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Town of Aurora  
**Information Report**  
No. PDS25-027

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**Subject:** 2023 Progress Report on Energy and the Environment

**Prepared by:** Natalie Kehle, Program Manager Energy & Environment

**Department:** Planning and Development Services

**Date:** March 4, 2025

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In accordance with the Procedure By-law, any Member of Council may request that this Information Report be placed on an upcoming Committee of the Whole or Council meeting agenda for discussion.

## Executive Summary

The intent of this report is to provide Council with an annual summary of the environmental actions completed in 2023 that supports Aurora's vision of an innovative and sustainable community.

- The 2023 Progress Report on Energy and the Environment highlights achievements over the year from Council-approved strategic environmental action plans.
- The annual progress report is developed together with different Town stakeholders and communicated publicly.

## Background

Since 2019, annual reports were presented to Council on the progress made on the initiatives outlined in the Corporate Environmental Action Plan (CEAP). The CEAP is a five-year action plan with the goal to protect and enhance the natural environment, promote environmental sustainability, integrity and conservation of resources and create a practice of environmental stewardship within the community.

Since the development of the Town's first CEAP in 2010, climate science, regulations, guidelines, and policies have evolved calling for additional and more specific action to mitigate and adapt to climate change and other environmental challenges. Several more

environmental plans and commitments have since been approved by Council, reflecting the collective effort to address multifaceted environmental challenges systematically and sustainably.

To better present the Town's progress on environmental initiatives across many strategic plans, this report aims to summarize the actions across all plans in one annual report moving forward.

## **Analysis**

**The 2023 Progress Report on Energy and the Environment highlights achievements over the year from Council-approved strategic environmental action plans.**

The progress report (Attachment 1) summarizes advancement made towards achieving the various environmental goals across all the Town's strategic plans, including from:

- Official Plan
- Strategic Plan
- Corporate Environmental Action Plan
- Community Energy Plan
- Climate Change Adaptation Plan
- Stream Management Master Plan
- Tannery Creek Flood Relief Study
- Energy Conservation and Demand Management Plan
- Green Fleet Action Plan

The report is divided into the following themes as they best capture the Town's priorities:

- Climate Resiliency
- Energy and Greenhouse Gas Emissions
- Waste Reduction and Diversion
- Natural Capital and Biodiversity
- Water Conservation

**The annual progress report is developed together with different Town stakeholders and communicated publicly.**

The annual progress report is developed in collaboration with the following Town Departments, inline with Council-approved strategic direction and actions plans:

- Community Services

- Planning & Development Services
- Operational Services
- Finance
- Corporate Services
- Corporate Communications

The report tracks progress, improves transparency and allows stakeholders to assess successes and challenges. It also informs decision-making moving forward.

The annual progress reporting window has a one-year lag due to the timing of key energy and emissions data being released by external groups in the late fall of the following reporting year. It also allows time for staff to collect, verify and analyze all the data needed for tracking and reporting purposes.

Included in this year’s progress report is also a summary infographic that will be shared on the Town’s social media and website (Attachment 2)

### Advisory Committee Review

The Environmental Advisory Committee (EAC) received a presentation on the draft 2023 Progress Report on December 16<sup>th</sup>, 2024. This presentation included the purpose and themes of the report, reporting process, objectives, and energy performance at Town-owned facilities. The following comments were received:

**Table 3: EAC Comment Summary**

Comments	Responses
<p>The need to expand anti-idling education campaigning at schools, where staff could reach out to the school boards directly to get teachers and children involved in the campaign. Town staff could present at the schools. The anti-idling campaign could expand its campaign from the fall to spring. The GO train station would be a good anti-idling target area, as well at the Town’s recreational centres.</p>	<p>Staff are considering this recommendation in the next Anti-Idling Campaign based on resources available.</p>
<p>There were several comments related to the need to update the Town’s corporate building standard from LEED Silver to one focused more on deep energy savings, like Net-Zero Building Standard or Passive House Standard. Climate Resiliency measures should also be considered when reviewing a new corporate building standard. The</p>	<p>The plan includes other on-site renewable sources to reduce grid dependency.</p>

