Bruyère Health – Conservation and Demand Management Plan Update: 2025-26-06

July 1, 2024 update June 26, 2025

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1 Introduction

1.1 About Bruyère Continuing Care

Bruyère Continuing Care (Bruyère) is a healthcare organization providing complex continuing care, rehabilitation, palliative care, long-term care, and affordable housing for seniors. Serving the Ottawa area and operating from three sites, Bruyère incorporates 875,508 ft^2 of floor space, 1126 beds; and employs 2,300 staff, including 68 physicians and 176 volunteers. Figure 1 below, provides a summary of the major facilities included in this plan.

Figure 1 Summary of Major Facilities

Facility Name	Location	Type	Floor Space [ft^2]
Elisabeth Bruyere Hospital	Byward Market	Chronic Care	327,786
Saint-Vincent Hospital	Centretown	Chronic Care	357,124
Saint-Louis Residence	Orleans	Long-Term Care	190,598
Total			875,508

1.2 Background and Objectives

Ontario Regulation 507/18 (Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans) requires broader public sector (BPS) organizations, such as hospitals, to develop a Conservation and Demand Management Plan (CDM Plan) and update it every five years. This new CDM Plan builds on the achievements of the original plan developed in 2014 and covers the period from 2024 to 2029. The CDM Plan was approved by Bruyère's Board of Directors on _____.

The objective of the CDM Plan is to provide an actionable roadmap for Bruyère to implement a comprehensive 5-year CDM Program for achieving, energy, operating cost, Greenhouse Gas (GHG) reduction goals and start the path towards decarbonization and electrification. The types of opportunities included in the CDM Plan are technical measures, Operating and Maintenance (O&M) practices, capital and corporate-level organizational practices.

To further strengthen and obtain full value from CDM Program activities, a strategic approach will be taken to fully integrate energy management into Bruyère's business decision-making, policies, and operating procedures. Active management of energy-related costs and risks in this manner will provide a significant financial return to Bruyère and will support other key organizational objectives.

1.3 Current 2020-24 CDM Program Savings

Figure 2 presents the energy performance tracking results for the current 2020 to 2024 CDM Program using the best available utility consumption data. As shown, the savings range from 14.7% to -5.9% and the overall savings are 4.4%.

Figure 2 Current CDM Program Energy Savings

Facility Name	2019 ekWh/ft²	2023 ekWh/ft²	% Savings
Elisabeth Bruyere Hospital	58.5	50.5	14.7%
Saint-Vincent Hospital	53.7	57.0	(5.9)%
Saint-Louis Residence	41.0	39.2	4.5%
Overall			4.4%

1.4 Remainder of Report

The remainder of the report is organized as follows:

- Section 2.0 - 2024-29 CDM Program Overview
- Section 3.0 - Proposed Measures and Initiatives
- Section 4.0 – Implementation Action Plan

2 2020-24 CDM Program Overview

2.1 CDM Vision Statement

TOGETHER. Making each life better.

Bruyère's Mission Statement is: "Driven by learning, research and innovation, Bruyère's mission is to lead an integrated system of care that maximizes your quality of life and health potential.

We are an academic health care organization committed to providing compassionate and holistic care, respecting the dignity and diversity of all. As a Catholic organization, we are inspired by the values and legacy of Mother Élisabeth Bruyère. Our services in aging and rehabilitation, medically complex, palliative, residential and primary care respond to your needs throughout your life." We do this through our commitment to excellence, education, research and innovation, regional partnerships, and bringing care closer to home.

We therefore consider our facilities to be integral part of the healing environment and the provision of high-quality health care. Furthermore, the ability to use our facilities efficiently to reduce operating costs allows us to direct more resources towards patient care and the relief of illness and suffering. By reducing our environmental footprint, we are doing our part to help the people we serve lead healthier lives.

Therefore, Bruyère's CDM Vision Statement is: "To eliminate energy waste, wherever possible, through infrastructure improvements, policy and process changes, and by embracing best practices and technological changes; thus, providing high quality hospital, residential and community services to meet the diverse needs of our community, enhancing lives and helping to transform health care."

2.2 Guiding Principles

Bruyère's Conservation and Demand Management Program will be is guided by these key principles:

Taking A Strategic Approach: While Bruyère actively manages energy and utility costs by implementing opportunities as they are identified, by acting strategically, the organization can significantly improve its energy-related performance. Internalizing energy and utility management into our everyday decision-making, policies, and operating procedures will help assure substantial and long-lasting reductions in energy use throughout our facilities.

Supporting Mission-Critical Goals: Our energy management efforts will directly support Bruyère's mission-critical goals of caring for the environment and the community. It will also help Bruyère to enhance the healing and working environment; improve the organization's financial bottom line by reducing unnecessary energy and utility costs; and optimize the capacity of existing energy systems to meet current and expanding operational needs. The impacts of Bruyère's energy management efforts on these goals will be tracked and reported wherever possible.

Pursuing Long-Term Change to Core Business Practices: The key to our approach is the consistent incorporation of energy and utility management into Bruyère's management practices and decision making, such as the strategic planning and budgeting processes. Changes in energy-related business practice will cover all areas of energy management, including new construction and major renovations, existing facility operations and upgrades, and financial analysis and procurement practices.

