



Town of Huntsville Staff Report

Meeting Date: June 24, 2024

To: Council

Report Number: CORP-2024-34

Confidential: No

Author(s): Trevor Donald, Project Coordinator

Subject: Conservation and Demand Management Plan Update 2024-2029

Report Highlights

[Ontario Regulation 25/23 \(O.Reg. 25/23\) made under the Electricity Act, 1998](#) mandates that Broader Public Sector (BPS) organizations develop, and update every five (5) years, an Energy Conservation and Demand Management (CDM) Plan. The attached CDM Plan 2024-2029 (see Appendix A) is an update to the previous CDM Plan 2019-2024 attached to Report No. CS-2019-25.

The intent of this regulation is to help public agencies:

- better understand and report their energy consumption;
- help benchmark;
- encourage energy conservation and demand management activities within their organizations;
- and then ultimately make this information available to its public.

The plan must include:

- conservation goals and objectives
- proposed conservation measures
- cost and savings estimates
- a description of renewable energy generation facilities, including the amount of energy generated annually.

Recommendation

THAT: the Energy Conservation and Demand Management Plan as attached to Report CORP-2024-34 be approved and submitted to the Province of Ontario in compliance with Ontario Regulation 25/23 (O.Reg. 25/23);

AND FURTHER THAT: the Plan be published on the Town's website and made available to the public in printed form at Huntsville Civic Centre (Town Hall) in accordance with section 9 of the O.Reg. 25/23.

Background

Staff in the Community Services Division use a software program called the Energy Planning Tool (EPT), provided by the Local Authority Service (LAS) and Association of Municipalities of Ontario (AMO), to track building energy usage data. The tool is also designed to help generate the attached Conservation and Demand Management (CDM) Plan that specifically meets the requirements of Ontario Regulation 25/23 (O.Reg. 25/23).

Applicable Buildings and Facilities Whose Operation is Prescribed under O.Reg. 25/23:

- 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.

Ontario public agencies must also report their annual energy use and greenhouse gas (GHG) emissions to the Ministry of Energy each year by July 1. This is set out in the [energy reporting regulation for broader public sector \(BPS\) organizations](#). Municipalities must submit their 2022 and 2023 data in 2024 and starting in 2025, they must report their energy data for the previous calendar year. For example, in 2025 they will report their 2024 data.

Discussion

Municipally owned and operated arenas, community centers, administration buildings and other facilities consume large amounts of energy. These facilities can be costly to operate and upgrades are often expensive to implement. With inflation and energy costs on the rise, many municipalities want to improve energy efficiency and save money. Energy benchmarking, management and planning enables the Town to take the next step to transition from ad-hoc actions to structured energy management and integrate energy management systematically into short and long term capital planning and procurement to reduce energy use and Greenhouse Gas (GHG) emissions. Climate Action is included as a strategic priority in the [Town of Huntsville's Strategic Plan](#) and an ambitious plan will be completed in 2024 to advance policies that support emission reductions and considers different pathways to decarbonization beyond business as usual (BAU).

Summary of Findings:

Current Reporting Period

Between 2018 and 2021, total energy decreased from 7,306,500.17 ekWh to 6,043,409.60 ekWh and GHG emissions decreased from 918.54 tonnes to 754.33 tonnes.

Year	Total Energy (kWh)	% Electricity	% Nat Gas	% Propane	GHG Emissions (tCO ₂ e*)	% Electricity	% Nat Gas	% Propane
2018	7306500.17	38%	59%	3%	918.54	9%	86%	5%

2021	6043409.60	38%	59%	3%	754.33	9%	87%	4%
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* tonnes of carbon dioxide equivalent

High emitting energy like natural gas, propane stayed around 60% and electricity consumption remains around 40%.

There are a few reasons for the reductions in energy usage and GHG emissions between 2018 and 2021:

1. The surplus and disposal of three (3) non-core assets between 2017 and 2018.
 - 254 Marsh Road House
 - Huntsville Train Station and CN Railway Ancillary Shed (26 Station Road)
 - Waterloo Summit Centre for the Environment (87 Forbes Hill Drive)
2. Building energy demand was down in 2020 from 2021 and dropped slightly for electricity and natural gas consumption, which was largely due to the fact facilities like the Summit Centre weren't operating for periods during the COVID-19 pandemic (March 2020 - April 2022)

Municipal Building Portfolio Benchmarks (2018)

Municipality	Population (2021)	Population Change from 2016	Electricity (kWh)	Natural Gas (Cubic Meter)	Propane (L)	GHG Emissions (tCO2e)
Huntsville	21147	6.7%	3541192	413953	33611	918
Bracebridge	17305	8.1%	3263273	257959	7267	595
Collingwood	24811	13.8%	13009652	728929	0	1762
Orillia	33411	7.2%	9204057	775959	0	1739
Wasaga Beach	24862	20.3%	6594494	229774	16275	654

Data from [Energy use and greenhouse gas emissions for the Broader Public Sector](#)

Baseline Performance

Baseline years include 2011, 2013 and the current 2018. Although the Town's overall energy consumption has decreased since it started benchmarking in 2011, the amount of GHG emissions have not decreased at a similar level. The increase in natural gas consumption and the resulting increase in emissions has been offset by any electrification, and a reduction in the emissions factor for electricity production in Ontario. The lower emissions factor is mainly the result of changes in the electricity sector, including the elimination of coal-fired electricity generation in 2014.

Year	Total Energy (kWh)	Electricity (kWh)	Natural Gas (Cubic Meter)	Propane (L)	Cost (\$)	GHG Emissions (tCO2e)
2011	8972222.22	4083333.33	482905.00	Unavailable	663,507.42	1370.00
2013	7530526.23	3122891.73	398569.94	Unavailable	610,780.03	1036.81
2018	7306500.17	3541192.54	413953.34	33610.78	621,658.81	918.54

Examples of Projects Completed:

- The Town of Huntsville declared a climate emergency on June 28, 2021.
 - To help advance climate change initiatives, Council created the Environment and Climate Change Committee in February 2023, this Committee of Council concluded in February 2024 as per the Terms of Reference.

- Baseline emissions inventory and plan to retrofit existing buildings to lower Greenhouse Gas (GHG) emissions and extends their life cycle is currently underway.
- CS-2018-25 - LED Lighting Retrofit
 - \$60,000 lighting retrofit completed for Jack Bionda Arena funded entirely through the Canada Community-Building Fund (Formerly Federal Gas Tax Fund).
 - The project included the replacement of 50, 400-watt metal halide light fixtures to 50, 54-watt LED lights, and replacement of all fluorescent fixtures to LED.
 - It is anticipated that the project will result in a 67 per cent decrease in annual consumption, saving 89,107 kWh per year.

