



TOWN OF
HALTON HILLS
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REPORT

TO: Mayor Lawlor and Members of Council

FROM: Venkiteswaran Balasubramanian, Senior Analyst, Energy Management

DATE: April 14, 2025

REPORT NO.: CSE-2025-012

SUBJECT: Energy Conservation and Demand Management Plan Update

RECOMMENDATION:

That Report No. CSE-2025-012, dated April 14, 2025, regarding the Energy Conservation and Demand Management Plan Update, be received;

AND FURTHER THAT Council approves the Town's updated Energy Conservation and Demand Management (ECDM) Plan, as required by Ontario Regulation 25/23;

AND FURTHER THAT Council directs the Asset and Energy Management division to proceed with the implementation of the 2024-2029 ECDM Plan, subject to budget and resources availability;

AND FURTHER THAT staff provide Council with periodic updates on the implementation status of the Town's Energy Conservation and Demand Management Plan.

KEY POINTS:

The following are key points for consideration with respect to this report:

- The Town continues implementation of its existing Energy Conservation and Demand Management (ECDM) plan to conserve energy and reduce operational costs.

- One of the requirements of Regulation 25/23 is that all Ontario municipalities need to prepare and submit an ECDM plan every 5 years, most recently in July 2024. The plan must include the following:
 - Summary of annual greenhouse gas emissions and annual energy consumption.
 - Description of the results of previous activities and measures to conserve the energy consumed.
 - Cost and savings estimate for the Town's current and proposed energy efficiency activities.
 - Description of any renewable energy generation such as solar, ground source etc.
 - Confirmation that the energy conservation and demand management plan has been approved by the Town's senior management (i.e. Council) and published on its website.
- The Town's existing ECDM plan has a time horizon that extends into 2025. The updated 2024-2029 ECDM plan will replace the existing plan and realign the Town's new plan with the Ontario Regulation, recognizing the 2024/25 overlap.
- The 2024-2029 ECDM plan is tailored to the Town's specific context and focuses on optimizing operations and equipment settings with low-cost measures.
- The 2024-2029 ECDM plan reviews progress on energy and emissions efficiency in Town facilities since 2019, including energy conservation measures implemented and energy savings achieved.
- The ECDM plan identifies potential projects and improvement opportunities to reduce energy and emissions in Town facilities for the 5-year period from 2024 to 2029.
- The goal is to reduce energy use by up to 11%, which can result in estimated annual cost savings of \$156,117 and a 14% reduction in greenhouse gas emissions by 2029.

Please refer to Appendix 1 for a copy of the 2024-2029 ECDM.

BACKGROUND AND DISCUSSION:

1. Context

The Town of Halton Hills is progressing well with its energy conservation program. The Town is known for being a leader in managing energy and emissions. The development of high-efficiency new buildings and an energy conservation approach among staff and facility managers has benefited employees and residents. These benefits include comfortable user spaces, reduced utility costs, and fewer program disruptions due to equipment failure.

The Town's first Corporate Energy Plan was developed in 2014, with 85 actions identified to reduce energy use across all Town facilities. Key steps included forming an energy management team and establishing a system to track energy use.

The existing [2020-2025 ECDM](#) plan aimed to significantly reduce greenhouse gas emissions from the municipality's facilities and operations, targeting net-zero emissions by 2030. The goal was to reduce overall energy use by 36%, including 12% in electricity and 24% in natural gas. The plan focused on four key strategies: Portfolio Energy Optimization, Renewable/Low-Carbon Energy, Low-Carbon Mobility and Low-Carbon Financial and was presented to Council re: Report No: [PLS-2019-0067](#).

In 2024, the Town hired Enerlife Consulting to review its energy management activities and program and develop an updated Energy Conservation and Demand Management plan for 2024-2029 in accordance with Ontario Regulation 25/23. The focus is to improve energy management strategies by incorporating energy efficiency practices based on operational improvements, in alignment with the asset management program and the facilities renewal projects outlined in the 10-year capital forecast. The updated ECDM is also consistent with Council's direction that directed staff "...to continue to implement feasible and practical environmental and climate change actions, with the goal of continuing to protect the environment and reduce greenhouse gas emissions..." – as per Report No. BEC-2023-005 and Recommendation No. GC-2023-0068.

