



Town of Newmarket
395 Mulock Drive P.O. Box 328,
Newmarket, Ontario, L3Y 4X7

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Community Energy Plan Progress and CES Updates Information Report

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Department(s): Building and Planning Services

Author(s): Craig Schritt, Manager, Climate, Environment & Sustainability

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In accordance with the Procedure By-law, any member of Council may make a request to the Town Clerk that this Report be placed on an upcoming Committee of the Whole agenda for discussion.

Executive Summary

This report provides an update to Council on the progress of the Community Energy Plan (CEP) update and other major initiatives led by the Climate, Environment & Sustainability (CES) group. Environmental sustainability remains a key Council priority for the 2022-2026 term, with a focus on addressing climate change and preserving environmental assets for future generations.

The CES group, established within Engineering Services in 2024 and recently moved to Planning & Building Services in 2025, plays a pivotal role in advancing climate action. The update to the 2016 CEP, currently underway, aims to create a strategic roadmap guiding Newmarket's transition to a low-carbon, energy-efficient community by 2050. This update, undertaken by Sustainability Solutions Group (SSG) retained by the Town, consists of four key phases: engagement with stakeholders, corporate climate policy development, baseline energy studies, and development of the plan. The project is progressing as planned, with extensive engagement and analysis scheduled through 2025.

Key initiatives complementing the CEP update include the development of the Newmarket Energy Efficiency Retrofit (NEER) Business Plan, Green Development Standards (GDS), and solar generation tracking. The NEER program aims to facilitate residential transitions to air-sourced heat pumps, reducing fossil fuel dependence. Meanwhile, the Town's solar installations generated nearly 885,000 kWh in 2024, demonstrating an ongoing commitment to renewable energy.

On the stormwater management front, CES has led critical projects, including sediment cleanouts at key stormwater ponds, essential pond maintenance efforts, and a pioneering Dry Pond Capacity Study to assess long-term functionality. The completion of the Town's first Stormwater Operations & Maintenance (O&M) Manual and the Significant Drinking Water Threat (SDWT) Assessment Report further strengthen Newmarket's compliance and environmental stewardship.

A longstanding partnership with the Lake Simcoe Region Conservation Authority (LSRCA) has enabled joint efforts to enhance stormwater sites and implement Low Impact Development (LID) solutions. Notable projects include enhancements to Ponds 12 and 13 at 320 Alex Doner Drive and Phase 2 LID improvements at the Ray Twinney Recreation Complex.

Through these initiatives, the CES group continues to drive progress toward a more sustainable and climate-resilient Newmarket, aligning with municipal, regional, and federal climate action priorities.

Purpose

This report serves as an update to Council of the Community Energy Plan Update progress, as well as other major work items overseen by the Climate, Environment & Sustainability group.

Background

Council determined that Environmental Sustainability is one of five strategic priorities for the 2022-2026 term. The intent of this priority is to preserve our environmental assets and address climate change for our future generations. This priority includes an action item to "update the Community Energy Plan to ensure the Town leads in climate action."

In January 2024, the Climate, Environment & Sustainability (CES) business unit was created within Engineering Services (and recently moved to Planning & Building Services in January 2025). The CES group aligns directly with the Council priority on multiple facets, including climate change mitigation and adaptation plans and policies, and stormwater management planning and projects.

Discussion

1. Climate change and environmental sustainability

Community Energy Plan Update

A Community Energy Plan (CEP) is an initiative developed by the municipality to reduce the community's net environmental impact. This is done by introducing sustainable practices throughout a multitude of sectors, including transportation, residential/non-residential buildings, and energy. The Town's first CEP was completed in 2016, and this

update will function as a low-carbon, energy-efficient transition roadmap and strategy for Newmarket across multiple sectors, out to 2050.

In 2024, Staff retained Sustainability Solutions Group (SSG), an award-winning, climate action planning firm, who has extensive of experience completing CEPs and Climate Action Plans for municipalities in Ontario and across the Americas. This project will progress in 2025, with opportunities for Council, Staff, and Resident input into the Plan.