Comments	Responses
standard is planned to be reviewed by staff and brought to Council in 2025.	
When discussing the upcoming Town project Aurora Home Energy Retrofit Loan Program Feasibility Study, multi-residential and low-rise housing should also be considered into the project scope, as well as the utilization of the Passive House Standard.	Residential homes under 4 stories are being reviewed under the project.
Request for details of the Town’s Green Development Standard measures.	The Green Development Standard Handbook was provided to the Committee.
Request to see more trending included into the progress report from year to year. When presenting progress, the population growth should also be included in the report for context.	The 2024 progress report will include these suggestions into the reporting when data is available.
There were questions about how the Town is addressing Scope 3 emissions (emissions that are indirectly related to the Town’s operations, like emissions waste offsite waste management, staff vehicle emissions and embodied carbon).	Personal vehicle usage is planned to be assessed and included in the next Energy Conservation and Demand Management Plan. Embodied carbon is currently not assessed within the Town’s carbon management strategy as it is still an emerging and evolving area. Staff are investigating best practices and looking at ways to be operationalize assessing and reducing this source of emissions.
When reviewing the Town’s corporate waste generation, a planned project in 2025, the Town should assess the recycling rates and effectiveness of the Ontario Blue Box system.	Staff will include assessing recycling rates in the project’s scope of work.
There were several comments related to the need to update the Town’s corporate building standard from LEED Silver to one focused more on deep energy savings, like Net-Zero Building Standard or Passive House Standard. Climate Resiliency measures should also be considered when reviewing a new corporate building standard.	A new corporate building standard is planned to be reviewed by staff and brought to Council this year and will assess the applicability of the Net-Zero Standard and Passive House Standard.

## Legal Considerations

None.

## Financial Implications

There are no direct financial implications as a result of this report.

## **Communications Considerations**

The Town will inform both the public and internal stakeholders on the actions that the Town has taken by posting the annual progress report online and through social media posts.

## **Climate Change Considerations**

The annual progress report supports the Town's environmental commitments and is an accountability tool. The report itself does not have an impact on greenhouse gas emissions nor the Town's ability to adapt to a changing climate but rather informs stakeholders of the Town's progress on environmental actions plans, including climate change strategic plans.

## **Link to Strategic Plan**

The 2023 Progress Report on Energy and the Environment is aligned with Aurora's Strategic Plan, which is based on the three pillars of sustainability – environment, community, economy – and establishes a vision for Aurora as “an innovative and sustainable community where neighbours care and businesses thrive”.

## **Alternative(s) to the Recommendation**

None.

## **Conclusions**

The 2023 Progress Report on Energy and the Environment showcases the action the Town has taken in 2023 including, key achievements, tracking key performance indicators and highlighting challenges. Continued support, collaboration and investment from all Town stakeholders and Council is vital to meeting their goals and objectives in building a more sustainable future for the community.

## **Attachments**

Attachment 1 –2023 Progress Report on Energy and the Environment

Attachment 2 - Infographic for 2023 Progress Report on Energy and the Environment

## **Previous Reports**

PDS24-148, 2023 Energy and Environment Progress Report, December 16, 2024.

## **Pre-submission Review**

Agenda Management Team review on February 13, 2025

## **Approvals**

**Approved by Marco Ramunno, Director, Planning and Development Services**

**Approved by Doug Nadorozny, Chief Administrative Officer**

TOWN OF AURORA

# ENERGY AND THE ENVIRONMENT

2023 PROGRESS REPORT



Aurora Town Council declared a Climate Emergency in 2019, recognizing the urgent need for action to address climate change impacts and committing to an 80% reduction of greenhouse gas emissions by 2050.

## ■ INTRODUCTION

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Since the development of the Town's first Corporate Environmental Action Plan (CEAP) in 2010, climate science, regulations, guidelines, and policies have evolved calling for additional and more specific action to mitigate and adapt to climate change.

