WEST HALDIMAND GENERAL HOSPITAL

CONSERVATION AND DEMAND MANAGEMENT PLAN

2025-2029

WEST HALDIMAND GENERAL HOSPITAL

West Haldimand General Hospital
75 Parkview Rd.
Hagersville, Ontario
NOA 1HO

September 2025

RE: Conservation and Demand Management Plan

I am pleased to confirm that the enclosed Conservation and Demand Management (CDM) Plan for West Haldimand General Hospital has received approval from our senior leadership team.

The implementation of this plan will continue to shape our budgeting and planning activities—including strategic initiatives, preventative maintenance, and environmental management—as well as inform our policy development processes. A communication plan will be deployed to convey our energy efficiency commitment and priority to staff, patients, visitors, and other key partners.

Energy efficiency will remain a key consideration across all business operations and will be adapted as needed through our ongoing program review cycle.

I look forward to sharing an update on the progress of this plan in 2030.

Sincerely,

Jason Smith, Director of Facilities & Capital Projects
Dan Hill, VP Finance & CFO

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ABOUT WEST HALDIMAND GENERAL HOSPITAL

The West Haldimand General Hospital (WHGH) is a small rural community hospital located at 75 Parkview Rd, in the town of Hagersville, which provides basic hospital and health care services to the people of Hagersville, Caledonia, Jarvis, Townsend, Cayuga, Fisherville, Selkirk, Nanticoke, the Six Nations of the Grand River Reserve and the Mississaugas of the Credit First Nation.

As a 23-bed hospital, we focus daily on improving the quality of care for the patient and family experience. We are a community of approximately of 330 staff, physicians, and volunteers that provides exceptional care in several areas including 24/7 Emergency Department Care, Day Surgery, Acute Care, Physiotherapy, Diagnostic Imaging and various specialty clinics.

WHGH is one of the first hospitals to pursue creating innovative partnerships. The results of our efforts are increased efficiencies and reduced costs. At the present time, we are successfully partnering with Norfolk General Hospital and Hamilton Health Sciences.

Our Vision

To foster healthier communities through exceptional rural health care, close to home.

Our Mission

To deliver high-quality, integrated, and innovative care, together with our partners.

Our Values

- Inclusive
- Respectful
- Collaborative
- Innovative
- Person-Centered
- Accountable

OVERVIEW OF OUR CDM PLAN

WHGH's Conservation and Demand Management (CDM) plan was first completed in 2014, then updated in 2019. The plan is a step to understanding the impact of our operations on Greenhouse Gas (GHG) emissions while setting out a path for energy conservation and GHG reduction measures. Our 2025 plan reflects on what we have done since our most recent plan in 2019, monitors what we are doing, and outlines what we are planning to do.

The below table illustrates WHGH's change in energy consumption over the past five years, as well as our Greenhouse Gas (GHG) emissions and Energy Use Intensity (EUI). The values from the last year covered in the previous plan (2018) to those of the most recent calendar year 2024.

	Electricity	Natural Gas	GHG Emissions	EUI
2018	1,548,907	313,639	662	60.30
2024	1,494,104	271,267	589	54.11
2018 vs. 2024	**+4%**	**+14%**	**+11%**	**+10%**

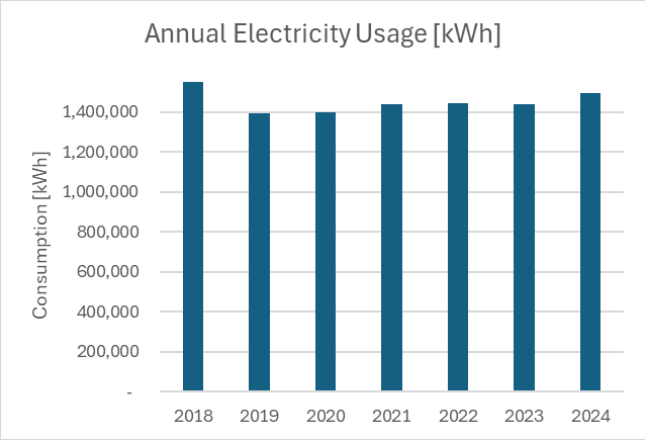
The use of newer technologies, as well as improved facility building standards, and conservation measures have yielded a 10% reduction in overall energy intensity. Our efforts over the past five years have resulted in a more efficient hospital in addition to increasing patient and staff comfort.

