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The Regional Municipality of Durham
Information Report

From:	Commissioner, Community Growth & Economic Development
Report:	#2025-INFO-63
Date:	July 25, 2025

Subject:

2025 Annual Climate Change Progress Report

Recommendation:

Receive for information.

Report:

1. Purpose

1.1 Leadership in climate action is a key strategic priority for the Region as reflected in Durham Region's 2025-2035 Strategic Plan. This annual progress report provides an overview of progress in 2024 implementing the Region's council endorsed climate action plans:

a. Section 2 provides an update on initiatives recommended in the Durham Community Energy Plan, approved by Council in 2019.

b. Section 3 provides an update on initiatives recommended in the Durham Region Corporate Climate Action Plan, approved by Council in 2021.

c. Section 4 provides an update on initiative recommended in the Durham Community Climate Adaptation Plan, approved by Council in 2016.

1.2 This is the fifth annual climate progress report since Regional Council's 2020 climate emergency declaration. Previous annual climate update reports can be found on the Region's website.

1.3 Appendix A provides a summary of external funding received in 2024 in support of corporate and community climate action initiatives outlined in this report. A total of $9,731,479 of external grant funding was approved in 2024.

2. Durham Community Energy Plan Update

Community-wide GHG emissions update

2.1 In late 2024 The Atmospheric Fund (TAF) published the annual carbon emissions inventory report for the Greater Toronto and Hamilton Area (GTHA). The report covers 2023 greenhouse gas (GHG) emissions data across the four regional municipalities (Halton, Peel, York, and Durham) and two single tier municipalities (Hamilton and Toronto) that make up the GTHA.TAF estimated that GHG emissions across the GTHA increased by 2 per cent in 2023, with emissions increasing across all six jurisdictions. Transportation and buildings remain the two highest-emitting sectors in all jurisdictions except Hamilton, where steel manufacturing makes industry the highest emitting sector.

2.2 TAF estimates that Community-wide GHG emissions across Durham Region increased by 1.9 per to a total of 5.7 million tonnes of carbon dioxide equivalent (CO_2e) in 2023. This is the third straight year of emissions increases since the drop in emissions in 2020 that coincided with the start of the COVID pandemic. The increase was mostly due to a 3.6 per cent increase in transportation sector emissions, which continues to be the largest source of GHG emissions overall in Durham Region (see Figures 1 and 2 below). Natural gas consumption decreased year-over-year by 2.9 per cent in the industrial sector and 5.8 per cent in the building sector, due in part to a relatively warmer winter that resulted in less demand for heating-related natural gas use.