Energy Management Best Practices:

Tips for analyzing energy use data

- Monitor seasonal trends and building performance.
- Measure proportion of portfolio energy use & emissions to calculate energy use intensity and carbon emissions intensity.
- Use tools to compare benchmarking compared to other buildings (i.e. ENERGY STAR® Portfolio Manager®)
- Consider occupant complaints or calls for service in planning.
- Collect input from building operators.

Move beyond simple payback and reframe the opportunity

- Typically energy upgrades are assessed using a "simple payback" method. This looks at the number of years required for the energy cost savings and/or revenues to repay the upfront capital costs of the upgrade.
- In contrast, lifecycle costing looks at the current total cost of ownership of the measure or equipment over its whole life. This includes initial cost(s); operating costs such as utility and maintenance costs, carbon taxes plus inflation and other considerations. Energy and emission reduction projects often make better sense over the long term than continuing with business as usual (BAU).
- Simple payback periods don't always look favourable so generally the best practice in projects such as these is to go beyond simple payback.
- Use financial metrics e.g. lifecycle costs, net present value, debt ratio (i.e. value of grants and incentives)
- Group projects with longer paybacks with short payback projects to improve the overall payback period (e.g. 50% reduction in emissions, 20% reduction in total corporate GHG emissions, \$40k a year in energy saving and \$10k in carbon tax savings)
- Risks/costs of inaction (e.g. rising carbon tax, vulnerability to climate impacts)
 - Include the national price on carbon emissions in budgeting, Ontario has been subject to the Federal backstop carbon pricing since 2019. It has increased annually from \$20 per tonne in 2019 to \$80 on April 1, 2024.
- Focus on incremental costs of the project or equipment (e.g. heat recovery measures added to planned ice upgrades, incremental costs of higher efficiency replacement equipment instead of total system cost)
- Ensure that utility Demand Side Management (DSM) plans integrate with municipal plans, such as better alignment of programs with municipal priorities and localized DSM programs and support.
 - Enbridge and Save on Energy both offer municipal energy solutions.

Strengthen commitment at the project Level

- Commit to energy performance targets.
- Allocate more resources (e.g. staff, time, budget).
- Implement new technologies (e.g. cold climate heat pumps).
- Provision of renewable energy, distributed energy resources such as networked rooftop solar, building-level energy storage and charging infrastructure. (The Independent Electricity System Operator (IESO) has stated that this is a pivotal point for the electricity system in Ontario and by 2050, energy consumption could double. These needs are being driven by economic growth, population growth and increased electrification.)
- Have a more rigorous M&V process.
 - To ensure that energy-saving measures and building operations are achieving their intended energy-efficiency targets, well-executed measurement and verification (M&V) is crucial ([Save on Energy M&V templates](#)).

Longer term commitment (culture)

Embedding energy management as a priority including:

- Engaging staff for input on effective energy improvements, and strategies for staff engagement and behavior change for enhanced energy efficiency and organizational and institutional policy change.
- Energy efficiency and GHGs incorporated into procurement and design processes.
 - Building renovations and upgrades should assess opportunities for improved energy efficiency, identify heat loss, implement cost-effective energy saving solutions and enhance both comfort and accessibility.
 - New buildings designed to incorporate energy efficiency and productivity measures in accordance with industry best practices and standards.

Accountability for energy performance

- Monitor and evaluate (M&E) to ensure long-term success of initiatives, plans and actions.
 - A reporting mechanism to track the following types of retrofits, upgrades or replacements would help in energy planning:
 - Building envelope maintenance (insulation, air-sealing, window and door repair/replacement)
 - Heating systems (air source heat pumps, water heater heat pumps, heat recovery systems)
 - Building automation systems (BAS)
 - Control systems (Smart or programmable thermostats)
 - Renewable energy systems (Solar panels, solar hot water systems)
- Policies, guidelines, or standard operating procedure.
- Reliable, predictable funding streams (e.g. climate action levy).

Lessons Learned:

- Staff can be a source of inspiration for project ideas and should be provided an opportunity to communicate roadblocks they are currently experiencing or connect with their peers to work through a problem, get buy-in or develop an improved, more compelling case for a project.
- Highlight sustainable features in municipal building design.
 - Transform energy-hungry indoor ice rinks (approx. 40% of municipal corporate building GHG emissions), to reduce emissions through heat recovery, better refrigerants, and eliminating fossil fuel use.
 - For example: *The rinks at the Summit Centre use an ammonia refrigeration system, most plants in North America use ammonia as a refrigerant. Through the refrigeration process to cool the floor to make ice, ammonia captures the heat*

and transfers it to the outside atmosphere. Penetration of frost into the ground from the ice-making is prevented by recapturing any heat generated by the refrigeration process and circulated under the rink. Because the system uses waste heat, it is energy efficient, lowers costs and reduces the carbon footprint and greenhouse gas. A snow melt pit allows for the snow to be melted without opening the outside doors and letting the heat in. There might be the possibility in the future to use waste heat to heat the building, preheat water heading to the hot water tank, and provide dehumidification.

- Free training from [Save on Energy \(SoE\)](#) can help enhance staff expertise with their technical workshops and hands-on coaching. [CIET](#) also offers courses and certification programs have been designed to help both organizations enhance energy efficiency.
- During the course of compiling the necessary data and information for the CDM Plan, the Town had retained Tatham Engineering for a separate but similar corporate Greenhouse Gas (GHG) emissions baseline and reduction project. The baseline was determined to be the same for both projects so any errors or inconsistencies in the data was reconciled in consultation with Tatham so that the findings were consistent across both projects.
- Asset management plans help local governments construct, maintain and dispose of municipal infrastructure assets while minimizing risk and cost to the community and maximizing service delivery. They also provide a strategic opportunity to support energy and carbon reduction goals.

Making a Business Case:

Although retrofitting community buildings is an important strategy for communities to reduce energy consumption and GHG emissions, communities often face many barriers to community building retrofits, including competing priorities and limited resources and capacity. Being able to communicate effectively about the benefits of retrofits and the opportunities they represent is imperative to gaining support for them. Despite employing effective strategies for communicating the case for community building retrofit projects in order to gain the internal buy-in and Council support needed to advance these projects, infrastructure dollars is still needed from other levels of government. The aspirations about a town are usually found in its budget and what gets resourced, gets done.