The CEP update has been split into four phases, with phases 1-3 happening concurrently:

1. Engagement with Key Players

- Similar to the 2016 CEP process, Town Staff and SSG will be leading three workshops to gather input on emission reduction strategies and implementation planning from a group of representatives from local utilities, businesses, industries, and community groups.
- This process will be initiated during Q1 2025 and is scheduled to conclude in late September 2025.
- The engagement findings will be summarized in a report and provided to Council alongside an update of the CEP progress later this year.

2. Corporate Climate Policy

- This policy will guide climate action from a corporate perspective, meaning how the Town will look to address climate change as a corporation, and within our jurisdiction. The policy will take a comprehensive approach and incorporate guiding principles of climate mitigation and adaption, aligning with the goals and objectives of the CEP, York Region's Climate Change Action Plan and Provincial, Federal, and international climate change priorities and targets.
- The CES group will be coordinating a Council Workshop later this year to provide a CEP progress update, as well as additional information on the Corporate Climate Policy and other initiatives before the Policy is brought to Council.

3. Baseline Energy Study & Energy Maps

- SSG is conducting a baseline Energy Study that will compare recent energy use within Newmarket to the data collected as part of the 2016 CEP. This will inform progress made towards the 2016 CEP's targets, as well as allow for evidence-based recommendations in the draft CEP.
- SSG is currently preparing and calibrating the Energy Model, which will allow for the creation of energy district heat mapping and sector-based target options.
- Phase 3 is scheduled to wrap up in early September, and SSG will be providing recommendations for a public facing dashboard to share future progress of the CEP Update Implementation.

4. CEP Development

- Following the completion of phases 1-3, SSG will develop solutions and strategies, an emission reduction scenario, business cases to support the solutions and strategies, and recommendations for continued public engagement.
- Once complete, the CEP will be brought to Council for review and adoption.

Newmarket Energy Efficiency Retrofit Business Plan Development

The Newmarket Energy Efficiency Retrofit (NEER) program was a recommendation in the Town's 2016 Community Energy Plan (CEP). Members of the CES group, Planning, and Economic Development co-led the development of an investment grade business plan with our procured implementation Partner, Enerva Energy Solutions. This program will aim to facilitate through the use of Local Improvement Charge loans, the conversion of residential homes from conventional heating/cooling systems to air sourced heat pumps, resulting in reduced energy consumption. This program will align with any available external funding available to residents to increase uptake and hasten the transition away from fossil fuel heating sources, reducing greenhouse gas emissions within the Town.

The business plan was presented and approved by Council, allowing staff to proceed with a grant application to the Federation of Canadian Municipalities for funding. The first phase of the grant application was completed and submitted by staff in Q3 2024. Staff and Enerva have submitted the second phase of the grant application to FCM in February 2025. Additional updates will be provided as they are available.

Green Development Standards

Green Development Standards (GDS) are used by many municipalities within the GTHA and across Ontario to ensure sustainability and climate change are considered in community design. They focus on standards related to Energy and Emissions, Transportation, Neighbourhood and Community Development, Stormwater Management, and Land Use and Natural Resource Management.

The CES group, along with the Clean Air Partnership (CAP) consulted with local municipalities, and internal departments at the Town to develop a draft set of metrics in 2024. Following consultation with external stakeholders, the CES group and CAP will be bringing the draft set of metrics to Council later this year.