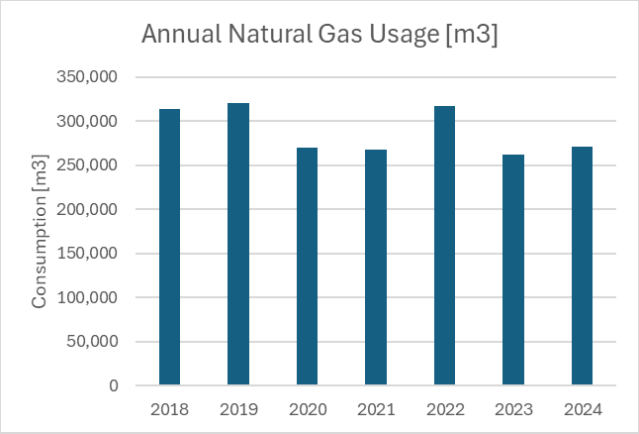
WHGH will now use 2025 as our new baseline for energy consumption and strive to reduce these values over the next five years. We are committed to identifying areas to improve efficiencies and finding ways to decrease our overall environmental impact. By doing so, we will aim to achieve a further reduction in total energy intensity by 2030.

ENERGY CONSUMPTION 2018-2024

As part of Ontario Regulation 25/23 under the Electricity Act, 1998, WHGH prepares, publishes and makes available to the public our annual energy consumption and resulting greenhouse gas (GHG) production. The following is a summary of these values. Our energy consumption values were plotted to better display our usage trends and have been included below. Appendix A also provides monthly usages for 2019-2024.

Year	Electricity [kWh]	Natural Gas [m^3]	GHG Emissions [kg CO2e]	EUI [ekWh/ft^2]
2018	1,548,907	313,639	662	60.30
2019	1,392,253	320,385	669	59.30
2020	1,400,057	269,679	568	52.71
2021	1,440,196	267,083	567	52.88
2022	1,444,960	316,678	665	59.38
2023	1,438,517	261,630	556	52.15
2024	1,494,104	271,267	589	54.11