Options

1. Committee recommends the adoption of the Conservation Demand Management (CDM) Plan for Council's consideration. **(recommended)**
2. Committee does not recommend the adoption of the Conservation Demand Management (CDM) Plan for Council's consideration. (not recommended)

** Note: Reporting is a Provincial requirement under Ontario Regulation 25/23.*

Capital

Any future capital costs related to the Conservation and Demand Management (CDM) Plan recommendations will be included in future draft budgets for Council's consideration.

Operational

Any future operational costs related to the Implementation (CDM) Plan recommendations will be included in future draft budgets for Council's consideration.

Council Strategic Direction / Relevant Policies / Legislation / Resolutions

Strategic Direction:

Balanced Growth - 1. Engage in proactive, sustainable planning to support vibrant communities

Balanced Growth - 1.2. Ensure a continued focus on maintaining and upgrading existing Town infrastructure as part of growth management planning.

Balanced Growth - 1.5. Develop a 20-year Facility Plan to map out the future of key municipal infrastructure.

Protected Natural Environment - 2. Make the Town a leader in climate action

Protected Natural Environment - 3. Engage the community in addressing the impacts of climate change

Lively, Healthy & Safe Communities - 2. Advance the well-being of the community and its evolving needs

Our Foundation - Stable, Trusted, & Engaged Community Partner - 2. Continue to ensure long-term financial sustainability of the Town

Our Foundation - Stable, Trusted, & Engaged Community Partner - 2.1. Create, implement, and invest in the Town's Asset Management Plan, including long-term financing strategies.

Our Foundation - Stable, Trusted, & Engaged Community Partner - 2.2. Continue to seek alternative funding sources from other levels of government, including grants, sponsorships, and partnerships.

Our Foundation - Stable, Trusted, & Engaged Community Partner - 3. Strengthen the relationship between the Town and residents through improved communications and engagement

Legislation:

[Ontario Regulation 25/23 made under the Electricity Act, 1998](#)

Attachments

[Town of Huntsville Energy Conservation Demand Management Plan Update 2024-2029](#)

Consultations

Greg Pilling - Manager of Facility Operations, Sales & Customer Service

Alison Purser - Customer Service Coordinator

Respectfully Submitted: Trevor Donald, Project Coordinator

Manager Approval (if required): _____

Director Approval: Kirstin Maxwell, Director of Development Services

CAO Approval: Denise Corry, Chief Administrative Officer



Town of Huntsville Conservation and Demand Management Plan Update
2024-2029



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Introduction

The Town of Huntsville has been committed to reporting its energy conservation activities since 2014 in order to reduce energy consumption, decrease operating costs, and to set an example for the community as to why energy conservation is important. The Province of Ontario requires municipalities to create an Energy Conservation and Demand Management Plan (CDM) by July 1 every 5-years. This 2024-2029 plan will replace the Town's previous plan, [2019 Energy Conservation and Demand Management Plan](#) and the 2014 Energy Conservation and Demand Management Plan (Report No. PL-2014-52).

It is the intention of the municipality to further develop the CDM Plan and enhance the Municipality's commitments toward green projects, as well as upgrades to the Town's aging infrastructure, which requires rehabilitation and/or replacement.

Some of the items detailed in the plan include the energy profile of the Town's facilities, where it can get cost-savings in the future, and what methods the Town has undertaken to create cost-savings.

The plan is also a way for the Town to find efficiencies through staff behavior. For example, many of the Town's facilities have Building Automation Systems, but staff need to ensure sensors are calibrated properly. During those times of year where the weather is inconsistent, the Town can look at regulating facility temperatures manually.

The previous CDM Plan covering 2019 to 2024, lacked definitive energy consumption and Greenhouse Gas (GHG) emissions reduction targets. The plan's objectives were simply to reduce energy usage and GHG emissions by implementing effective energy reduction strategies. To address this, the Town is working jointly with area municipalities on a corporate GHG Inventory and Climate Change Mitigation Plan that will set an emissions baseline and reduction pathways and provide actions to achieve those targets. In addition to municipal buildings, it will also look at fleet/transportation and present opportunities to significantly curtail both corporate GHG emissions and energy consumption.

This CDM Plan is recommending a conservative 3-5% energy reduction annually between 2024-2029. This is until the more comprehensive and ambitious corporate Climate Change Mitigation Plan is presented to Council with defined targets and emissions pathways to be adopted in line with its commitment to achieve net-zero emissions by 2050.

Approximately 650 Canadian municipal governments have declared a climate emergency, the Town of Huntsville declared a Climate Emergency in 2021. The active engagement of municipalities in planning, implementing, and monitoring climate action initiatives is pivotal in reducing local emissions.

As per Provincial requirements, the Town will post this CDM Plan on its [website](#) once it is available, so residents can view the material. In 2029, another review will be required for a subsequent five-year plan.

Overview

This energy management plan will:

- Define the principles, systems, codes, and regulations of energy efficiency.
- Conduct basic calculations, benchmarking, and audits on building energy consumption.
- List factors to take into consideration to identify potential energy savings in buildings.

What is Energy Management?

Energy management is the process of tracking, optimizing, and reducing energy consumption in a building or organization. Professionals working in this field are often drivers of projects consisting of collecting and analyzing energy consumption data, reducing energy use through the implementation of energy efficiency measures, optimizing equipment, and scheduling in buildings, and incorporating renewable energy.

Given the link between energy use and GHG emissions, energy management is also tied to environmental protection and climate action. As a result, energy management professionals must often balance priorities between efficiency, environmental performance, and cost savings.

Having a dedicated Building/ Facility Manager on staff and Building/Facility Maintenance Technician on staff helps ensure that there is staff capacity for energy management.

The main duties of a Building/Facility Manager include:

- Conducting periodic building/facility inspections to determine maintenance requirements.
- Supervising the implementation of preventative maintenance programs and ensuring that key building assets are maintained.
- Monitoring building automation systems.

The main duties of a Building/Facility Maintenance Technician include:

- Operating building/facility mechanical, electrical, and other systems to guarantee safe and efficient operations.
- Ensuring preventative and corrective maintenance as needed.
- Performing routine inspections and monitoring.

Making the Case for Energy Management

Although energy management may seem obvious, the ability to effectively communicate and demonstrate both the energy and non-energy benefits of projects or retrofits from operational cost savings and conservation, to reduced equipment maintenance is key.

Communication and basic understanding of financial analysis concepts is necessary to prepare proposals for energy projects and secure buy-in from staff or decision makers.