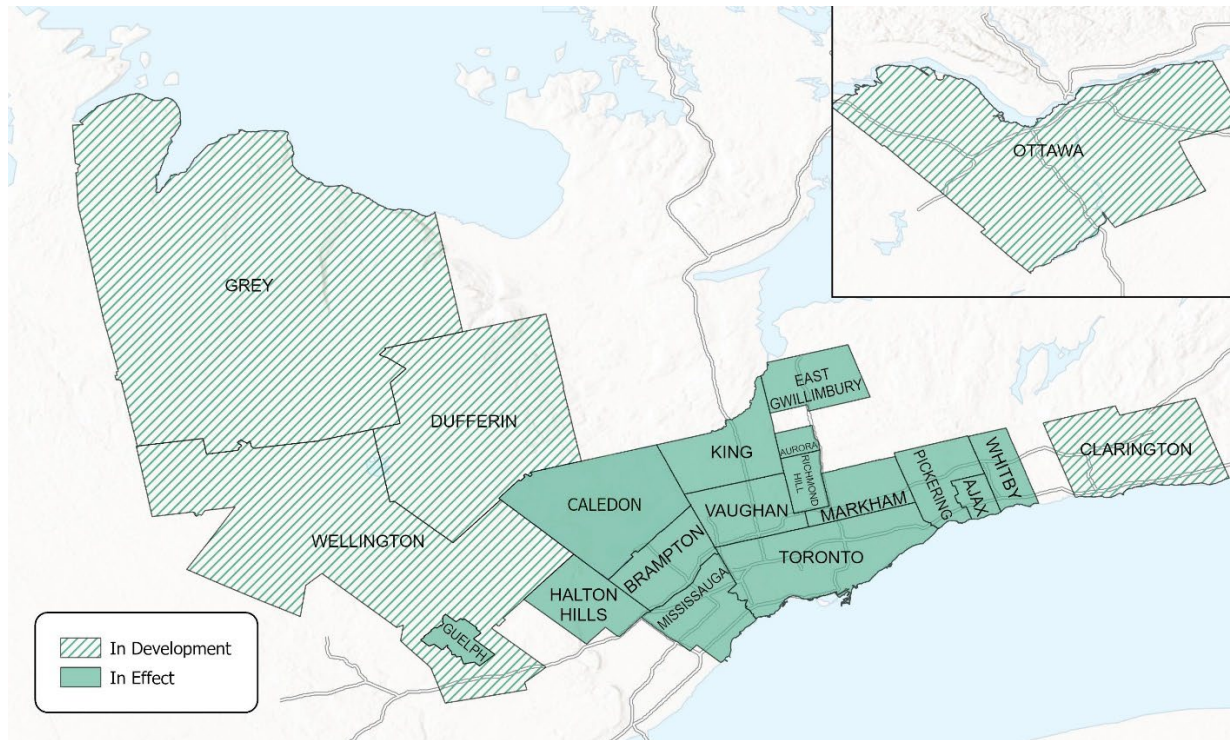
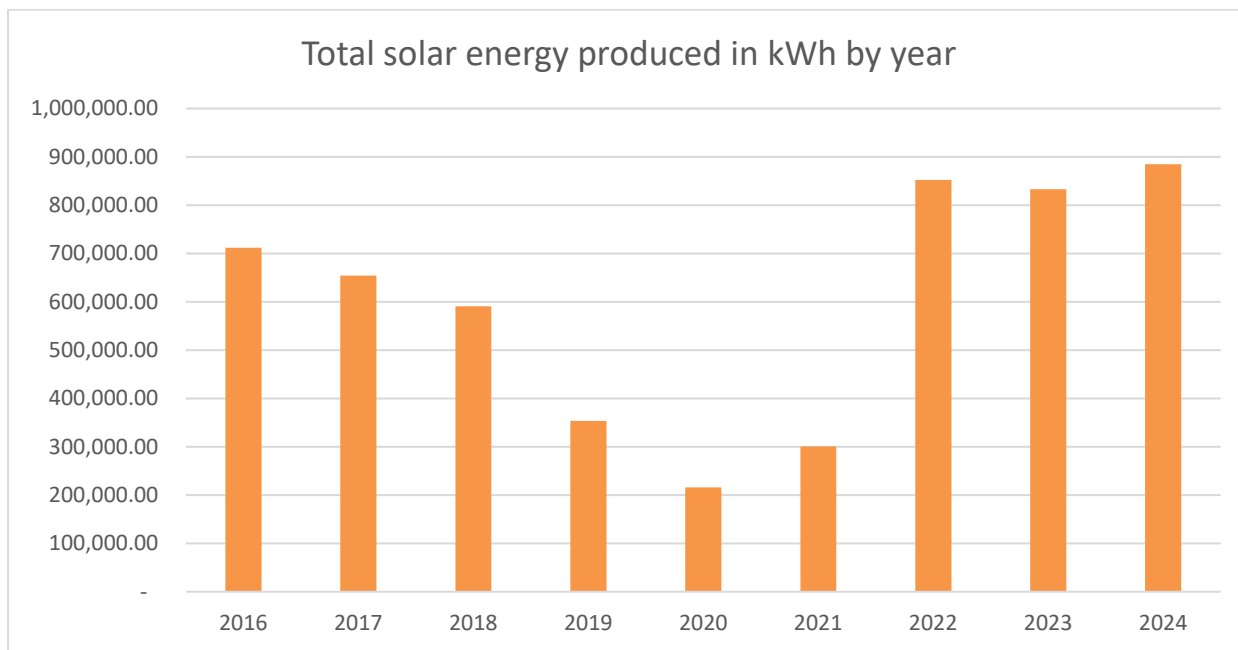