This report summarizes progress made towards achieving the various environmental goals detailed in the Town's environmental strategic plans with consultation from all Town Divisions over the past year. This update covers actions from the following plans:

- Official Plan
- Town's Strategic Plan
- Corporate Environmental Action Plan
- Community Energy Plan
- Climate Change Adaptation Plan
- Stream Management Master Plan
- Tannery Creek Flood Relief Study
- Energy Conservation and Demand Management Plan
- Green Fleet Action Plan

The actions are summarized under the following environmental themes:

- Climate Resiliency
- Energy and Greenhouse Gas Emissions
- Waste Reduction and Diversion
- Natural Heritage and Biodiversity
- Water Conservation

The annual Progress Report is presented to the Environmental Advisory Committee (EAC), Town Council and shared with the public through social media and on the Town's website. The reporting has a one-year lag due to the timing of key energy and emissions data being released by external groups in late fall, and allowing time for staff to collect, verify and analyze all the data needed for tracking and reporting purposes.





# ■ CLIMATE CHANGE ADAPTATION

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Adaptation is building resilience so that we can better prepare for the impacts of climate change such as extreme weather, drought and flooding. The Town is taking steps to reduce climate risks by including measures into asset management planning and operation and maintenance procedures and investing in projects that improve climate resiliency.

## Climate Projections for Aurora (2021-2050)<sup>1</sup>:

- Temperatures and extreme heat: Mean summer maximum temperatures expected to increase by 9%, annual number of heatwaves by 200%, cooling demand by 86%.
- Precipitation and flooding: annual precipitation is projected to increase by 6% and extreme precipitation for the 1 in 100-year storm event by 18%.
- Extreme weather: days with wind over 100 km/h is expected to increase by 30%, lightning strikes increase by 12% per 1°C in mean temperature rise and changes freeze-thaw cycles.

## Town Action in 2023:

- Climate considerations are included at early stages of infrastructure project planning and during the design phase, resulting in added resiliency measures like stream bank improvements or invasive species mitigation.
- Completed creek rehabilitation and flood control projects at Murray Drive, Willow Farm, Devlin Place and Jones Court improving natural flow and flood mitigation.
- Watermain rehabilitation at Heathwood Heights Drive improved the lifecycle of the asset, reducing probability of failure during extreme weather events and improving reliability.
- Structural lining of the stormwater culvert on Yonge Street improved the system resiliency during large weather events.
- Continuation of the stormwater pond inspections and maintenance of all 64 ponds, in partnership with the Lake Simcoe Region Conservation Authority, to maintain system reliance.

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<sup>1</sup> Based on the 2022 Aurora Climate Change Adaptation Plan.



# ■ COMMUNITY ENERGY AND GREENHOUSE GAS EMISSIONS

The Town set an ambitious community emission reduction target of 80% from 2018 by 2050. The medium-term target is 22% reduction by 2030.

## 2023 Insights

- Community-wide emissions have returned to pre-pandemic levels, with emissions at 308,415 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e), a 1% decrease from 2022. Per Capita emissions were the lowest in the GTA at 4.81 tCO<sub>2</sub>e per capita.
- The largest emission contributions are natural gas usage (46%) and transportation fuels, like gasoline and diesel (40%).
- Natural gas usage decreased by 7% compared to 2022, mainly due to a warmer winter in 2023. Emissions from electricity increased by 30% compared to 2022, largely due to the increased carbon intensity of the Ontario grid.
- Emissions from curbside solid waste declined 14% compared to 2018, due to climbing diversion rates.
- Electric vehicle and hybrid purchases in Aurora doubled compared to 2022, making up 3% of total registered vehicles. Usage from the Town-owned public electric vehicle chargers increased by 33% compared to 2022.