When a project is proposed, the proposal should:

- Include information that can be communicated to various stakeholders.
- Convey the added value of the project.
- Distinguish both the energy and non-energy benefits of the projects.
- Use key financial analysis terms and apply ratios to assess projects.
- Prepare financial analyses using a simple spreadsheet.

To ensure projects include energy benefits, they should always be linked back to the energy management plan.

Energy Benchmarking

Energy usage can represent one of the largest operating costs for municipalities. Energy reporting, benchmarking and conservation planning will help the Town:

- Better manage their energy use and costs.
- Identify best practices and energy-saving opportunities.
- Find ways to reduce GHG emissions.
- Evaluate results by comparing similar facilities across the province.
- Provide a benchmark to set goals.
- Measure improvement over time.

Emissions Reductions

Decarbonization is the process of reducing carbon intensity and GHG emissions. This entails decreasing CO₂ emissions from buildings, power generation, and transportation per unit of electricity generated.

Those who work toward decarbonization are responsible for identifying, selecting, and implementing projects that will lower overall emissions, whether employed as consultants, members of a sustainability team, or involved in facility operations. These professionals are counted on to analyze projects as well as understand carbon pricing and the cost of energy so that they can make the right choices for their organizations.

Significant decreases in emissions will come from fuel switching from natural gas and propane to electrification. Rapid electrification, however, is only a sustainable solution if the electricity is coming from clean sources. Ontario has one of the cleanest electricity grids with over 90 percent coming from renewable sources since the phase out of coal fired plants in the province in the early 2000s. If natural gas generation is ramped up provincially, it will make it more difficult for municipalities to reach their emission reduction targets as emissions from the electricity sector will stand to increase.

Once the Town has a better grasp on its emissions and where its reduction measures are going, then it can consider further alternatives to help meet its emissions-reduction goals. It is anticipated that even with an emissions reduction plan in place, the Town will get to near-zero emissions reduction but not necessarily net-zero. For example, [Muskoka's Community Energy and Emissions Reduction Plan \(CEERP\)](#) will result in an 85% reduction in GHG emissions and the remaining 15% will require a combination of technological and policy developments.

Because of this gap, any actions can be implemented in the meantime to help the Town meet its climate goals. For example, an idling by-law is in place and the unnecessary idling of vehicles and equipment operated by Town employees is discouraged.

Regulatory Requirements

In February of 2023, the Provincial Government introduced [Ontario Regulation 25/23 \(O.Reg. 25/23\)](#) – which supersedes the previous O.Reg. 397/11 and O.Reg.507/18 under the Electricity Act, 1998.

This regulation requires certain public agencies – Municipalities, Municipal Service Boards, School Boards, Post-Secondary Educational Institutions, and Hospitals – to report on their energy consumption and GHG emissions annually. This also mandates that public agencies develop, and update every five (5) years, an Energy Conservation and Demand Management (CDM) Plan. These plans must be publicly available on their websites and in hard copy at their head office.

The plan must include:

- conservation goals and objectives
- proposed conservation measures
- cost and savings estimates
- a description of renewable energy generation facilities, including the amount of energy generated annually.

The intent of this regulation is to help the broader public sector (BPS) organizations better understand and report their energy consumption, help benchmark, encourage energy conservation and demand management activities within their organizations, and then ultimately make this information available to its public.

Broader Public Sector (BPS) Annual Reporting

LAS created the Energy Planning Tool (EPT), the Town uses this tool to develop and update plans in compliance with the Provincial regulation. Ontario public agencies must report their annual energy use and greenhouse gas emissions to the Ministry of Energy each year by July 1. This is set out in the [energy reporting regulation for broader public sector \(BPS\) organizations](#).

To report energy use, municipalities need to provide:

- Property information: This will produce accurate energy use data.
- Usage data: Municipalities need to report usage data for all forms of energy consumed by properties in your public agency (for example, electricity, propane, natural gas, diesel, fuel oil) for the reporting year (January 1 to December 31).

Information that public agencies submit is published on the [Open Data Catalogue](#).

Municipalities must submit their 2022 and 2023 data in 2024 and starting in 2025, they must report their energy data for the previous calendar year. For example, in 2025 they will report their 2024 data.

At present building energy data is entered into the EPT by using monthly utility invoices. It should be noted that the Province of Ontario introduced a new requirement that most regulated Ontario electricity and natural gas utilities must provide their customers with access to their energy usage data in Green Button format no later than November 1, 2023.

Key Highlights

The significant decrease in corporate building emissions between 2018 and 2021 is a result of the COVID-19 pandemic and intermittent stay at home orders. A decrease between 2018 and 2021 can generally be attributed to lower usage of facilities but this was not uniform. From a cost point of view, the Canada Summit Centre for example had a 50% per cent cost decrease attributed to half the Natural Gas usage in 2020 versus 2018. However, the decrease was not as dramatic in terms of natural gas usage in some facilities during that period because facilities still need to be heated even if they are not being used. The Town also has established guidelines and provisions for remote work arrangements, the Town can leverage this policy that supports a flexible work culture and encourages remote work to reduce office space energy demands.

COVID-19 Restrictions Impact on the Canada Summit Centre:

Year	Electricity (kWh)	Cost (\$)	Natural Gas (Cubic Meters)	Cost (\$)
2018	1644603.28	270,331.74	245553.88	93,242.84
2020	1412901.10	258,399.03	127390.00	46,818.28
Reduction	231702.18	11,932.71	118163.88	46,424.56
Reduction %	14	4	48	50

Energy use reduction can also be attributed to the surplus and disposal of three (3) non-core assets between 2017 and 2018.

- 254 Marsh Road House
- Huntsville Train Station and CN Railway Ancillary Shed (26 Station Road)
- Waterloo Summit Centre for the Environment (87 Forbes Hill Drive)

Successes

Since 2018, the Town has achieved the following successes:

- The Town of Huntsville declared a Climate Emergency in 2021, which includes a commitment to meet the Federal emission targets of at least 40-45% below 2005 levels by 2030 and is committed to achieving net-zero emissions by 2050.
- On track to completing Federation of Canadian Municipalities (FCM) Partners for Climate Protection (PCP) – Milestone 3 (the Town has been a member of PCP since 2012).
- Sat on the District’s Task Force to develop the [Muskoka Community Energy and Emissions Reduction Plan \(CEERP\)](#).
- Participation in the [Independent Electricity System Operator \(IESO\) Long-Term RFP: Community Engagement](#).
- Planned installation of public-facing EV charging stations on Town-owned land.
- LED lighting retrofit in 2018 anticipated to have 67% reduction in annual electricity consumption at the Canada Summit Centre, saving 89,107 kWh per year.

