

Annual Sustainability and Performance Report 2022-23



Objective

This inaugural Annual Sustainability Report is designed to provide a concise summary of St. Joseph's Healthcare Hamilton (SJHH)'s sustainability and environmental performance over the previous fiscal year. It highlights the actions and outcomes that have been realized as a result of initiatives developed in the 2022-2024 sustainability action plan.

Background and Mandate

St. Joseph's Healthcare Hamilton (SJHH) is committed to the development and implementation of a sustainability plan as a part of its continued commitment to the people of its community and beyond.

This commitment is in keeping with SJHH's values of:
Dignity, Respect, Service, Justice, **Responsibility** and Enquiry.

St. Joseph's Healthcare Hamilton approaches its sustainability efforts through the following four pillars with the overall collective objective of meeting the federal and provincial mandates to reduce 40% of our carbon footprint by 2030 and to achieve 0% carbon emissions by 2050, using 2016 as our baseline.

Pillar One: Energy/ Utility Management

Pillar Two: Waste Reduction

Pillar Three: Pollution Management

Pillar Four: Education and Awareness

This commitment is in keeping with both Federal and Provincial mandates, the former through the Net-Zero Emissions Accountability Act, and the latter through Emission Performance Standards. Both have aligned their targets, to reduce greenhouse gases (GHG's) by 40-45% by 2030 and achieve net-zero emissions in Canada by 2050, in order to meet the global plans to reduced GHG emissions by 45% to keep warming to no more than 1.5 degrees Celsius by 2030.

Overview of Current Environment

SJHH's 3 main campuses (Charlton, King, West 5th) have infrastructure ranging in age from 1940's – 2013. These facilities occupy over 2.3 million square feet of space for a total conditioned space equivalent to 23 city blocks. SJHH expends a lot of energy to condition this space throughout the year.

The following describes the various building infrastructure required to keep our facilities safe and comfortable at these sites:

Heating

- 10 Steam & 9 Hot Water Boilers generate Steam and Hot Water
 - Sterilization
 - Heating/Humidification
 - 101 Air Handlers

Cooling

- 12 Chillers & 13 Cooling Towers provide:
 - MRI Cooling
 - Air Conditioning
 - 101 Air Handlers

Powers

- Electrical Grid
- Back-up Generators
 - King and Charlton, emergency back up only
 - West 5th equipped with full back up generator power

Past Performance

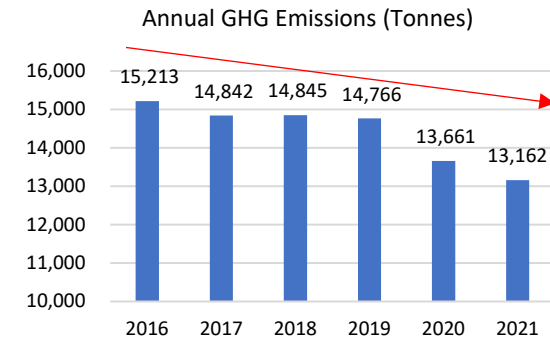
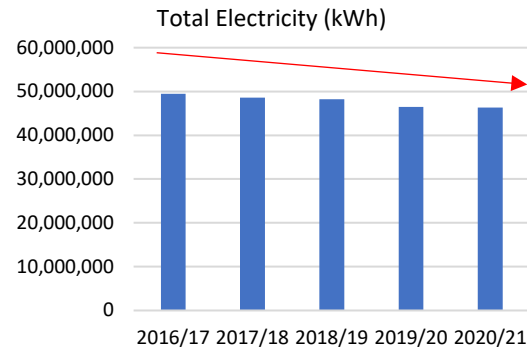
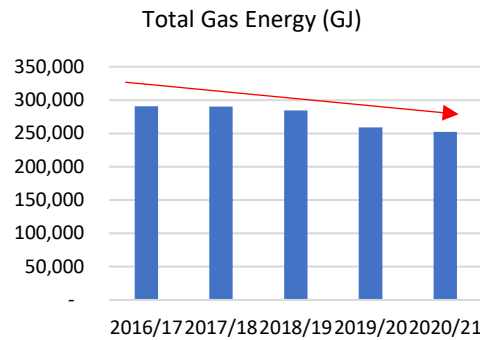
In 2007/08 a full ESCO – Energy Service Company program was implemented by Honeywell in conjunction with our own building services department. The main purpose of this initiative was to address deferred upgrades to the facility infrastructure, specifically the Charlton and King Campuses, and to lower ongoing utility costs. At the time we replaced chillers, cooling towers, lighting, installed variable air frequency drives, and occupancy sensors, etc., resulting in savings to both electricity and natural gas.