This report outlines the Town's accomplishments in energy efficiency for the past five years and describes the energy-saving and emissions reduction activities recommended for the next five years.

The pace and scope of implementation of the 2024-2029 ECDM plan will be dependent upon further detailed studies, financial and staff resource availability, and the annual budget process.

2. Accomplishments (2019-2023)

Since 2019, several energy conservation measures and energy efficiency projects were implemented across all Town facilities. However, impacts from the COVID-19 pandemic, including increased ventilation requirements, periodic facility closures and supply chain challenges - disrupted energy efficiency performance.

During that challenging time, facilities also experienced a significant increase in use due to population growth (i.e. up to 50% increase in Community Centre use since 2022), increased community programming, extended facility hours, and the need to focus on operational efficiency and retrofit measures to manage increased facility use without significant utility costs in the future. Despite these significant changes and challenges, the Town was still able to achieve an overall 2% reduction in energy consumption from the 2018 baseline. This resulted in about \$235,569 in cost savings. Additionally, water

use decreased by almost 36% and netted \$123,333 in water savings, bringing the total savings to \$358,902 since 2019. The Town also avoided 32 equivalent tons of greenhouse gas emissions.

It is important to note that, had the Town not been impacted by the pandemic challenges and other unexpected facility operational changes, the resulting energy savings would have been higher than 2%.

3. Recommendations (2024-2029):

The 2024-2029 ECDM Plan was developed based on these key principles:

- **Stakeholder Discussions:** Set achievable targets based on lessons learned from the previous plan.
- **Integration with Capital Projects:** Align new energy efficiency initiatives with existing and upcoming projects, following the Corporate Asset Management Program.
- **Adopt Proven Technologies:** Use technologies like BAS (Building Automation Systems) and IoT (Internet of Things), along with standard and emerging municipal best practices.
- **Cost Reduction and Comfort:** Implement strategies to reduce annual operating costs while maximizing staff and user comfort.
- **Maximize ROI:** Ensure resources are used efficiently to achieve the best financial outcomes. Implement feasible and practical actions. Wherever possible, Town staff will continue to identify and seek external grants.
- **Operational Improvements:** Wherever possible, implement low-cost strategies such as scheduling, testing and balancing rooftop units (RTUs) and air handling units (AHUs), LED upgrades, boiler plant/cooling plant testing and optimization. These actions are focused on continued operational efficiency, and will help conserve energy, enhance user comfort, and reduce operating costs.

Between 2024 and 2029, the Plan aims to reduce energy use by up to 11%. If achieved, an energy reduction of 11% is projected to result in utility cost savings of approximately \$156,117/year and a 14% reduction in emissions (217 tonnes of eCO₂ /year) by 2029.

STRATEGIC PLAN ALIGNMENT:

This report aligns with infrastructure and asset management, one of the Town's Strategic priorities.

RELATIONSHIP TO CLIMATE CHANGE:

This report impacts and/or helps address climate change and the Town's Net Zero target through corporate energy savings.

PUBLIC ENGAGEMENT:

Public Engagement was not needed as this report is administrative in nature.

INTERNAL CONSULTATION:

This report has been reviewed by departmental stakeholders and discussed with the Senior Management Team.

FINANCIAL IMPLICATIONS:

This report is administrative in nature and does not have any financial implications.

Any new projects identified in the 2024-2029 ECDM Plan will be brought to Council through the budgeting process for approval subject to resources and budget availability.

COMMUNICATIONS:

Upon approval, the updated Energy Conservation and Demand Management Plan will be published and made available to the public via the Town's website. A copy of the plan will also be made available in printed form at Town Hall at the Community Services counter.

CONCLUSION:

The Town's 2024-2029 ECDM Plan outlines a comprehensive strategy to enhance energy efficiency, achieve significant cost savings and reduce emissions. Building on past successes, the Plan sets practical targets, including an 11% reduction in energy use and a 14% reduction in greenhouse gas emissions by 2029. To achieve these targets, the plan identifies low-cost measures with high energy saving potential. These actions will help control energy use in municipal buildings and ensure comfort for facilities users.

Reviewed and approved by,

Dharmen Dhaliah, Director of Asset & Energy Management

Damian Szybalski, Commissioner of Community Services and Acting Chief
Administrative Officer