Considerations

- Staff Capacity: Some municipalities allot funding from their Town’s Green Fund Reserve to increase staff capacity and complete projects.
- Increasing awareness of funding programs: The Town pays federal carbon pricing corporately and the intent is that money is supposed to be reinvested back into projects. The Federal Government announces funding opportunities through Natural Resources Canada (NRCAN), Environment and Climate Change Canada (ECCC), Infrastructure Canada (INFC) and the Federation of Canadian Municipalities (FCM). Staff monitor and track funding streams continuously, looking for different opportunities to take advantage of those pots of funding as they become available.
- Asset Management Plan: Energy and carbon reduction, cost savings, improved asset performance and resilience could be achieved by [identifying and implementing energy and carbon reduction measures in asset management schedules](#).
- Green Fleet: The electrification of the Town’s passenger and light-duty vehicles will reduce corporate GHG emissions but could increase building energy usage.
- Corporate versus Community Emissions: While the sale of non-core assets results in the reduction of the overall energy footprint of the corporation, the energy and associated emissions are transferred to the community.
- Contracted services and services provided by the District of Muskoka are not included in the scope of the energy plan:
 - Energy-related demand originating from operating water and wastewater services including getting fresh water, pumping water and wastewater

around the community, and treating it at the wastewater treatment plant is not included as this is done by the District of Muskoka.

- Waste is another responsibility of the District including any facilities that might be built in the Town (i.e. waste transfer station)
- While the Town offers local transit, it is a contracted service, so it does not maintain a transit garage.

Projects Completed to Date

- The Town of Huntsville declared a climate emergency on June 28, 2021.
- To help advance climate change initiatives, Council created the Environment and Climate Change Committee in February 2023, this Committee of Council concluded in February 2024 as per the Terms of Reference.
- RFQ-2020-COMM-23 - Touchless Fixtures Procurement
 - Purchase, installation and replacement of toilets and fixtures.
- CS-2018-25 - LED Lighting Retrofit
 - \$60,000 lighting retrofit completed for Jack Bionda Arena funded entirely through the Canada Community-Building Fund (Formerly Federal Gas Tax Fund).
 - The project included the replacement of 50, 400-watt metal halide light fixtures to 50, 54-watt LED lights, and replacement of all fluorescent fixtures to LED.
 - It is anticipated that the project will result in a 67 per cent decrease in annual consumption, saving 89,107 kWh per year.

Projects Underway

- Joint Baseline emissions inventory and plan to retrofit existing buildings to lower Greenhouse Gas (GHG) emissions and extend their life cycle is currently underway.
- OPS -2018-24 - McCulley Robertson Ball Diamonds — Design Options and Procurement for Reconstruction
 - Project went forward in 2019 and was completed in 2020 (home run fencing did not get replaced, did not regrade outfield there was no irrigation installed Diamond F lights were not done).
 - The report at the time did not recommend \$450,000 to install LED lights instead of HID lighting, despite the long-term savings of hydro.
 - RFP awarded in early 2024 for the \$368,454.00 to complete the replacement, including the supply and installation, of Huntsville's Ball Diamond "F" lights.
- Report Number CS-2024-5 Year-Round Ice at the Canada Summit Centre Follow up
 - Year-round ice use on the Don Lough Arena starting July 1, 2024, is expected to add to other ongoing costs, including \$59,316.43 annually for utilities based on inflation calculations. The Jack Bionda Arena does not have year-round ice use.

- 4 gas ranges were replaced (Active Living Centre, Port Sydney Community Hall, Aspdin Community Hall, Utterson/Stephenson Community Hall) with automatic pilotless ignition. This saves money by using less gas than a standing pilot range.

Proposed Future Projects

- Report No. DEV-2023-45 - Update to Report WG-2022-1, Town Hall Energy Assessment Report and Accessibility Update
 - The building was built in 1926 and will be 100 years old in 2026, and has undergone multiple renovations in its lifetime, notably the addition of the Algonquin theatre in 2006.
 - Recently the previous Club 55 space is no longer considered a rentable space and is now utilized for office space for Operations.
 - Discussion of renovations are largely centered around accessibility and the existing Council chamber, located on the upper floor of Town Hall.
 - An ASHRAE Level 2 Energy Assessment has been conducted on the Town Hall building as well as a building condition assessment but is not yet known the cost for extensive and expensive changes to the whole structure.
 - By implementing the Energy Conservation Measure (ECM) Bundle listed in the assessment, a potential annual savings of 16,424 m³ of natural gas and 62,610 kWh of electricity may be achieved.
 - The anticipated GHG savings, based upon emission factors appropriate for Ontario, with the implementation of all the proposed ECMs, is estimated to be 32.93 tonnes CO₂e/year, which is equivalent to a 38.66% reduction overall.

Summary of ECMs

ECM-1	Building Envelope Improvement - Exterior Wall System Repairs and Insulation
ECM-2	Building Envelope Improvement - Roof Insulation Upgrades
ECM-3	Replace Packaged Rooftop Air Handling Units
ECM-4	Replace Forced Air Furnace units 4A/4B
ECM-5	Replace Gas-fired Domestic Hot Water (DHW) Heater with High Efficiency Heater
ECM-6	Building Automated System Upgrade and Optimization (Existing Building Commissioning)

- Report No. OPS-2022-32 - Town of Huntsville Operation Centre - Madill - Building Condition Assessment
 - Tulloch recommended against the repairs identified and recommended replacement of the existing footprint with no consideration given to expanded or future service delivery. The replacement also does not consider the addition of other services or departments or additional meeting space for the Town.

- Report No. CS-2020-16 - Huntsville Public Library - 7 Minerva St. E. - Assessment and Repair
 - Huntsville Public Library Space Assessment & Recommendations report identified over \$ 500,000 of costs that would need to be incurred for repairs and maintenance of the library building over the next 10 years.
 - The library underwent a significant expansion and renovation in 1994.
 - The annex was an existing facility that was purchased and renovated in 2016, it currently houses a medical clinic.
 - There was a major renovation on the main building HVAC system in 2017. All 3 A/C units (furnaces and outdoor condensers) were replaced.
 - There was a major renovation on the main building lighting system in 2017. All normal lights are replaced with new LED lamps.
- Report CS-2024-3 - Canada Summit Centre Pool Hot Tub-Change Room Improvement Project
 - Council is considering including the hot tub replacement in the 2025 draft budget for a maximum amount of \$375,000.
- Summit Centre HVAC upgrades/ replacements planned.
- Several infrastructure projects have been proposed for investment but have not been committed to in the Capital Budget (e.g. a multi-level parking garage, multi-use recreational facility or semi-enclosed rink).
- Using the Community Emergency Preparedness Grant to purchase backup generators (Lake of Bays received \$50k Install a propane generator and transfer switches for their evacuation centers in 2023).