Figure 1: Municipalities in Ontario with GDS in effect (green) or in development (white/green pattern)

Solar Generation

The CES group keeps track of the Solar Generation produced by the Town’s solar installations every year. In 2024, almost 885,000 kWh of electricity was generated at the Town’s eight facilities with solar panels. This is equivalent to powering 100 homes for a year. Since 2016, almost 5.4 million kWh have been generated overall.



2. Stormwater Management

Sediment Cleanouts

Wet stormwater management ponds are designed to remove sediment from stormwater before it is released into the natural environment. This reduces the amount of sediment and phosphorus that reaches Lake Simcoe.

The CES group completed the design, permitting, and tendering, before working closely with Capital Delivery – Infrastructure to complete the cleanouts at Ponds 39 (behind Gorham St Firehall), 44 (George Richardson Park), and 73 (just southwest of Best Circle). In total, almost 5200 tonnes of sediment was removed from the ponds. To provide context, this would be equivalent to about 27 in-ground, backyard swimming pools.



Figure 2: Pond 44 during cleanout (left) and Pond 73 after cleanout (right)

Pond Maintenance

Through the annual stormwater management pond inspection program undertaken by the CES group, two ponds were identified in 2023 with deficiencies to structures within the pond, specifically an armour stone retaining wall and two concrete pads designed to prevent erosion. All three structures were at the point of increasing erosion into the pond, prematurely increasing the amount of sediment in the pond. In both cases, the CES group was able to work closely with the Capital Delivery – Infrastructure group to complete interventions, repairing the impacted structures, and extending the lifecycle of the pond.

Dry Pond Capacity Study

Like wet stormwater management ponds, dry ponds are designed to provide temporary storage of stormwater to reduce the risk of flooding and erosion downstream. The difference is there is no permanent pool of water in the pond, within 2-3 days of rainfall, the dry pond will be empty. Over time, these ponds will also fill up with sediment, reducing the amount of water they are able to store.

In 2024, the CES group worked with Resilient Consulting to complete a Dry Pond Capacity Study, the first of its kind in Newmarket, to determine if Newmarket's dry ponds still have enough capacity to address the stormwater targets they were designed for. Through the study, eight ponds were identified as requiring a cleanout between now and 2042. These ponds will be included in the existing pond cleanout prioritization program the CES and Capital Delivery – Infrastructure groups currently undertake.

Operation & Maintenance Manual

Starting in 2021, and finally issued in 2023, the CES group was responsible for obtaining the Town's first Stormwater Consolidated Linear Infrastructure Environmental Compliance Approval (ECA) from the Ministry of Environment, Conservation and Parks. Similar to the approvals for Sanitary and Water, the Stormwater ECA outlines the requirements and conditions for the Town to operate our stormwater system. One of the requirements was to develop an Operation and Maintenance (O&M) Manual for the stormwater system.