## Town Actions in 2023:

- The Town hosted its second “EV Showcase”, a public awareness campaign on EVs.
- The annual “Aurora Idle-Free Campaign” continued to target school zones using mobile signs and Town By-Law officers providing education.
- Continued maintenance and expansion of the active transportation network: resurfacing of the multi-use path on Bayview Avenue and replacement of 600 metres of sidewalk.
- The Town’s Green Development Standard (GDS) received 20 new development applications in its first year. The GDS sets minimum design requirements that improve environmental performance for new buildings and lands, such as: EV and solar ready infrastructure, energy modelling and on-site/district energy.
- Staff received the Green Municipal Fund Community Efficiency Financing grant to assess the feasibility of a residential home energy retrofit program (start 2024).
- Annual Town-run waste diversion events supported community education and awareness.
- The Town’s Alternative Work Arrangements policy provided telecommuting options to Town employees and reduced personal vehicle emissions in the community.

<sup>2</sup> Based on 2024 Toronto Atmospheric Fund (TAF) data and Town Operation from 2023.

# ■ CORPORATE ENERGY AND GREENHOUSE GAS EMISSIONS

**The Corporate emissions target is 16% below 2018 levels by 2023 for Town-owned facilities, and fleet.**

## 2023 Insights

- Overall emissions increased by 16% compared to 2018. There are two factors that negatively impacted the Town's ability to meet the 2023 target:
  - 1) The carbon-intensity of the Ontario electrical grid increased by 200% compared to 2018, increasing emissions.
  - 2) Town buildings undergoing major reconstruction increased emissions.The growth in energy use highlights the need for a high performance building standard for new builds and major reconstruction initiatives.
- Excluding buildings that underwent major reconstruction, overall energy usage was reduced by 5% compared to 2018, avoiding \$55,000 in utility costs annually.
- Emissions from Fleet operations fell by 6% from 2022 but up 4% compared to 2018. Gasoline use dropped by 12% from 2022, while Biodiesel use remained the same.
- 640 MWh of electricity was generated from solar panels at Town-owned facilities.

## Town Action in 2023:

### Facilities Retrofits:

- Town Hall: LED lighting, occupancy sensors and roof improvements
- Aurora Public Library: demand control ventilation measures, installation of occupancy sensors and building system optimization
- Aurora Family Leisure Complex: HVAC upgrade in the arena and pool boiler replacement
- Stronach Aurora Recreation Complex: an upgraded cooling evaporator Tower, window sealant, low-E ceiling for the arenas and ice plant arena rehabilitation
- Aurora Community Centre: resealed exterior windows, replaced thermoplastic membrane roofing, replacement of the ice resurfacers room heater
- LED sports light conversion study was completed for all sports fields and courts.
- Since 2018, Town fleet switched to Ethanol 10 and Biodiesel 5 fuel blends, reducing the carbon intensity of the fuel by 6% and 9% respectively.
- Fleet decarbonizing: five hybrid vehicles were purchased and small electric equipment like push mowers, pole saws and handheld blowers are being piloted.
- Switched from propane to fully electric ice resurfacers at the SARC replacing aging machines, resulting in zero emissions, cost savings, and improved air quality.



# ■ WASTE REDUCTION AND DIVERSION

The target is 5% reduction of community curbside solid waste generation compared to 2018 by 2030 and a 10% per capita waste generation reduction by 2050. The target for solid waste diversion by 2030 is 80% and 90% by 2050. There are no reduction targets set for solid waste from corporate sources at this time (expected in 2025).

## 2023 Insights:

- Per capita waste generation was 19% less compared to 2018, both surpassing 2030 and 2050 targets.
- Community solid waste diversion rates have improved by 5% since 2018.

## Town Action in 2023:

- The Town's second year of the Bag Tag Program supported both diversion rates and waste generation reduction efforts with 2,219 tags sold.
- Annual Town-run waste collection events diverted 38,704 lbs of electronic waste and 1,433 lbs of batteries from landfill.
- Bins throughout the Town that collect textile waste diverted 74,359 lbs from the landfill and an additional 4,767 lbs of miscellaneous items recycled.
- Other successful waste diverting events in 2023 included the Community Garage Sale, Community Cleanup Day and the Curbside Giveaway Days.
- The Dog Waste Diversion Project at Town parks successfully diverted 8,370 lbs of pet waste from landfill and was sent for composting, while also reducing contamination rates in the recycling stream.



