to promote good stewardship of our environment and community resources. In keeping with our core values of compassion, accountability, rights and responsibilities, excellence and safety, West Parry Sound Health Centre's energy management program will reduce operating costs.

GOALS AND OBJECTIVES

West Parry Sound Health Centre's energy management will be guided by these principles:

Taking A Strategic Approach: While WPSHC actively manages energy costs by implementing opportunities as they are identified, by acting strategically, West Parry Sound Health Centre can significantly improve its energy-related performance. Internalizing energy management into our organization's every-day decision-making, policies, and operating procedures will help assure substantial and long-lasting reductions in energy use throughout West Parry Sound Health Centre.

Supporting Mission-Critical Goals: Strategic energy management will directly support West Parry Sound Health Centre's mission-critical goals of caring for the environment and the community; optimizing the healing and working environment; improving the hospital's financial bottom line by reducing unnecessary energy costs; optimizing the capacity of existing energy systems to meet current and expanding operational needs. The impacts of West Parry Sound Health Centre's energy management efforts on those goals will be tracked and reported wherever possible.

Pursuing Long-Term Change to Core Business Practices: The core of a strategic approach is the consistent incorporation of energy management into our organization's core practices and decision making such as the strategic planning and budgeting processes. Change in energy-related business practice will cover all applications of energy management – new construction and major renovations, existing facility operations and upgrades, and the economic analysis and procurement practices underlying these practices.

Using Available Resources and Assistance: Use national, regional, and local sources of strategic, technical, and financial assistance to help achieve our energy management goals.

ANNUAL ENERGY CONSUMPTION

As reported to the Ministry of Energy, our consumption for recent years is noted below.

YEAR	NATURAL GAS (cubic meters)	Electricity (KWH)	GHG Emissions (Kg)	ENERGY INTENSITY
2013	1,376,048	8,434,121	3,242,687.907	81.19173 ekWh/sqft
2014	1,095,350	8,200,361	2,694,224.000	69.86443 ekWh/sqft
2015	1,357,017	8,392,378	2,905,907.12280	80.33258 ekWh/sqft
2016	1,139,891	7,264,439	2,416,649.04768	68.28157 ekWh/sqft
2017	1,291,693	8,345,388	2,586,468.00000	77.72258 ekWh/sqft

COMPLETED PROJECTS (2005-2014)

Since occupation of the current location of the West Parry Sound Health Centre in 2005, numerous projects have been undertaken that have realized energy and cost savings. These include

- Plant Boilers – 2009 - new program to control hot water boilers for staging operation for seasonal savings; annual savings of \$15,000
- Plant Boilers - 2012 – automation programming extended leading to increased boiler efficiency; annual savings of \$120,000
- Plant Chillers – 2010 – bypass installed; annual savings of \$25,000
- Hot Water - 2010 – automation introduced; 2013 – lead lag program introduced
- CO and CO2 Detectors – 2011 – installed on air handlers; annual savings of \$25,000 (less heat required)
- Filters – 2011 – energy efficiency filters (Varicel M-Pak) installed on air handling units
- Temperature Control – 2013 – reduced heat and air conditioning settings by approximately 1%
- L.E.D. Lighting – 2014 – installation of L.E.D. (replacing fluorescent 400 Watt to 85 Watt L.E.D., 100 Watt to 19 Watt L.E.D. or 126 Watt to 14.5 Watt L.E.D.)
 - Main Lobby (WPSHC); annual savings of \$685
 - Main Lobby (Lakeland Long Term Care); annual savings of \$685
 - Canopy (WPSHC); annual savings of \$592
 - Canopy (Lakeland Long Term Care); annual savings of \$592
 - 110 resident rooms (Lakeland Long Term Care); annual savings of \$4,500

COMPLETED PROJECTS (2014-2019)

- Chiller #1 – Variable Frequency Drives (VFD) installed – 2015 – 223,482 kWh savings
- Chiller #2 – replaced, includes magnetic bearing and VFD – 2018 – 195,673 kWh savings
- L.E.D. Lighting – 2014-2019
 - Parking lots
 - 4th floor (flood lights)
 - Corridors
 - Exterior wall and walkway lights