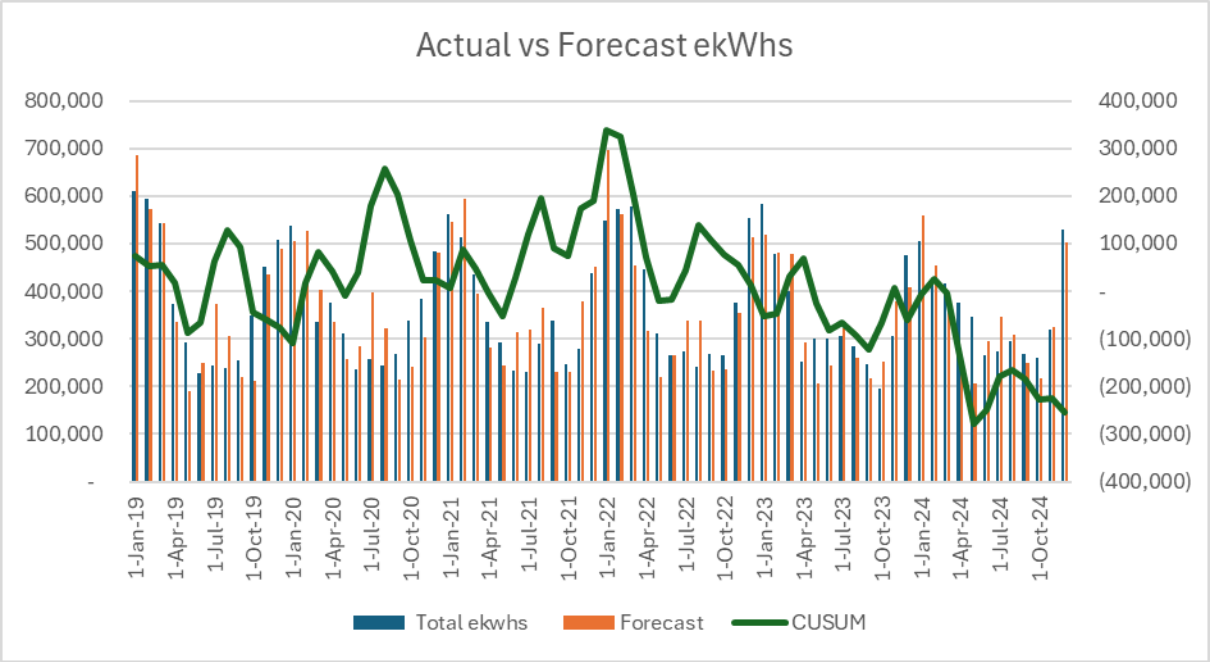




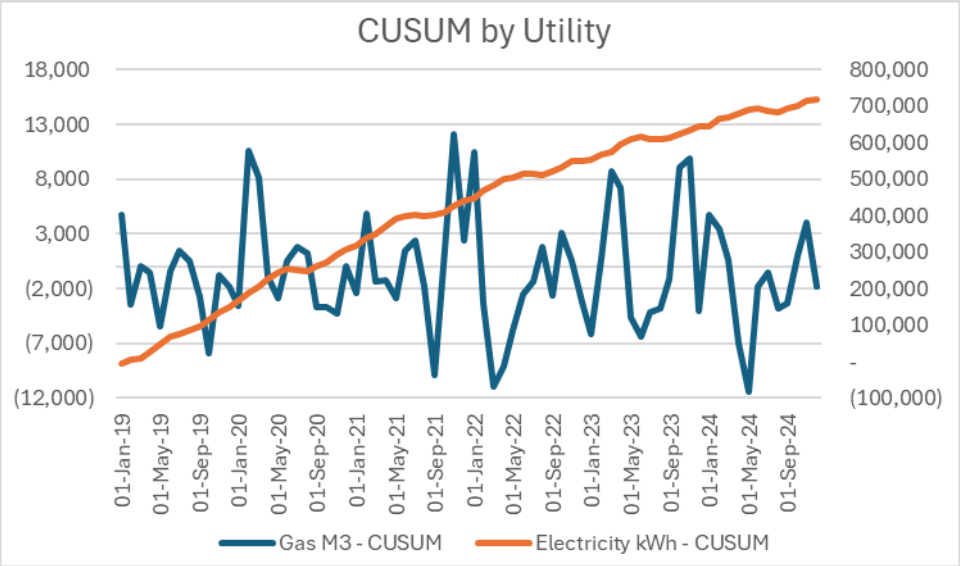
To accurately compare natural gas and electricity usages between years, the data must be normalized for factors which influence their levels. For example, a hot summer in a given year would lead to increased cooling requirements and therefore more electricity usage, while a colder winter would drive higher gas usage to meet heating demands. Although other factors like services being offered, occupancy levels, new equipment, and increased fresh air due to COVID would also impact energy usage, weather is the most acceptable variable to control for when comparing year over year usages. Weather normalization uses Degree Days (DDs) to account for how hot and/or cold a given year is in comparison to another. Heating Degree Days (HDD) indicate the demand for heating energy, with higher HDD values correlating with increased electricity usage for heating during colder months. Conversely, as temperatures rise, HDD values decrease, leading to reduced heating energy needs. Cooling Degree Days

(CDD), measure the demand for cooling energy and are generally low or zero during winter and early spring, reflecting minimal cooling requirements. The Total Degree Days (TDD), a combination of HDD and CDD, provide a comprehensive measure of overall energy demand.

The below consumption data converted to equivalent kilowatt hours (ekWhs) was weather normalized using TDD for 2018 as the base year of 2018 given it was the last full calendar year before the 2019 plan was generated. The graph below plots the actual and forecasted monthly usages along with the Cumulative Sum of Differences (CUSUM) which tracks the positive change in weather normalized usage intensity compared the base year 2018.