# ■ NATURAL CAPITAL ASSETS AND BIO DIVERSITY

Protection and enhancing natural capital, such as forests, wetlands and open spaces, plays a critical role in both the mitigation and adaptation to climate change. Natural capital provides vital community services, like carbon storage and sequestration, flood mitigation, stabilize water flows, minimizing drought impacts, and supporting and protecting biodiversity, all the while providing social benefits like recreational spaces, air purification and clean water supply.

## 2023 Insights:

- The Town owns and maintains 429 hectares of natural areas (open spaces, forests and wetlands) as well as 125 hectares of urban parkland.
- 64 Town-owned parks and one community garden (a second garden being completed in 2024). 62 km of trail system, 41 km of which run through town-owned and town-maintained land.
- The Town maintains a total of 26,435 street and park trees.
- 505 news trees and shrubs were planted and 333 urban trees were replaced.

## Town Action in 2023:

- Construction started at the Non-Programmed Park in 2C lands (now John Abel Park) adding 1.6 hectares of public space, with park design including a natural themed playground, community garden, shade shelter, small amphitheater, and welcoming centre/trail head (completion in 2024).
- Continued implementation of the Wildlife Park Master Plan, including the wetland component, additional trails/boardwalk and interpretive signage.
- The Pet Cemetery Restoration project began in 2023, adding 2,400 square metres of green space to the Town's inventory. The project involves restoring the pathways and cemetery, opening the space to the public in the future.
- The newly implemented Green Development Standard includes minimum ecological protection and enhancement requirements for new development, including: native plant species usage, enhanced tree planting requirements along streets, enhanced tree planting technologies and carbon considerations.
- Invasive species: Emerald Ash Borer/Phragmites: implementation of a long-term emerald ash borer management plan involving the continued treatment of approximately 2,200 ash trees on municipal streets and in parks. This project mitigates the risk associated with trees in decline and includes replanting to ensure the Town canopy cover remains intact. A new Council endorsed initiative got underway to treat phragmites (reed grass) in sensitive naturalized areas, including the David Tomlinson Nature Reserve, Aurora Community Arboretum and McKenzie Marsh.





## ■ WATER CONSERVATION

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Municipalities face increasing pressure to conserve and protect water resources with increasing demand from population growth and pressures from climate change. Implementation of the Town's water loss reduction strategies is a priority while promoting efficient usage for businesses and residents. The Town, in partnership with other local municipalities and York Region, developed its first Inflow and infiltration (I&I) Reduction Strategy in 2011, setting a target to reduce 40 million litres per day (MLD) of I&I in the sewer system by 2031. I&I occurs when groundwater, stormwater or snowmelt enter the sanitary sewage system which can lead to basement flooding, less efficient sewage treatment, overflows into the environment and reduced life expectancy of infrastructure.

### Town Action in 2023:

- Continued condition assessment of all sanitary and storm sewer infrastructure where 10% of the infrastructure assessed each year for defects and any irregularities that may lead to major failures. The program also supports York Region's I & I reduction program.
- 2,000 water meters were replaced as part of the Town's water loss reduction strategy, exceeding the 1,500 per year target. Approximately 55% of meters have been replaced to date.
- Operations performed 11 oil grit separator cleanouts and 1,296 catchbasin cleanouts, an important maintenance activity that removes pollutants like oil and sediment from entering the stormwater system and reduces contamination in local waterways. This activity removed 508 tonnes of waste from the system.
- Salt Management Plan: aims to manage the use of road salt in a way that balances environmental protection with the need to keep roads and sidewalks safe.
- Backflow preventors were installed at the Aurora Public Library, Aurora Community Centre & Aurora Family Leisure Complex, protecting the water supply from contamination during system pressure changes.