Fostering Organizational Commitment and Involvement: Executive and organizational commitment and involvement is critical to successful strategic energy management. Senior management at Bruyère will work with facility managers and other key staff to ensure that adequate organizational support and resources are provided to maximize the benefits of energy and utility management. Energy and utility management will be integrated into the strategic planning and capital budgeting processes.

Obtaining Solid Financial Returns: Energy efficiency investments will yield solid financial returns that meet Bruyère's expectations for Return On Investment (ROI). Bruyère will consistently apply financial analysis methods that consider life-cycle costing; and that reduce the total cost of ownership and operation.

Using Available Resources and Assistance: Bruyère will use all available sources of strategic, technical, and financial assistance to help achieve our energy management goals. These include programs and services provided by the Ministry of Energy (MOE), Independent Electricity System Operator (IESO), Hydro Ottawa, Enbridge Gas Distribution, EnergyStar, and other organizations as they become available.

2.3 Goals and Targets

For the 2024 to 2029 program period, CDM investment costs, including both energy retrofit, and capital renewal projects are estimated to be $7.5 million. These investments, along with the implementation of O&M measures, and corporate-level organizational practices are projected to yield the following savings benefits:

- A 4% energy savings per year, resulting in a 20% overall reduction in energy use and GHG emissions by 2029.
- A 10% reduction in water consumption by 2029.

- A minimum of 15% return-on-investment for all energy efficiency projects.

Other non-energy benefits are anticipated to include:

- **Strengthened Community Leadership and Environmental Stewardship:** Energy management is a visible, public commitment to the community and environment. Through aggressive energy management, Bruyère can provide leadership in promoting sustainable communities, efficient business practices, and environmental stewardship. This is an excellent opportunity to provide leadership and reduce costs at the same time.

- **Enhanced Healing and Working Environment:** In existing facilities, efficient operating practices improve patient as well as employee comfort with more stable air temperature, better indoor air quality, and lighting. By way of an example, recent research has found that daylight eases surgical pain and contributes to substantial savings in pharmaceutical costs.

- **Improved Financial Health and Operating Cost Reduction:** Energy management presents a highly leveraged opportunity to reduce operating costs and positively impact Bruyère's bottom line. As per the US Environmental Protection Agency, "Every dollar a non-profit health care organization saves on energy is equivalent to generating new revenues of $20 for hospitals or $10 for medical offices."

- **Optimization of Capacity to Meet Current and Expanding Operational Needs:** Energy efficiency optimizes overall equipment/system operation so that system capacity can be reclaimed for current and expanding operational needs. This "free capacity" can eliminate the need to add major new infrastructure.

2.4 Baseline Energy Use, Costs, and GHGs

The 2023 calendar-year is the baseline period as it represents the most recent complete 12-month period of data available for this plan. This baseline will be used as the reference case for calculating energy savings and tracking energy performance results over the 5-year program period.

Figure 3 overleaf, presents the baseline energy use, costs, and GHG emissions.

- The total annual utility costs for Bruyère are approximately $2,690,000. Electricity costs represent the largest share at $1,404,000 (52% of total costs); and Natural Gas costs are $1,286,000 (48%).

- The total energy use is 157199 GJ and the GHG emissions are 5986 tCO_2e.

Figure 3 Baseline Energy Use, Costs, and GHGs

	Electricity			Natural Gas			Total		
2023	Usage [kWh]	GHGs [tCO_2]	Cost [$]	Usage [m3]	GHGs [tCO_2]	Cost [$]	Usage [GJ]	GHGs [tCO_2]	Cost [$]
Jan	708551.9	28	72938.13	435618	829	127339.4	19104.1	857	200277.5
Feb	659675.1	26	90811.35	414809	789	117531	18137.3	815	208342.3
Mar	665789.8	27	95812.34	393134	748	119043.6	17335.7	775	214855.9
Apr	658702.4	26	103097.9	339116	645	118213.7	15257.5	671	221311.6
May	751794.7	30	114763.9	243054	463	102875.2	11942.3	493	217639.1
Jun	873424.3	35	159139.9	179152	341	94576.01	9951.9	376	253715.9
Jul	1068473	43	203070.9	168494	321	78573.45	10249.0	364	281644.4
Aug	919300.1	37	115833.6	162756	310	90077.74	9493.9	347	205911.3
Sep	885338.6	35	131381.1	164391	313	79047.42	9433.8	348	210428.5
Oct	764023.5	31	117875.5	233904	445	102610.2	9163.6	476	220485.7
Nov	687224	27	97178.44	304305	579	116126.6	11563.6	606	213305
Dec	662505.9	27	102327.1	346881	660	139963	15566.3	687	242290.1
Total	9304803	372	1404230	3385614	5614	1285977	157199	5986	2690207

3 Proposed Measures and Initiatives

This section presents the proposed technical measures to be implemented as part of the 2024-29 CDM Program. The total amount of CDM investments is estimated to be approximately $1.5 million per year, over 5 years, for a total of $7.5 million. The types of measures include energy retrofit measures, capital renewal projects, renewable energy, and other relative initiatives and programs.