Since then, we dramatically increased the square footage of our overall facility footprint with the addition of our Surgical Centre (106,000 sf) at the Charlton Campus as well as opened a new West 5th Campus (856,000 sf).

In 2016, SJHH hired an energy manager, whose salary was offset through an Independent Electricity System Operator (IESO) incentive. Though this incentive was only in place for 2 years however we've continued to fund an Energy and Building Automation System (BAS) Lead and through the efforts of this team, have completed the following initiatives since 2016:

- Optimization of Building Automation System for Energy Efficiency (Air Handlers, Chillers, etc.)
- LED Light Installations >18,000 installed
- Occupancy sensor installations
- Parking Ramp Lighting
- Parking Ramp CO Exhaust System
- Cafeteria Window Replacement
- Exterior Sign Lighting
- Air Curtains at door entrances
- Boiler Economizers and additional boiler room insulation
- Steam Trap Audits, replacements, wireless steam trap monitoring
- Compressed Air Leak Audit & Repairs

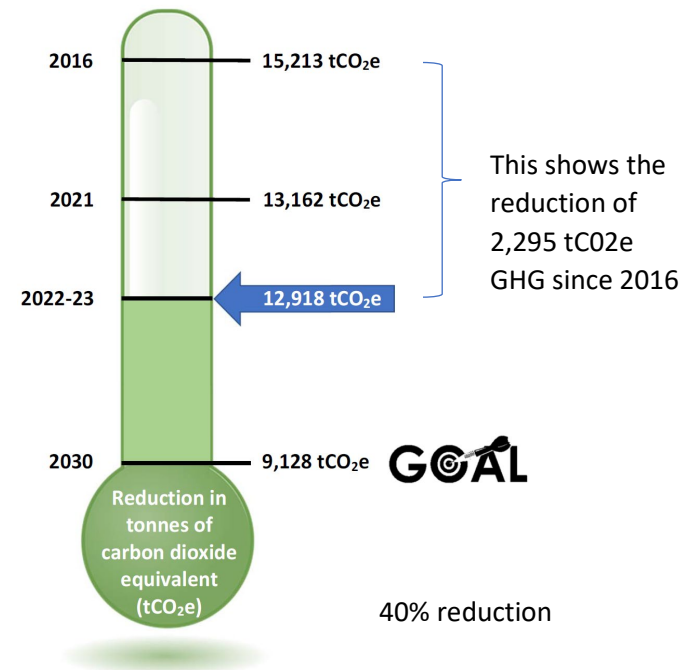
These initiatives have resulted in the following energy reduction levels and associated reduction of GHGs:



- 13% reduction (38,429 GJ) in natural gas consumption
- 6% reduction (3,142,268 kWh) in electricity consumption
- 13% reduction (2,051 tonnes) in Green House Gas (GHG)