The CUSUM (dark purple) line shows seasonal changes (favourable/unfavourable) in energy usages since 2018. This irregular behaviour is being driven primarily by natural gas usages. The table below shows the CUSUM of each respective Utility (natural gas and electricity) using 2018 consumptions as reported by the local utility with applicable HDD and CDD.



You will note the electricity CUSUM in kWhs illustrates a continuous upward slope which reflects the ongoing decrease in electricity usages compared to 2018 and normalized for weather. Conversely, the natural gas CUSUM reflects an up and down trend which represents reduced usages in certain seasons and increased in others.

One of the major causes of this irregular trend is likely the ongoing estimate meter reads by the utility. Typically, if a meter is not read monthly an estimate is used for that month, then trued up when an actual read is taken. In this case, usages are typically shifted into future months creating irregular usage patterns which are not consistent with actual usages. Overall, once the noise is removed, WHGH experienced a reduction in natural gas usage in from 2019 through 2024 when compared to 2018 and normalized for weather.

ENERGY MANAGEMENT GUIDING PRINCIPLES

Like the goals outlined in our 2019 plan, WHGH continues to uphold the following goals for the hospital:

Energy Conservation and Demand Management Plan Approval

- Executive approval and resources.
- Support from key staff (financial management, purchasing/procurement, construction, building operations, etc.).
- Maintain mechanisms/processes to make resources available.
- Clear communication of staff roles and responsibilities, performance goals, and energy management reporting.

Financial Practices and Decision-Making Processes

- Money spent to achieve energy efficiency is viewed as an investment, not a cost.
- Financial decision makers will use life cycle cost analysis (LCCA) on all new construction, major renovations, and equipment replacements.
- Decisions about energy management investments will be part of WHGH's high-level, long-range process of budgeting for capital and operations.

Purchasing Specifications for Energy Efficient Equipment and Services

- Continue to use purchasing specifications that minimize life-cycle costs for energy efficient equipment and services.
  - Utilize efficiency specifications for standard equipment routinely replaced (e.g. lights, motors, and unitary HVAC equipment).
  - Efficiency guidelines that apply LCCA for custom equipment purchases (e.g. chillers).
  - Leverage efficiency standards for design and construction, and for building operations and maintenance services.

Improve Building Operating Performance

- Equipment tune-up and improved operations and maintenance (O&M) drive energy efficiency while supporting patient care, and facility comfort and safety.

Implement Cost-Effective Facility Upgrades

- Implement equipment and system upgrades were justified by life-cycle cost analysis.
- Expand use of qualified service providers as needed. Continue to use RFP documents, contract terms, and reporting standards.

Actively Manage Energy Commodity

- Minimize utility costs and exposure to market risks. Utility costs include natural gas, electricity, water, and sewer.
- Participate in the energy/utility regulatory process.
- Leverage the aggregate volumes of the HealthPRO Energy Management program.

Monitor, Track, and Reward Progress

- Track progress on the CDM plan
- Track energy reductions.
- Reward staff for successes.

GUIDING PRINCIPLES TO ACHIEVE OUR GOALS

To achieve our energy management goals of efficiency and waste reduction, WHGH confirms the guiding principles developed in 2014 and reaffirmed in 2025 will continue to be applied to all projects where funding is secured for new energy related initiatives.

Taking A Strategic Approach*:* While WHGH actively manages energy and utility costs by implementing opportunities as they are identified, by acting strategically, the hospital can significantly improve its energy-related performance. Internalizing energy and utility 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 NGH.

Supporting Mission-Critical Goals*:* Strategic energy management will directly support WHGH's mission-critical goals of caring for the environment and the community. It will also help the hospital to optimize the healing and working environment; improve the hospital'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 WHGH'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 and utility 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 economic analysis and procurement practices.

Fostering Organizational Commitment and Involvement*:* Executive and organizational commitment and involvement is critical to successful strategic energy management. Upper management at WHGH 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 Economic Returns*:* Energy management investments will yield solid economic returns that meet WHGH's expectations on Internal Rate of Return and Return on Investment. NGH will apply consistent financial analysis methods that

consider life-cycle costs that reduce total cost of facility ownership and operation.