Energy Performance

Current Reporting Period

Between 2018 and 2021, total energy decreased from 7,306,500.17 ekWh to 6,043,409.60 ekWh and GHG emissions decreased from 918.54 tonnes to 754.33 tonnes.

High emitting energy like natural gas, propane stayed around 60% and electricity consumption remains around 40%. Gas-heated buildings in the portfolio fall between the range of 37 and 74 MBH/sq.ft with the upper end of that range being buildings like public works facilities that are typically much more inefficient.

Year	Total Energy (kWh)	% Electricity	% Nat Gas	% Propane	GHG Emissions (tCO ₂ e*)	% Electricity	% Nat Gas	% Propane
2018	7306500.17	38%	59%	3%	918.54	9%	86%	5%
2021	6043409.60	38%	59%	3%	754.33	9%	87%	4%

* tonnes of carbon dioxide equivalent

Municipal Building Portfolio Benchmarks (2018)

Municipality	Population (2021)	Population Change from 2016	Electricity (kWh)	Natural Gas (Cubic Meter)	Propane (L)	GHG Emissions (tCO2e)
Huntsville	21147	6.7%	3541192	413953	33611	918
Bracebridge	17305	8.1%	3263273	257959	7267	595
Collingwood	24811	13.8%	13009652	728929	0	1762
Orillia	33411	7.2%	9204057	775959	0	1739
Wasaga Beach	24862	20.3%	6594494	229774	16275	654

Data from [Energy use and greenhouse gas emissions for the Broader Public Sector](#)

Baseline Performance

Baseline years include 2011, 2013 and the current 2018. Although the Town's overall energy consumption has decreased since it started benchmarking in 2011, the amount of GHG emissions have not decreased at a similar level. The increase in natural gas consumption and the resulting increase in emissions has been offset by any electrification, and a reduction in the emissions factor for electricity production in Ontario. The lower emissions factor is mainly the result of changes in the electricity sector, including the elimination of coal-fired electricity generation in 2014.

Year	Total Energy (kWh)	Electricity (kWh)	Natural Gas (m ³)	Propane (L)	Cost (\$)	GHG Emissions (tonnes)
2011	8972222.22	4083333.33	482905.00	Unavailable	663,507.42	1370.00
2013	7530526.23	3101047.00	398569.94	Unavailable	610,780.03	1036.81
2018	7306500.17	3541192.54	413953.34	33610.78	621,658.81	918.54

Renewable Energy

In 2014, the Town of Huntsville demonstrated leadership in renewable energy generation and a commitment to sustainability as a way of doing business by installing rooftop solar photovoltaic systems on Town buildings

The Town currently has 6 rooftop solar photovoltaic 10-kilowatt (kW) systems on municipal facilities. The locations are the roofs at the Civic Centre, Huntsville Fire Hall, Huntsville Public Library, Madill Yard, Port Sydney Fire Hall, and Port Sydney Community Hall.

Location of Solar Photovoltaic (PV) Modules Hanwha Solar One HSC-250-60P Modules and Power One Aurora String inverter:

Building Name	Address
Lakeland Power (in town)	
Civic Centre	37 Main St. E
Huntsville Fire Dept.	1 Payne Dr.
Huntsville Public Library	9 Minerva St. E

Hydro One (Rural)	
Port Sydney Community Centre	607 Muskoka Rd. 10
Port Sydney Fire Dept.	1-387 South Mary Lake Rd.
Madill Public Works	1-169 Madill Church Rd.

Up front cost of the installation for all buildings was \$202,376.22 and each system is grid-tied and falls under contract with the Ontario Power Authority to generate revenues from power produced. From 2014 – 2016 revenues generated are approximately \$90,940 with 82.6 tonnes of GHG avoided. The panels on average generate \$25,000 annually excluding maintenance costs.

Generated electricity from the municipality's solar array is not used within municipal facilities and is instead sold back to the grid for a fixed price of \$0.549 for every kW of energy generated. They currently generate a revenue stream of approximately \$25k annually.

Any future expansion and connection of solar electricity into municipal buildings (e.g. Summit Centre) could save several tonnes of CO2e from the municipal emissions portfolio and avoided grid electricity usage savings could be reinvested into services like the local transit system.

Building Energy Profiles

The Town's building and facilities consume electricity, natural gas and other fuels to heat, cool, ventilate, and illuminate administrative, fire halls and community and recreation centers

In 2018, the Town of Huntsville owned and maintained 17 buildings that fell within the reporting requirements of the O. Reg. In 2021, the number of buildings the Town maintains was 14 and 4 of those facilities use propane.

1. Aspdin Community Centre (2626 Aspdin Rd.) - 103 m2 / 1109 sq.ft.

Year	Electricity (kWh)	Cost (\$)	Propane (L)	Cost (\$)
2018	4457.84	1,089.14	8463	5,363.37
2021	3026.83	1,398.81	6755	4,724.66

Propane consumption appears to be far outside of the range of energy consumption for a community center facility. This would place the propane consumption at 169 MBH/sq.ft. For reference, the other community centers in the portfolio range from 37 to 65 MBH/sq.ft.

MBH = thousand BTUs per hour

2. Canada Summit Centre – 17823 m2 (Total Area)

Canda Summit Centre electricity is metered together with Muskoka Heritage Place Station and Muskoka Heritage Place Shed, so electricity must be divided based on area as follows:

- 2.1. Canada Summit Centre – 17187 m² (96.4% of total area)
- 2.2. Muskoka Heritage Place Station (88 Brunel Rd.) – 218 m² (1.2% of total area)
- 2.3. Muskoka Heritage Place Shed – 418 m² (2.4% of total area)

Year	Electricity (kWh)	Cost (\$)	Natural Gas (m ³)	Cost (\$)	MHP Station Only Propane (L)	Cost (\$)
2018	1706020.00	270,331.74	254724	93,242.84	1872.08	1,112.61
2021	1643006.36	236,286.61	238056	88,580.56	2211.94	1,223.86

3. Civic Centre (Town Hall and Algonquin Theatre) (37 Main St. E) – 3844 m²

Year	Electricity (kWh)	Cost (\$)	Natural Gas (m ³)	Cost (\$)
2018	498111	83,713.00	51835.58	21,900.03
2021	323266	53,039.41	35968.80	14,648.94

4. Fire Hall Huntsville/Lake of Bays (100 Payne Dr.) – 1086 m²

Year	Electricity	Cost (\$)	Natural Gas (m ³)	Cost (\$)
2018	71201	8,256.08	13616.88	6,219.00
2021	45068	6,653.95	19072.27	8,047.81

5. Fire Hall South Mary Lake (387 South Mary Lake Road) – 691 m²

Year	Electricity (kWh)	Cost (\$)	Natural Gas (m ³)	Cost (\$)
2018	19656	3,517.35	7766.77	3,701.89
2021	17849	3,622.83	6451.46	2,896.51

This building was constructed in 2009 and has a natural gas forced air furnace. Bays in the fire hall also have natural gas tube heaters.