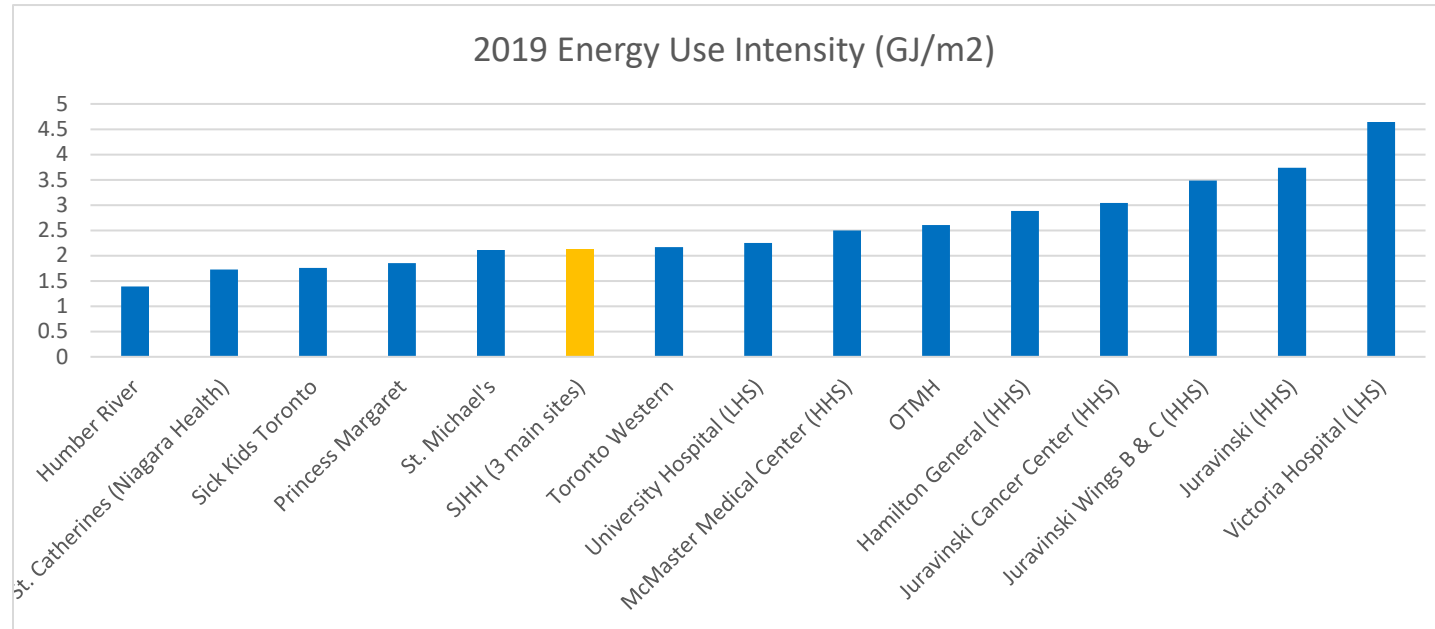
The following depicts the reduction in tonnes, of Carbon Dioxide equivalent (tCO₂e) GHGs emitted by SJHH since 2016 as a result of these energy saving initiatives, with another 244 targeted for March 2023 for a total reduction of 2,295 tCO₂e. Our goal is to remove another 3,790 tonnes of GHGs by 2030 to get us to a total reduction of 9,128 tCO₂e which is 40% of our emissions using 2016 as our base year.

From there we work on a plan to get us to 0% by 2050!



The following table indicates the energy use intensity of various hospitals, which captures the buildings annual energy as a function of it's size, i.e., energy use per square meters. We fall just better than average due in part to the impact of our LEED gold certified

West 5th facility which has a large floor area and is very energy efficient.



Current Performance

In 2022/23, a more formal plan for investigating, assessing, implementing and monitoring sustainability efforts was established, and a multiyear Sustainability Action Plan for 2022-24 was developed. The following summarizes the plan for 2022/23 and shows the progress SJHH had in meeting our objectives.

Results of the 2022-23 Sustainability Plan

Pillar 1 – Energy/Utility Management																																			
	Objective	Timeline	Outcome/Status																																
1	Complete an assessment of the existing environmental / sustainability initiatives within SJHH	By the end of this fiscal year	✓																																
2	Building Services will have implemented the following energy savings projects to reduce our annual Green House Gas (GHG) emissions by 243 CO ₂ e tonnes: <table><tr><th>Description</th><th>Energy Savings</th><th>Annual Cost Savings (\$)</th><th>GHG Reduction (Tonnes)</th></tr><tr><td>Boiler Room Pipe/Valves and Equipment Insulation</td><td>2,800 GJ</td><td>20,000</td><td>136</td></tr><tr><td>Air Curtains for JT Entrance and Basement Corridor</td><td>700 GJ</td><td>5,000</td><td>34</td></tr><tr><td>JIT replacement of 400 Hot Water Control leaking valves for Temperature Control</td><td>1,210 GJ</td><td>8,600</td><td>59</td></tr><tr><td>Control Valve for Domestic Cold Water</td><td>6,818 m3</td><td>29,000</td><td>Not Applicable</td></tr><tr><td>Replacement Approx. 20 Variable Frequency Drives (VFD) in JIT Air Handlers to reduce motor use from 100% to as needed</td><td>54,500 kWh</td><td>6,270</td><td>2</td></tr><tr><td>Install a Capacitor bank to reduce electricity waste</td><td>149,500 kWh</td><td>17,200</td><td>5</td></tr><tr><td>Change Chilled Water Temperature based on Outdoor Air Temperature</td><td>260,000 kWh</td><td>29,900</td><td>8</td></tr></table>	Description	Energy Savings	Annual Cost Savings (\$)	GHG Reduction (Tonnes)	Boiler Room Pipe/Valves and Equipment Insulation	2,800 GJ	20,000	136	Air Curtains for JT Entrance and Basement Corridor	700 GJ	5,000	34	JIT replacement of 400 Hot Water Control leaking valves for Temperature Control	1,210 GJ	8,600	59	Control Valve for Domestic Cold Water	6,818 m3	29,000	Not Applicable	Replacement Approx. 20 Variable Frequency Drives (VFD) in JIT Air Handlers to reduce motor use from 100% to as needed	54,500 kWh	6,270	2	Install a Capacitor bank to reduce electricity waste	149,500 kWh	17,200	5	Change Chilled Water Temperature based on Outdoor Air Temperature	260,000 kWh	29,900	8	By the end of this fiscal year	✓
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3	Develop and implement Annual Sustainability and Performance Report for 2022-23	By the end of this fiscal year	✓																																
4	Develop a multi-year Sustainability Plan	By the end of this fiscal year	✓																																