Using Available Resources and Assistance*:* WHGH will use national, regional, and local sources of strategic, technical, and financial assistance to help achieve our energy management goals. These include programs through local distribution companies, the Independent Electricity System Operator (IESO), Hospital Infrastructure Renewal Fund (HIRF), ENERGYSTAR, SaveONenergy, and EnerCan.

RESULTS OF OUR ENERGY MANAGEMENT STRATEGIES

WHGH has worked to implement ECMs specific to the vintage of equipment, building envelope, and HVAC systems. As result, identifying opportunities and the nature of each solution varies greatly. Some of the initiatives previously undertaken are summarized below.

LIGHTING UPGRADE - 2023

WHGH has taken steps to improve energy efficiency by upgrading LED lighting throughout the facility. This project involved replacing outdated lighting fixtures with more energy-efficient LEDs, which not only provide better lighting quality but also contribute to significant energy savings and reduced maintenance costs.

ROOF REPLACEMENT– 2023

As part of ongoing infrastructure upgrades, the main hospital roof was replaced in 2023. This provided an opportunity to improve the building's insulation by increasing the R-value, reducing heat loss in the winter and heat gain in the summer. The improved insulation not only enhances patient comfort but also contributes to lower energy consumption across the facility.

STEAM TRAP AUDIT AND REPAIR - 2017

In 2017, WHGH conducted a comprehensive steam trap audit as part of its ongoing energy management efforts. Identifying and repairing malfunctioning steam traps is crucial to minimizing steam loss, thereby reducing natural gas consumption. The repairs following this audit contributed to enhanced efficiency and cost savings in the hospital's steam system.

In addition to saving energy the resulting reductions in operating costs, each one of these measures provided additional benefits to the hospital and the community we support, including but not limited to: improved patient and staff comfort and safety with enhanced infection control measures.

ENERGY MANAGEMENT OBJECTIVES

West Haldimand General Hospital's energy management vision is to eliminate energy waste through infrastructure improvement, policy and process change, as well as through engagement of all hospital staff and volunteers to be energy-wise and responsible.

West Haldimand General Hospital's Mission Statement is "An exemplary rural hospital providing quality healthcare and providing good health to our diverse population in collaboration with our community partners". Therefore, we consider our facilities a primary source of care and an integral part of the healing environment. Operating our facilities efficiently and effectively will allow much needed resources to be redirected toward direct patient care as well as contributing to a health environment for all.

To start the path toward further improvement in energy use and reduced emissions associated with the operation of WHGH, several projects have been identified. These initial projects as outlined below focus on identifying opportunities for further ECM measures while renewing existing infrastructure and looking towards the future with new construction.

STEAM TRAP AUDIT AND REPAIR - 2024

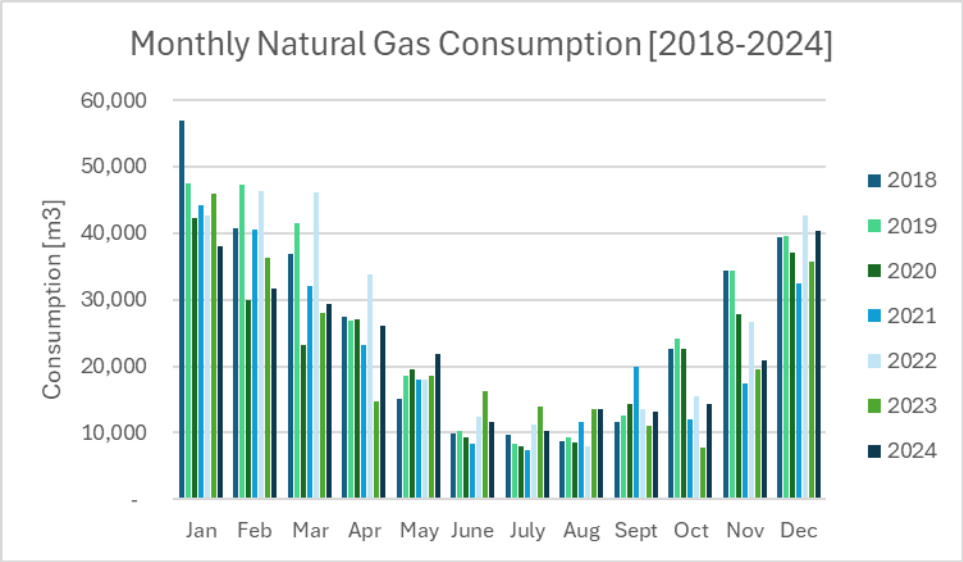
Building on the success of previous audits, WHGH plans to conduct another steam trap audit in November 2024. This initiative aims to identify and repair any leaking steam traps, further reducing natural gas usage and improving overall system efficiency. Leveraging available incentives will be key to maximizing the cost-effectiveness of this project.