6. Huntsville Public Library (HPL) (7 Minerva St. E) – 1136 m²

Year	Electricity (kWh)	Cost (\$)	Natural Gas (m ³)	Cost (\$)
2018	87533	9,972.62	14020.24	6,321.83
2021	95560	13,367.89	16992.30	7,226.13

7. Huntsville Public Library Annex (1 Minerva St.) – 109 m²

Year	Electricity (kWh)	Cost (\$)	Natural Gas (m ³)	Cost (\$)
2018	11741	1,838.49	6261.92	3,041.82
2021	9651	1,736.57	5216.12	2,427.78

8. Kent Park (75 Main St. E)

Year	Electricity (kWh)	Cost (\$)
2018	191	603.95
2021	497	513.83

This is a public park with street lighting.

9. Madill Yard (Offices and Garage) (169 Madill Church Rd.) – 832 m2

Year	Electricity (kWh)	Cost (\$)	Natural Gas (m ³)	Cost (\$)
2018	106432.88	17,794.77	18885.60	8,468.18
2021	92329.69	17,717.21	14532.00	6,520.62

10. McCulley Robertson Quonset Hut (269 William St.) – 223 m2

Year	Electricity (kWh)	Cost (\$)	Propane (L)	Cost (\$)
2018	12079.92	2,366.55	8042.00	6,518.99
2021	14049.62	2,894.14	5639.90	4,580.87

11. Muskoka Heritage Place (88 Brunel Road) – 364 m2

Year	Electricity (kWh)	Cost (\$)	Propane (L)	Cost (\$)
2018	21660	2,846.88	7402.30	4,972.83
2021*	26640	4,029.27	4628.80	3,890.03

*The electricity usage for 2017 was 19921kWh and the cost was \$3,533.92, in 2019 the usage was 28454 kWh, and the cost was \$3,886.19. Eclipse “Walk with Light” at Muskoka Heritage Place ended after 2 seasons starting in 2021 (18,000 lights).

12. Port Sydney Community Hall (607 Muskoka Rd. 10) – 401 m2

Year	Electricity (kWh)	Cost (\$)	Natural Gas (m ³)	Cost (\$)
2018	11825.24	2,258.89	7981.43	3,607.26
2021	10372.11	2,231.31	6880.30	3,048.74

13. Reservoir Hill (Communication tower on Florence St., name amended to Abraham Rd.)

Year	Electricity (kWh)	Cost (\$)
2018	8515	1,494.65
2021	6892	1,416.87

14. Stephenson Township Hall / Utterson (32 Township Hall Rd.) – 430 m2

Year	Electricity (kWh)	Cost (\$)	Propane (L)	Cost (\$)
2018	36878.02	6,641.41	7831.40	5,061.01
2021	15079.60	4,475.83	4720.70	3,079.19

Sold or Surplused

1. CN Station (26 Station Rd.) – 471 m2

This building was sold May 1, 2018

CN Station electricity was metered together with CN Ancillary, so electricity was divided based on area as follows:

- CN Station – 278 m2 (59% of total area)
- CN Ancillary 193 m2 (41% of total area)

Year	Electricity (kWh)	Cost (\$)	Natural Gas (m ³)	Cost (\$)
2018 (Jan. – Apr.)	19176	2,274.28	2664.47	839.37

2. Marsh Rd. (254 Marsh Rd. E) – 121 m2

Year	Electricity (kWh)	Cost (\$)	Natural Gas (m ³)	Cost (\$)
2018 (Jan. - Mar.)	966	193.01	1101.59*	555.41

*Approx.

3. Waterloo Summit Centre for the Environment (87 Forbes Hill Dr.) – 5017 m2

The building was sold June 2018.

Year	Electricity (kWh)	Cost (\$)	Natural Gas (m ³)	Cost (\$)
2018 (Jan. – May)	136948.64	20,049.18	35094.86	15,490.36

Recommendations

1. Energy Engagement Strategies

An often overlooked and important parameter of successful energy efficiency and decarbonization projects is the people involved. Specifically, the actions of people can lead to the success or failure of a project. An energy engagement strategy incorporates the various aspects of behavioral and holistic organizational management. The plan examines how to change behaviors while engaging people – either internally (staff, operations, teams) or externally (tenants, clients, occupants).

Internal education, awareness, and outreach help establish realistic goals for an energy engagement strategy. By defining why and how individual actions and choices play a significant role in influencing energy consumption and environmental impact it is possible to influence individual and collective behaviors to promote more sustainable practices.

2. Measurement and Verification (M&V)

“You can’t improve what you don’t measure.”

M&V should be included as a part of any energy project to evaluate the performance of energy conservation measures serves to demonstrate project success, improve installation operations, obtain financial assistance, and raise awareness among installation users.

“Measurement and verification (M&V) is the process of planning, measuring, collecting, and analyzing data to verify and report energy savings resulting from the implementation of energy efficiency measures (EEMs) in one or more facilities.” Source: IPMVP, CORE CONCEPTS 2022

M&V activities include the:

- Installation, calibration, and maintenance of meters.
- Collection and processing of data.
- Development of a reliable and transparent calculation and estimation method.

- Performance of savings calculations using measured data.
- Monitoring, quality assurance.
- Verification of reports by third parties (occasional).

Innovative new ways to monitor and evaluate (M&E) should be explored including an online system where corporate energy usage, consumption and cost information for natural gas, electricity and corporate fuel is tracked in near real-time. This would allow staff to track trends and gauge the impact of their actions including increases in energy costs, the larger increase in carbon pricing, track specific projects and any improvements and reductions in specific facilities and troubleshoot problems.