Figure 1: 2023 Durham Community GHG Emissions by Sector

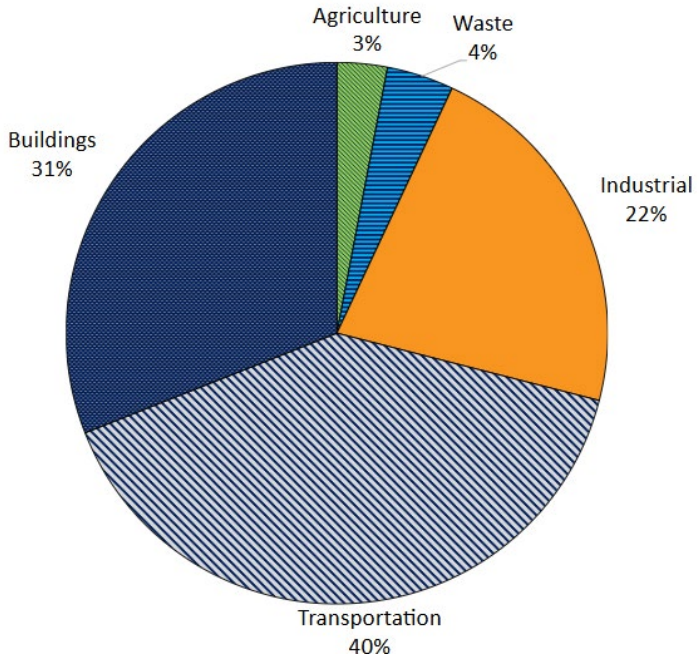
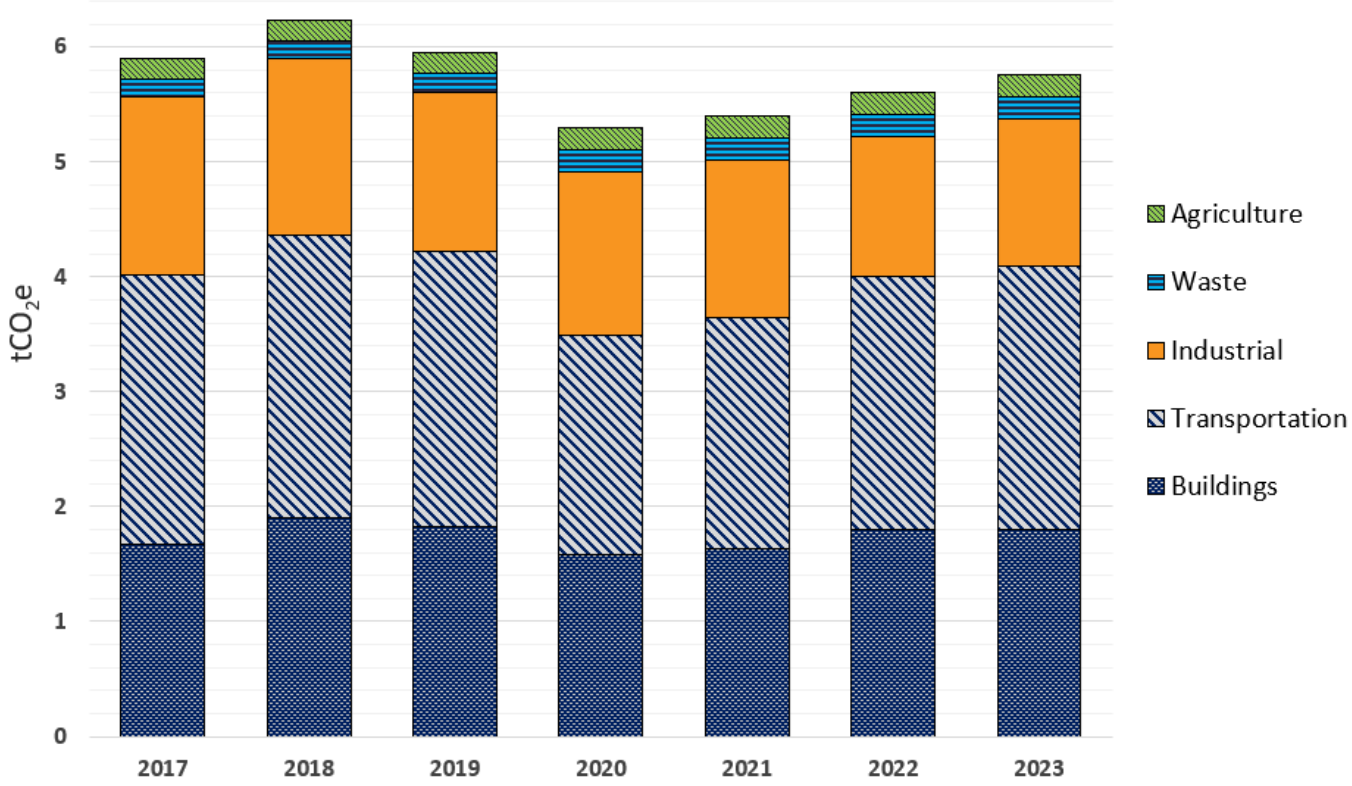


Figure 2: Total Community Emissions for Durham Region – 2017 to 2023 tCO_2e



2.3 The Region continues to support the implementation of the DCEP in partnership with local area municipalities, energy utilities, and other organizations with influence over energy use and emissions in the community. Updates across key areas of the DCEP low carbon pathway are provided below.

2.4 **Home Energy Retrofits**

a. Launched in April 2022, the Durham Greener Homes (DGH) program helps residents facilitate the process of completing a home energy renovation. Residents have access to a free energy coach who provides information on applicable incentives and can provide expert advice to support the resident's decision-making process regarding a home energy renovation. The program also provides support for residents wishing to access rebates and financing to help implement their renovation project.

b. In June 2024, DGH launched a virtual home energy audit tool (vHEAT) that uses data from over 200,000 historical energy audits to generate customized analysis of a home's energy performance and recommended retrofit initiatives. The tool is free to Durham Region residents and has been advertised through a direct mail marketing campaign using water bill inserts. Since the launch of vHEAT participation in the DGH program has increased dramatically. In 2024, the tool had been used more than 700 times by 455 unique users.

c. The performance of the program is actively measured to assess the degree to which it is meeting the Region's objectives of increasing the awareness and capacity for residents to complete home energy renovations. By year-end 2024, more than 1,800 Durham Region residents had registered to participate in the DGH program, and the program's energy coaching service had delivered close to 1,300 calls to support residents on their home energy renovation journey. While many of these participants completed light and medium complexity renovation projects that reduced home energy use and GHG emissions, the program tracking database includes 159 homes deep energy retrofit projects as of year-end 2024. Figure 3 below, provides metrics on the DGH participants to date which demonstrate the impact of the program in terms of enabling participants to achieve greater levels energy and emissions reductions.