NEW X-RAY AND MAMMOGRAPHY SUITES – 2024

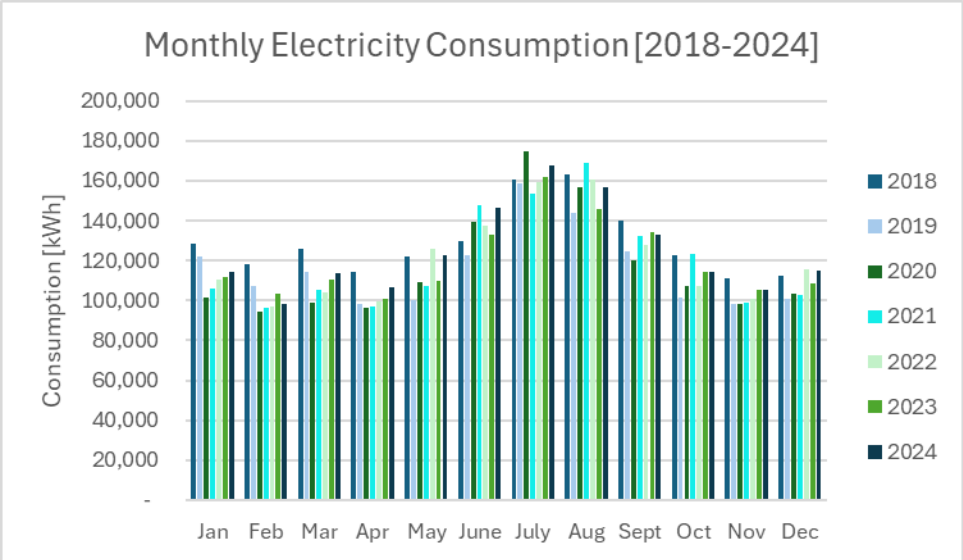
WHGH is set to upgrade its imaging services with the installation of a new X-ray suite and mammography suite. This project includes the replacement of a 40-year-old 380V transformer, which is expected to improve energy efficiency. Additionally, the new X-ray and mammography machines will be more energy-efficient, further contributing to reduced power consumption within the facility.

APPENDIX A

A1. WHGH'S MONTHLY CONSUMPTION TRENDS FOR NATURAL GAS 2018-2024.



A2. WHGH'S MONTHLY CONSUMPTION TRENDS FOR ELECTRICITY 2018-2024.



APPENDIX B – ONTARIO REGULATION 25/23

ONTARIO REGULATION 25/23

made under the

ELECTRICITY ACT, 1998

Made: February 23, 2023
Filed: February 23, 2023
Published on e-Laws: February 23, 2023
Printed in *The Ontario Gazette*: March 11, 2023

BROADER PUBLIC SECTOR: ENERGY REPORTING AND CONSERVATION AND DEMAND MANAGEMENT PLANS

Definitions

1. In this Regulation,

"municipal service board" means,

(a) a municipal service board or joint municipal service board established or continued under the *Municipal Act, 2001*,

(b) a city board or joint city board established or continued under the *City of Toronto Act, 2006*, or

(c) a joint board established in accordance with a transfer order made under the *Municipal Water and Sewage Transfer Act, 1997*; ("commission de services municipaux")