3. Building Operations and Maintenance (O&M)

Building operations encompass the activities required to run, maintain, and manage a building. They are often critical to an organization's ability to operate effectively and prevent the deterioration of equipment and systems. These include HVAC, electrical, plumbing, automation, and security systems as well as related building envelope components and facility improvements, retrofits, and upgrades.

- The Building Envelope
- Heating – Boilers & Heaters
- Cooling – Refrigeration & Air Conditioning
- Motors, Pumps, & Fans
- Lighting
- Heating Ventilation & Air Conditioning (HVAC)
- Renewable Energy Sources & Systems

From managers to operators and maintenance staff, those who work in building operations are often responsible for ensuring tenant comfort and the reliability of building functions and access. They also ensure building systems operate effectively, prepare facilities for seasonal changes, perform repairs and maintenance checks, make sure things are up to code, and remain vigilant of safety hazards.

4. Building Operations and Maintenance (O&M) Training

Building operators as well as related maintenance and facility staff know their building better than anyone. Therefore, they are uniquely positioned to discover and act on energy savings opportunities that will reduce maintenance costs and overall building operating costs. Free training from [Save on Energy \(SoE\)](#) can help enhance staff expertise with their technical workshops and hands-on coaching. [CIET](#) also offers courses and certification programs have been designed to help organizations enhance energy efficiency.

Ongoing training opportunities, including some general and specialized training, are essential. The goal should be to get all the employees involved and aware of what their impact is and how their everyday behaviors can impact energy use in the corporate

environment. By keeping energy usage and conservation in the minds of staff it creates a culture sustainability.

General training opportunities should include:

- Determine how building operations impact energy consumption and how to identify energy waste.
- Determine how to improve energy efficiency through building maintenance and operations.
- Apply expertise on how to conduct simple energy savings calculations and explain savings to others.

Specialized training opportunities should include:

- Apply building control strategies used to reduce energy consumption and costs.
- Optimize HVAC systems.
- Reduce energy consumption through equipment selection and replacements.

5. Existing building commissioning (EBCx)

Existing building commissioning (EBCx) is a term that refers to the process of testing existing facility equipment and systems to ensure they still function as designed and intended and, if not, to make the necessary adjustments. EBCx projects serve to assess how building systems operate together and identify operational improvements. Comfort issues often initiate these projects, although such projects play a critical role in evaluating system performance.

Increasing occupant comfort and satisfaction while simultaneously reducing energy operating costs is an effective approach to unlocking the true value of building assets. It has been well-documented that the practice of EBCx reduces operating costs while improving indoor environmental quality.

6. Strategic energy management (SEM)

Strategic energy management (SEM) is a specialized field of energy efficiency and that consists of systematically understanding, controlling, and thereby reducing organizations' energy consumption and demand along with correlated expenses and GHG emissions over time. The approach involves understanding and addressing gaps in areas such as energy and climate policies, human resource capacity, energy efficiency project development practices, monitoring and reporting systems, and financial resource allocations. Without a strategic approach, organizations may attempt to address energy efficiency on a piecemeal, project-by-project basis, thus resulting in unclear outcomes and unsustainable energy and demand reductions.

SEM enables organizations to adopt a stable, controlled, and predictable continuous improvement cycle.

Organizations that adopt SEM principles have demonstrated the ability to achieve annual energy and cost reductions of up to 5% in their portfolios.

How to develop a winning strategic energy management strategy:

- Assess an organization's capacity to manage energy consumption and GHG emissions.
- Recognize the policies and organizational structures that advance an organization's energy efficiency goals.
- Address gaps in planning, financial resource allocations, and communication.
- Identify and prioritize energy efficiency initiatives.
- Set and communicate clear energy management goals.
- Develop energy efficiency projects.
- Systematically reduce energy consumption to meet their climate objectives.
- Communicate the performance of energy efficiency initiatives.

7. Sustainable Building Operations

Building operators and managers run and maintain their buildings daily with the goal of resolving issues and keeping tenants satisfied. Building operators typically ensure that building heating, cooling, mechanical, and electrical equipment operates effectively. They also prepare the facility for seasonal changes, perform repairs and maintenance checks, ensure compliance with codes, and monitor safety hazards. Building operators should have a deeper understanding of the impacts of building mechanical and electrical systems on energy use, operational costs, and GHG emissions.

- Optimize electrical and mechanical systems and controls.
- Identify building energy loads and end-use consumption.
- Analyze building energy use by using benchmarking concepts.
- Identify opportunities to improve efficiency by utilizing best practices and tools (BAS, data analytics).
- Apply sustainable O&M strategies.
- Develop building GHG emissions and strategies to achieve net zero emissions; Comprehend smart grids, smart buildings, AI technologies, and their applications in buildings.

8. Improving Resiliency and Reduce Vulnerability to Climate Change

Buildings are a significant source of energy consumption and GHG emissions. They are also impacted by climate because seasonal fluctuations in weather conditions can affect how much energy you need to operate your buildings. Building enclosures rely on heat and moisture control to avoid significant energy loss due to airflow leakage, which makes buildings less comfortable and more costly to maintain. This problem will likely be compounded by climate change due to volatile temperature fluctuations.

Generally, energy management uses weather normalized energy or the energy the building would have used under average conditions (also referred to as climate normal). The weather in a given year may be much hotter or colder than the building's normal climate. Some Energy Planning Tools like ENERGY STAR® Portfolio Manager® allow users to track and assess energy consumption (including weather) across their entire portfolio of buildings while also comparing performance with other similar buildings nationwide.

9. Breaking Down Silos

In addition to the 5-year CDM Plan, the Town is required to do an annual report on energy usage and GHG emissions that gets submitted to the province every year. A plan should be developed for Divisions and Departments to review this energy usage annually.

10. Support New Energy and Climate Staff

[Support new energy and climate municipal staff](#) with effective onboarding and training to eliminate decision-making delays and inefficiencies in the implementation of energy and climate programs.

Conclusion

Energy management should be considered a priority in all corporate asset management activities, including capital, operations, and maintenance decisions; and financial management and procurement decision and could be the vision statement for energy management within the municipality. Initial upfront cost does not necessarily have to be the sole deciding factor when determining level of ambition (e.g. cost of carbon, cash flows generated beyond the payback period). Instead, to make a compelling case for community building retrofits, key messages can be framed to align with current priorities and support decision-making.

Over the next five years, the Town of Huntsville has the potential to reduce energy consumption and GHG emissions by 3-5% annually.

In 2029, when the Town's corporate energy conservation and demand management plan is set to be renewed, staff and councilors will have an opportunity to discuss the recommendations in this plan and their effectiveness.