Figure 3: 2022 to 2024 Metrics for Durham Greener Homes (DGH) Participants

DGH Participants who **received program incentives for a deep energy** home retrofit	**Average reduction for DGH Participants**	**Associated Percent reduction**
Emission Reduction (tCO_2e/yr)	4.27	71.18%
Energy Use Reduction (GJ/yr)	68.40	49.43%
All DGH Participants who **completed a home retrofit but not a deep retrofit**	**Average reduction for DGH Participants**	**Associated Percent reduction**
Emission Reduction (tCO_2e/yr)	3.52	58.90%
Energy Use Reduction (GJ/yr)	55.90	39.86%
Average home retrofit in Durham Region (EnerGuide data 2023-present)	**Average reduction for DGH Participants**	**Associated Percent reduction**
Emission Reduction (tCO_2e/yr)	2.68	48.79%
Energy Use Reduction (GJ/yr)	35.10	25.71%

d. In Fall 2024, the Region and Windfall conducted home energy education sessions in partnership with libraries across all eight local area municipalities which drew 111 participants. These sessions promoted the DGH program and the value and benefits of installing heat pumps.

e. Following Regional Council approval in April 2025 through Report #2025-COW-17, Regional staff are in the process of developing and implementing two major enhancements to the DGH program:

- Weather-ready retrofit services: These services aim to reduce the impacts and potential costs associated with extreme weather events on

homes through expert advice, program funding supports, industry training, and community engagement.

- Municipal Financing: introduction of a direct municipality-to-homeowner loan financing program for eligible retrofits under the DGH program.

2.5 Durham Greener Buildings

a. The Durham Greener Buildings (DGB) program, launched in January 2024 following Regional Council adoption of recommendations in Report #2023-COW-16, supports owners and managers of large buildings that are 50,000 sq. feet or larger in complying with Ontario's Energy and Water Reporting and Benchmarking (EWRB) Initiative. The program features a Help Desk and capacity building training on use of the Energy Star Portfolio Manager (ESPM) platform, encouraging energy efficiency improvements across the large building sector. The program also further promotes energy benchmarking of municipally owned buildings to demonstrate local leadership on climate action. Municipalities also use ESPM platform for annual tracking and reporting of energy consumption data.

b. A total of 487 buildings participated in the DGB program in 2024, which aligns with program targets for the first year. However, most of these buildings are public sector (municipalities, universities, schools, and health care), and there have been challenges engaging private sector building owners in the program. The second-year target of 800-1000 participating buildings may be challenging to achieve given these ongoing difficulties.

c. On November 13, 2024, the DGB program hosted its first Evening of Recognition to celebrate large buildings owners and managers in Durham Region that excelled in improving energy efficiency. The event featured a panel discussion focusing on the challenges and opportunities of electrification. Awards were also presented across twelve categories to recognize large buildings owners and managers for their energy performance, data quality, and early data submission.

2.6 New Construction – Durham Green Development Program

a. DCEP emphasizes high energy performance in new building construction as essential for Durham's low carbon pathway. It calls for local municipalities to implement energy and emissions performance standards through the planning approval process, with a mandatory first-tier of energy and emissions performance and voluntary upper tiers supported by incentives.

b. Since the DCEP was endorsed, the Town of Whitby, City of Pickering, and Town of Ajax have adopted green development standards with tiered energy and emissions criteria. However, recent changes under Bill 17, which limit municipalities' ability to mandate green standards through site plan control, may impact the scope and enforceability of these requirements.

c. Given expected population growth in Durham Region and the need for thousands of new homes annually, the Region has been coordinating industry training and capacity-building initiatives with the Durham Region Home Builders' Association and Natural Resources Canada's (NRCan) Local Energy Efficiency Partnerships team. Together, they have hosted technology forums for builders and developers focused on high-performance new construction, with sessions continuing into 2025. This work is critical, as building to the minimum allowed under the Ontario building code locks in higher energy use and GHG emissions over the long term, while also potentially exposing building occupants to climate hazards like extreme heat and poor air quality.

d. In 2024, Regional staff began working to develop a Green Development Program with an aim of aligning local municipal green development standards the new national model energy code tiers and changes to the Ontario Building Code (OBC). The program also supports the voluntary adoption of higher energy performance tiers.

e. Following Regional Council's endorsement in principle of the program design proposal, staff are working towards implementing the program in collaboration with area municipalities and the development industry. This includes implementing an integrated community design charette at a pilot site to explore cost-effective low carbon solutions as part of the overall community design. Further information on the program development process is detailed in Report #2024-COW-49.