Through many hours of consultation with Asset Management, Capital Delivery – Infrastructure, Customer Service, Forestry, Operations, Parks, and Water/Wastewater, an O&M Manual was completed in 2024. This extensive document outlines roles and responsibilities for maintaining the system, standard operating procedures for how to complete tasks related to inspecting and maintaining the stormwater system, emergency spill response plans, and the design information for all the stormwater ponds, low impact developments (LID), and oil & grit separators within the system. This document is available to all staff that work on the stormwater system and creates a 'one-stop-shop' for knowledge transfer as a valuable resource for new and experienced staff alike.

Significant Drinking Water Threat Assessment Report

Another condition of the Stormwater ECA was to complete a Significant Drinking Water Threat (SDWT) Assessment Report. Threats to municipal drinking water system include any human activity that poses or could pose significant threats to a municipal drinking water source, including ground and surface water. This report was completed in 2024 and provides:

- An outline of the circumstances under which changes to the Town's Sanitary or Stormwater systems could pose a SDWT,
- An outline of how the Town can assess changes to the Town's Sanitary or Stormwater system to identify drinking water threats,
- A list of projects proposed by the Town in 2024 that have been identified as a SDWT, and
- A summary of considerations and mitigative measures that have or will be put in place to address any SDWT identified in 2024 projects.

This report will be reviewed and updated annually by the CES group, Engineering, and Water/Wastewater to document all proposed changes to the Town's Sanitary and Stormwater systems by the Town's Capital and Development Engineering departments.

3. Partnership with LSRCA

While continuing the partnership with the Lake Simcoe Region Conservation Authority (LSRCA) was a 2018-2022 Council Strategic Priority Action Item, the close partnership between our organizations has continued with several key projects including pond/site enhancements and LID installations.

320 Alex Doner Dr Site Enhancements

Ponds 12 and 13 are located on a piece of the old Glenway Golf Course property at 320 Alex Doner Drive. These ponds were constructed in the early 1990s and are prime candidates for enhancement to provide improved stormwater quality and/or quantity control. The Town has partnered with LSRCA to investigate and possibly enhance these two ponds. Funding for the investigation and design is being provided by the LSRCA, and a portion of the construction costs (to be determined) is expected to be provided as well through LSRCA's various offsetting programs.

The investigation phase of the project is well underway, and design of the possible alternatives began in late 2024. The design and public consultation phase will continue through 2025, with a target for construction to start in late 2025/early 2026. More information on this project will be provided at a later date.

Ray Twinney Recreation Complex Low Impact Development Phase 2

In 2016, the Town and LSRCA completed a study to identify LID opportunities at the Ray Twinney Recreation Complex (RTRC), which resulting in Phase 1 (permeable pavement parking lot and three rain gardens on the east side of the building) being completed in 2017. At the time, a concept design for Phase 2 was created consisting of an additional three rain gardens to capture and infiltrate runoff from the roof of RTRC on the east side of the building.

Through the partnership between LSRCA and the Town, the detailed design and construction of Phase 2 was completed in late 2024. The rain gardens are operational, and final plantings will be completed in Spring 2025. This project was fully funded by the LSRCA.