Note: all measures are proposed under the assumption that appropriate funding will be received to support their implementation.

3.1 Energy Retrofits and Capital Projects

The planned energy retrofit, and capital renewal projects include the following types of measures:

- LED Lighting Upgrades.
- HVAC and Controls Retrofits.
- Variable Frequency Drives and controls.
- Lifecycle HVAC System Replacements.
- High-efficient Window Replacements.
- Roofing Replacements with Insulation Upgrade.

3.2 Renewable Energy

No renewable energy measures are proposed currently.

3.3 Other Initiatives and Programs

In support the implementation of the projects and measures outlined above; and to facilitate the goals of the CDM Program, Bruyère intends to participate in the following initiatives and programs:

- **Energy Star Portfolio Manager** – this software tool is used for managing and reporting utility consumption, and for energy performance benchmarking.
- Also used to report energy usage to the ministry.
- **IESO's Demand Response Program** – this program includes the use of advanced Building Automation System (BAS) control strategies to curtail electricity demand during peak periods.
- **IESO's saveONenergy Retrofit Program** – this program will be leveraged to provide incentives for various retrofit projects including LED lighting and variable speed drives.
- **IESO's saveONenergy BizEnergySaver** program to help make equipment improvements to reduce our energy consumption.
- **Enbridge Gas' Incentive Programs** – the programs will be used on an ongoing basis for various projects including steam trap replacements.

4 Implementation Action Plan

This section provides an action plan framework for the implementation of the proposed 5-year CDM Program including identifying the key actions for the various stages along with guidance for successful implementation.

4.1 Action - Approve CDM Plan and Secure Resources

- Seek executive approval of CDM Plan and secure funding resources to support the implementation of the proposed initiatives.
- Enlist the support from key staff including financial management, purchasing/procurement, and operations and maintenance staff.

4.2 Action - Implement Financial Decision-Making Processes

- Adopt a Return On Investment (ROI) threshold to be used for evaluating CDM Program retrofit measures i.e.., a minimum of 10% ROI for go, no-go.
- Ensure decisions about CDM Program investments will be part of Bruyère's process of budgeting for capital and operations.

4.3 Action - Enhanced Project Implementation Practices

- Implement enhanced project implementation practices on energy retrofit and capital projects including early team collaboration, specification of commissioning requirements, and measurement and verification of savings (as applicable);
- Apply to utility programs for financial incentives to offset the cost of energy projects.

4.4 Action - Implement Energy Retrofit and Capital Projects

- Implement the proposed energy retrofit and capital projects outlined in Section 3.0.
- Recommission the Building Automation System (BAS) with integrated energy management control strategies and implement low/no cost O&M measures.

4.5 Action - Monitor and Track Energy Performance

- Benchmark facilities using Energy Star Portfolio Manager.
- Track and report on the performance of the CDM Program initiatives on a regular basis.

4.6 Progress – Update for 2024/2025

- **LED Lighting Upgrades.**

- Upgrades are always ongoing with projects and PMs

- Conducted surveys through BizEnergy. Trying to secure funding. Would require $500k for SVH with an estimated annual saving of $100k and payback of 3.31 years.

- Other sites similar but the numbers are a bit smaller.

- **Variable Speed Drives and Controls.**

- Variable frequency drives are being installed at all sites where none were before. Another BizEnergy program from the IESO is paying for most of the cost and will yield an estimated electrical saving of $100k in operating costs.

- Controls are also being optimized during this installation.

4.7 COMPARISION 2020 VS 2024

Performance Highlights

Number of properties in report: 3

Property Name	Year Ending	ENERGY STAR Score	Site EUI (GJ/m²)	Weather Normalized Site EUI (GJ/m²)	National Median Site EUI (GJ/m²)	% Difference from National Median Source EUI	Direct GHG Emissions (Metric Tons CO2e)	Total (Location-Based) GHG Emissions (Metric Tons CO2e)	Water Use (All Water Sources) (m³)	Energy Cost ($)	Total Water Cost (All Water Sources) ($)
Saint-Vincent Hospital	12/31/2020	85	2.13	2.16	2.78	-23.2	3426.04	3475.57	52512.6	748222.69	223349.45
Saint-Vincent Hospital	12/31/2024	87	1.99	2.03	2.66	-25.3	3095.02	3164.89	44735.7	762068.58	277280.39
Elisabeth Bruyere Hospital	12/31/2020	67	2.01	2.11	2.25	-10.6	2336.32	2501.21	29402.8	776172.41	152834.19
Elisabeth Bruyere Hospital	12/31/2024	75	1.83	1.99	2.18	-16	2078.61	2250.65	32904.7	884724.39	206211.1
Residence Saint-Louis	12/31/2020	43	1.6	1.69	1.5	6.4	904.22	992.29	22882.8	426932.65	94814.66
Residence Saint-Louis	12/31/2024	30	1.62	1.79	1.32	22.7	918.98	1015.74	Not Available	470931.42	Not Available