# Climate & Sustainability Highlights

Aurora Town Council declared a Climate Emergency in 2019, recognizing the **URGENT** need for action to address climate change impacts and committing to an **80% reduction of community greenhouse gas emissions by 2050**.

Below are some of the ways we are working towards this target.

## IMPROVING OUR CLIMATE RESILIENCY



### Efficient Water Systems

- 11** oil grit separators
- 1,296** catchbasin cleanouts

### Flood Control

through creek rehabilitation at Murray Drive, Willow Farm, Devlin Place and Jones Court.

### Water Supply System Upgrades

on Heathwood Heights & Yonge St.

**ALL** Stormwater Facilities Inspected

As climate changes continue to change the frequency and duration of weather events, the Town is taking steps to reduce risks integrating climate resiliency into design, operations, planning, design, construction and day-to-day operations.

## REDUCING OUR GREENHOUSE GAS EMISSIONS



### MOVING TO LOW-CARBON TRANSPORTATION

#### Electric Vehicle Impact

- EV sales **up 200%** from 2022
- Town charger use **up 33%**
- 3%** of registered vehicles in Aurora are EVs

#### Town of Aurora EV Showcase

- Annual education event attendance doubled with **1700+ attendees**

#### Active Transportation Network

- Continued maintenance and expansion of active transportation network
- Resurfacing of the multi-use path on Bayview Ave
- 600** concrete sidewalk pads replaced



### IMPROVING ENERGY EFFICIENCY OF BUILDINGS

#### Community Emissions

Natural gas emissions **down 7%** since 2022; electricity emissions **up 30%** due to grid changes

#### Green Development Standards

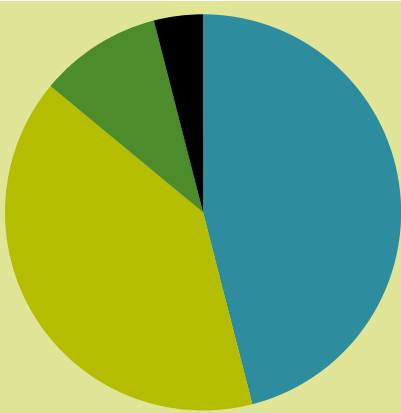
**20** applications in first year, setting minimum standard for new buildings and land development

#### Efficiency Grant

**Grant secured** to assess the feasibility of an Aurora home energy retrofit program

#### Town-Wide Emission Breakdown

- Natural Gas
- Transportation
- Electricity
- Waste



#### Community emissions:

**↓ 1%** compared to 2022

#### Lowered emissions per capita:

**↓ 1%** compared to 2022



## REDUCING OUR WASTE

### Per Capita Waste Generation

**↓ 19%** compared to 2018

### Waste Diverted at the Curb

**↑ 5%** compared to 2018



## PROTECTING OUR NATURAL CAPITAL & BIODIVERSITY

### Community Green Space

429 hectares of natural areas (open spaces, forests and wetlands), 64 parks, 62 km of trails, 26,435 urban trees maintained.

### 2023 Projects

Wildlife Park Plan, Pet Cemetery Restoration, and ongoing invasive species management

## REDUCING TOWN OF AURORA CORPORATE EMISSIONS

(Emissions from Town-owned facilities, fleet, streetlighting, waste, and water/wastewater facilities)

### Overall Corporate Emissions

**↑ 17%** compared to 2018

The rise in emissions is mainly due to increased energy use from new and expanding Town facilities and from the temporary shift in fuel sources in the Ontario electrical grid.

### Overall Energy Use at Town-Owned Facilities

**↓ 5%** compared to 2018

### Energy Cost Savings

**\$55,000** per year

### Reduction Actions:

**Fleet Improvements:** Hybrid vehicles and right-sizing, electric equipment, trip optimization, anti-idling training.

**Lower Carbon Fuels:** More energy efficient fuels adopted, reducing fleet carbon intensity.

**Facility Upgrades:** LED lighting, HVAC, building optimizations, and electric ice resurfacers implemented.