"Portfolio Manager" means the ENERGY STAR Portfolio Manager electronic reporting system developed by the United States Environmental Protection Agency, as adapted for use in Canada and administered by Natural Resources Canada, and available on the Internet; ("Portfolio Manager")

"post-secondary educational institution" means a university in Ontario, a college of applied arts and technology in Ontario or another post-secondary educational institution in Ontario, if the university, college or institution receives an annual operating grant; ("établissement d'enseignement postsecondaire")

"public hospital" means a hospital within the meaning of the *Public Hospitals Act*; ("hôpital public")

"school board" means a board within the meaning of the *Education Act*. ("conseil scolaire")

Prescribed public agencies

2. For the purposes of the definition of "public agency" in subsection 25.35.2 (1) of the Act, the following are prescribed as public agencies:

1. Every municipality.
2. Every municipal service board.
3. Every post-secondary educational institution.
4. Every public hospital.
5. Every school board.

Plan

3. (1) Every public agency that is not a ministry of the Government of Ontario shall prepare an energy conservation and demand management plan.

(2) The energy conservation and demand management plan shall be approved by the senior management of the public agency to whom the plan applies before the public agency publishes the plan on the public agency's website and makes the plan available to the public in printed form at the public agency's head office in accordance with section 9.

Plan, prescribed operations

4. The operation, by a public agency, of a building or facility referred to in Table 1 for that type of public agency is prescribed as an operation for the purposes of paragraphs 1 and 2 of subsection 25.35.2 (3) of the Act.

Plan, prescribed additional information

5. (1) The following information is prescribed, for the purposes of paragraph 4 of subsection 25.35.2 (3) of the Act, as additional information the energy conservation and demand management plan must include:

1. A summary of annual greenhouse gas emissions for each of the public agency's prescribed operations, which shall be included in the summary of the public agency's annual energy consumption required under paragraph 1 of subsection 25.35.2 (3) of the Act.
2. A description of the results of previous activities and measures to conserve the energy consumed by the public agency's prescribed operations and to otherwise reduce the amount of energy consumed by the public agency, including by employing such energy conservation and demand management methods as may be prescribed.
3. The cost and saving estimates for the public agency's current and proposed activities and measures referred to in paragraph 2 of subsection 25.35.2 (3) of the Act.
4. A description of any renewable energy generation facility operated by the public agency and the amount of energy produced on an annual basis by the facility.
5. A description of,
    i. the ground source energy utilized, if any, by ground source heat pump technology operated by the public agency,
    ii. the solar energy utilized, if any, by thermal air technology or thermal water technology operated by the public agency, and
    iii. the proposed plan, if any, to operate heat pump technology, thermal air technology or thermal water technology in the future.
6. The estimated length of time the public agency's current and proposed activities and measures referred to in paragraph 2 of subsection 25.35.2 (3) of the Act will be in place.
7. A confirmation that the energy conservation and demand management plan has been approved by the public agency's senior management.

(2) The energy conservation and demand management plan may also include information on the operation of a building or facility by the public agency that is not a prescribed operation for that public agency.

Summary, prescribed operations of certain buildings or facilities

6. (1) The information required under section 7 for each of the public agency's prescribed operations is required only if the public agency owns or leases the building or facility whose operation is prescribed and,

(a) the building or facility is heated or cooled and the public agency is issued the invoices and is responsible for making the payments for the building or facility's energy consumption; or

(b) the operation is related to the treatment of water or sewage, whether the building or facility is heated or cooled, and the public agency is issued the invoices and is responsible for making the payments for the building or facility's energy consumption.

(2) If only part of the building or facility is heated or cooled, the public agency is only required to include the information required under section 7 for the part of the building or facility that is heated or cooled.

Summary, prescribed requirements

7. (1) The summary of annual energy consumption required under paragraph 1 of subsection 25.35.2 (3) of the Act and the summary of annual greenhouse gas emissions required under paragraph 1 of subsection 5 (1) of this Regulation shall be for the year that ends on December 31 immediately preceding the day the summary is required to be submitted.