▪ Patient areas/patient rooms – ongoing at May 2019
(*energy savings with L.E.D. lighting installation – 186939 kWh (based on local utility incentive program data excluding patient areas/rooms)*)

- Minimize utility costs and exposure to market risks by participating in the energy/utility price management contracts
- Establish and consistently use purchasing specifications that minimize life-cycle costs for energy efficient equipment and services; this is part of routine purchase practice
- Boilers monitored daily to ensure minimal water consumption; service contract on boilers continually addresses programming changes to maximize efficiencies
- Electronic timers installed on exterior lights
- Roofing rehabilitation project: roof reinsulated; top coat is white and reflective
- Reviewed water consumption and tower water charges to sewer (charged from sewer when 1.4 million gallons are evaporated and not sent down sewer drains); local municipal approval received; estimated savings: \$15,000

PROJECTS / MEASURES (2014-2019) – Status Update

Implement Cost-Effective Facility Upgrades

- Implement equipment and system upgrades where justified; *ongoing*
- Price bi-fuel system for internal generator (40%) to lower diesel consumption and increase supply time when using natural gas mixed with diesel; projected time frame: 2017-18; estimated cost: \$72,500; estimated savings: 10-15% fuel savings; *status: will not be completed; cost prohibitive*
- Review re-commissioning air handling units and balancing air flows; projected time frame: 2016-17; estimated cost: \$48,800; estimated annual savings: \$15,000; *status: underway and ongoing; revised time frame: 2022-23*
- Upgrade building automation to schedule temperature night set-backs; projected time frame: 2017-18; estimated cost: \$25,000; potential savings to be measured and monitored; *status: pending budget approval*

PROPOSED PROJECTS / MEASURES (2019-2024)

- L.E.D. Lighting - Patient Areas / Patient Rooms (*based on local utility incentive program data: energy savings with L.E.D. lighting installation – 679, 485 kWh*); time frame: 2019-2022
- CT Scanner Replacement: (i) original CT scanner required water for cooling; new unit will not; (ii) original unit required a dedicated rooftop chiller; new unit will use a smaller in-room chilling unit (wall-mounted) (*based on local utility incentive program data: energy savings with wall-mount chilling unit 31,396 kWh*); time frame: 2019
- Commercial Dishwasher Replacement – working with local utility re: potential incentive program; time frame: 2019
- Energy supplement source project – review underway (2019); time frame: 2023
- Power Efficiency Audit – to be conducted by third party; time frame: 2019-20
- Building Automation System – upgrade pending budgetary approval; time frame: 2020-21
- Air balancing to test air flow distribution throughout building; project costs to be determined; time frame: 2020-21
- Humidity Review – Operating Room; time frame: 2021-22

- Electrical monitoring system – current system unreliable, upgrade pending budgetary approval; time frame: 2022
- Infrared/Motion Sensors – to be trialed in corridors (to dim lighting); time frame: 2022
- L.E.D. Signage (exterior) – replace as required; 40% - 50% savings; time frame: 2022-23
- Air Handlers – install Variable Frequency Drives; time frame: 2024-25
- Mixing Valves – replacement required; time frame: ongoing

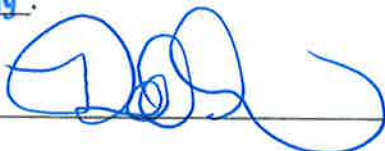
PLAN AVAILABILITY

The WPSHC Energy and Conservation Demand Management Plan is available at www.wpshc.com. Follow the link under “About Us / Policy & Agreements”. Paper copies are available upon request from Administration or Environmental and Support Services.

PLAN APPROVAL

The C.E.O. of the West Parry Sound Health Centre reviewed and approved this plan on

JUN 24 2019



Donald Sanderson, CEO, West Parry Sound Health Centre