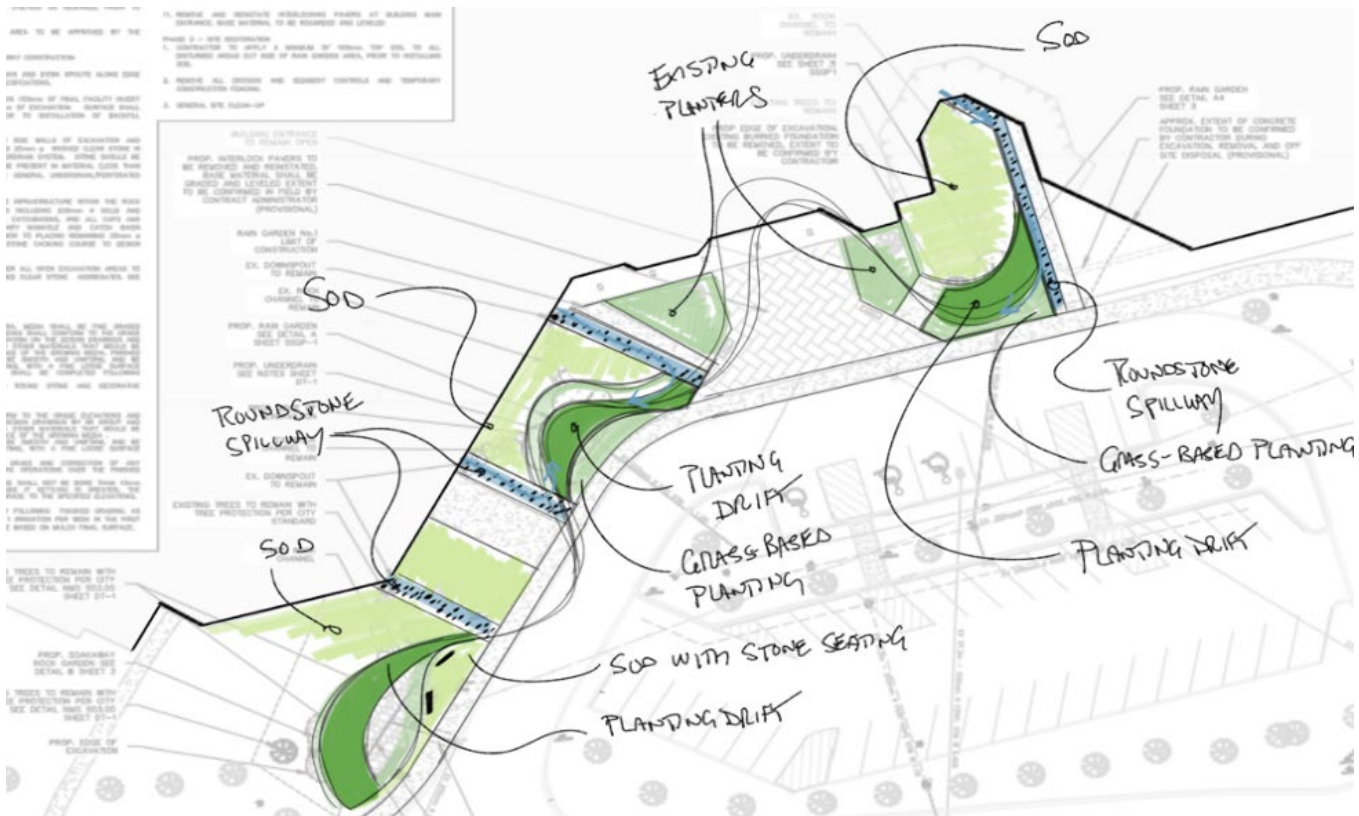


Figure 3: Concept design of RTRC LID Phase 2 project.

Consultation

Prior input received throughout the year was considered in the preparation of this report.

Conclusion

The Climate, Environment & Sustainability group remains committed to implementing Council's environmental sustainability priorities through strategic planning, innovative programs, and strong partnerships. The ongoing update to the Community Energy Plan, alongside complementary initiatives in energy efficiency, stormwater management, and green development, will position Newmarket as a leader in climate action.

As the Town continues to grow, the need for proactive environmental policies and sustainable infrastructure investment is more critical than ever. The successes of 2024 and ongoing projects in 2025 highlight the importance of collaboration among municipal departments, external partners, and the community to achieve lasting climate resilience.

Council's continued support will be instrumental in ensuring the successful execution of these initiatives, fostering a greener, more sustainable future for Newmarket and its residents.

Council Priority Association

This report aligns with the following Council Priority: Environmental Sustainability

Human Resource Considerations

None.

Budget Impact

None.

Attachments

None.

Approval for Distribution

Jason Unger, Director, Planning & Building Services

Peter Noehammer, P. Eng., Commissioner, Development & Infrastructure Services

Report Contact

For more information on this report, please contact info@newmarket.ca.