Pillar 2 – Waste Reduction			
	Objective	Timeline	Outcome/Status
5	Assess current landfill reduction strategies*	By the end of this fiscal year	■
6	Implement a switch to cloth caps instead of hair nets for food service staff	By the end of this fiscal year	✓
Pillar 3 – Pollution Management			
	Objective	Timeline	Outcome/Status
7	Assess existing anesthesia gases to determine current use, type of gases emitted and associated carbon emissions	By the end of this fiscal year	■
Pillar 4 – Education and Awareness			
	Objective	Timeline	Outcome/Status
8	A multidisciplinary Sustainability Team will be established	Fall 2022	✓
9	An Earth day staff awareness campaign will be developed and implemented in time for Earth day (April 22, 2023)		■
10	Develop a staff awareness plan for a sustainability/initiative using various methods*		■
11	Foster interdisciplinary relationships between stakeholders and interest groups for the purpose of advancing sustainability performance of the organization		✓
12	Develop an Annual Sustainability and Performance Report		✓

*initiated but further work to be completed in 2023-24

Legend:	
✓	Completed
■	On-Track
■	Potential Risk
■	Critical Risk

In addition, the following initiatives for 2022 have been in place or implemented:

Tree planting:

- SJHH planted 10 new trees at the Charlton site since 2021.

Annual Landfill Waste Diversion Initiatives:

- Transition from disposable dishware, plastic/foam meal trays to reusable safety trays, mugs and tumblers
- Replacing plastic “take-out” containers with recyclable sugar cane containers
- Reducing individually packaged products from vendors (i.e. individual juice, individual fruit in plastic containers) with products in bulk packaging
 - Now portioned out from bulk packaging into reusable cups and bowls, also reduces single use plastic lids with reusable lids or no lid
- Quantity of single use plastic diverted - dishes, cups, plastic cutlery, lids: 1,227,972 units
- Single use plastic recycled (Sept 2021 – April 2022): 12,278 kg of masks and other ‘clean’ plastic
- 57,744 kg of sharps diverted
- 401.13 metric tonnes of blue bin recycling diverted
- 466,640 kg of shredded paper diverted
- 8,650 kg of electronics/e-waste diverted
- 2,379 lbs of batteries diverted
- 39,731 L of organic waste diverted
- 36,703 L of coffee grounds diverted
- Diverted 3,620 lbs of scrap metal going to landfill beginning in Oct 2022
- Reduction in food waste after implementation of patient choice program
 - Lunch/Dinner Main Entrée ↓29%; Breakfast – Yoghurt ↓18%; Cheese ↓8%; Muffin/Bread ↓15%; Fruit ↓31%

Other waste reduction initiatives:

- Virtual care visits
- Choosing Wisely Canada initiatives for reducing unnecessary tests and treatments
- Reusable biomedical waste containers
- Operating room instrument kits: ordering only what is needed for specific procedures through re-configured custom kits
 - Reusable cloth gowns
 - Reuse of operating room instruments

Reducing Transportation Emissions:

- In order to support the reduction of emissions from cars, SJHH implemented the following:
 - Electric Vehicle Chargers installed
 - Bike Shelters: secured and covered bike shelters are already offered at Charlton, and a new bike shelter was installed at West 5th