(2) The summary for a year must include the following information for each of the public agency's prescribed operations:

1. The name of the building or facility.
2. The address of the building or facility.
3. The total floor area of the indoor space of the building or facility.
4. The type of the building or facility, as set out in a paragraph in Column 2 of Table 1.
5. If the building or facility has more than one use, the type of the building or facility for the purpose of paragraph 4 shall be determined based on the use that occupies the largest amount of total floor area of the indoor space or, if more than one use occupies the same amount of total floor area of the indoor space, based on one of those uses chosen by the public agency.
6. A description of the days and hours in the year during which the building or facility is operated and, if the building or facility is operated on a seasonal basis, the period or periods during the year when it is operated.
7. The total amount of each type of energy that was consumed in the year to operate the building or facility and that was purchased by the public agency, regardless of when it was purchased.
8. The total amount of greenhouse gas emissions that were emitted in the year with respect to each type of energy, calculated from the total amount of each type of energy included under paragraph 7.

(3) The summary for a year must also include the following information, if applicable:

1. If the public agency is a school board whose operation of a school is prescribed,
    i. whether the school had classrooms in temporary accommodations and the number of such classrooms, and
    ii. whether the school had an indoor swimming pool.
2. If the public agency is a public hospital whose operation of a facility used for hospital purposes is prescribed, whether the facility was operated as a chronic or acute care facility, or both.
3. If the public agency is a municipality or municipal service board whose operation of a building or facility related to the treatment of water or sewage is prescribed,
    i. the volumetric flow rate of water treated, if the building or facility treats water, or
    ii. the volumetric flow rate of sewage treated, if the building or facility treats sewage.

(4) A public agency may exclude, from the summary, any amount of energy consumed or greenhouse gas emitted related to the temporary use of an emergency or back-up generator to continue the operation of the building or facility.

(5) In this section,

"volumetric flow rate" means a rate that sets out the flow of water or sewage in units of volume over time.

Summary, submission to Ministry

8. (1) Each year, every public agency shall submit to the Ministry, through the use of Portfolio Manager, the summaries referred to in subsection 7 (1).

(2) The summaries for a year ending December 31 shall be submitted on or before July 1 of the following year.

(3) Despite subsection (2),

(a) the summaries for the year ending December 31, 2021 shall be submitted on or before July 1, 2023; and

(b) the summaries for the years ending December 31, 2022 and December 31, 2023 shall be submitted on or before July 1, 2024.

Plan, publication

9. (1) On or before July 1, 2024 and on or before July 1 in every fifth year thereafter, every public agency shall publish on its website, and make available to the public in printed form at its head office, the public agency's energy conservation and demand management plan.

(2) The reference to the plan in subsection (1) does not include the summaries referred to in subsection 7 (1), other than the summaries for the most recent year before the applicable due date referred to in subsection (1).

Revocation

10. Ontario Regulation 507/18 is revoked.

Commencement

11. This Regulation comes into force on the day it is filed.

TABLE 1

Item	Column 1 Type of Public Agency	Column 2 Buildings and Facilities Whose Operation is Prescribed
1.	Municipality	1. Administrative offices and related facilities, including municipal council chambers. 2. Public libraries. 3. Cultural facilities, indoor recreational facilities and community centres, including art galleries, performing arts facilities, auditoriums, indoor sports arenas, indoor ice rinks, indoor swimming pools, gyms and indoor courts for playing tennis, basketball or other sports. 4. Ambulance stations and associated offices and facilities. 5. Fire stations and associated offices and facilities. 6. Police stations and associated offices and facilities. 7. Storage facilities where equipment or vehicles are maintained, repaired or stored. 8. Buildings or facilities related to the treatment of water or sewage. 9. Parking garages.
2.	Municipal service board	1. Buildings or facilities related to the treatment of water or sewage.
3.	Post-secondary educational institution	1. Administrative offices and related facilities. 2. Classrooms and related facilities. 3. Laboratories. 4. Student residences that have more than three storeys or a building area of more than 600 square metres. 5. Student recreational facilities and athletic facilities. 6. Libraries. 7. Parking garages.
4.	School board	1. Schools. 2. Administrative offices and related facilities. 3. Parking garages.
5.	Public hospital	1. Facilities used for hospital purposes. 2. Administrative offices and related facilities.