2.7 District Energy

a. DCEP identifies district energy (DE) as a key decarbonization strategy for Durham Region. District energy systems are suitable for compact, mixed-use communities, offering reliable, low-carbon heating and cooling. For developers, this can simplify the design of individual building systems, while residents can benefit from stable utility costs, reduced in-unit mechanical equipment, and access to resilient, low carbon infrastructure. The following sections outline the work undertaken to advance DE initiatives across the Region in 2024.

b. Courtice DE - Initial DE efforts have focused on Courtice, leveraging waste heat from the Durham York Energy Centre (DYEC), and planned high-density development around the Courtice GO Station Major Transit Station Area (MTSA). A preliminary business case was presented to Council in January 2024 through Report #2024-COW-1. Following Regional Council's endorsement in principle, staff assessed service delivery options and updated the preliminary business case, with recommendations and next steps for potential project implementation, presented to Council in May 2025 through Report# 2025-COW-19.

c. Ajax DE Feasibility Study - In 2024 staff initiated a DE feasibility assessment for the Ajax Downtown Regional Centre, an area undergoing significant redevelopment and historically served in-part by a World War II-era DE system. The feasibility assessment will evaluate the potential for a modern DE system to support anticipated growth, including a load forecast based on projected residential, commercial, and institutional development, while considering the impact of municipal development standards on building energy demand and associated GHG emissions. Results and recommendations from the preliminary business case analysis are expected in Q3 2025.

d. Pickering DE Feasibility Study - In 2024 staff initiated a DE feasibility study for the Pickering City Centre and adjacent Employment Lands. The study assesses the potential to utilize low-carbon waste heat from nearby sources, including the OPG Pickering Nuclear Generating Station and the Duffin Creek Water Pollution Control Plant (WPCP), to support future high-density development and municipally owned facilities. Results and recommendations from the preliminary business case analysis are expected in Q3 2025.

e. Durham Region Heat Master Plan - This initiative builds on the ongoing DE feasibility studies and will focus on identifying and prioritizing DE and waste heat opportunities across strategic growth areas. The initiative aims to build municipal capacity and foster integrated, cross-sector planning for low-carbon development. Key project components include a GIS-based analysis to map regional waste heat sources and prioritization of Heat Planning Areas, development of a policy framework, creation of a governance model, stakeholder engagement, as well as strategic partner solicitation.

2.8 Electric Vehicle Adoption

a. The transportation sector is a key area of focus within the DCEP, where electric vehicle (EV) adoption will help to drive GHG reductions across the Region. The Region has led collaborative federal funding applications with local area municipalities and other public sector organizations through several rounds of Natural Resources Canada Zero Emission Vehicle Infrastructure Program (ZEVIP) funding calls. In total, the Region’s share of conditionally pre-approved funding is over $2.9 million to support the potential implementation of over 170 Level 2 and 3 EV chargers across Regional locations to support public and/or corporate fleet charging activities.

b. Community-wide, Durham saw a considerable increase in EV registrations over the past two years, from 2022 to 2024, with 1,887 Plug-in Hybrid Electric Vehicles (PHEVs) purchased - up 31 per cent, and 5,849 EVs purchased - up by 56 per cent. According to TAF, this is the highest increase across the GTHA, noting that registrants in Brock Township led with a remarkable growth of 111 new EVs registered compared to 63 in 2023 which is a 76 per

cent increase, followed by registrants in the City of Oshawa with 1,058 EVs compared to 649 registered in 2023 for a 63 per cent increase.

2.9 Climate Governance and Public Reporting

a. The second annual Durham Climate Forum was hosted at Durham Region Headquarters on October 19th, 2024. The event brought together close to 150 participants for a day of inclusive discussions, hands-on activities, and networking focused on building a resilient, climate-conscious future. A key highlight was the panel discussion, "50 Years Forward: Building a Strong and Sustainable Durham Community," featuring leaders from academia, government, industry, and civil society. The forum also included a Repair Café, and exhibitor booths showcasing the work of local sustainability-based organizations, community partners, and student-led projects, informing community members about initiatives such as DGH. Planning is underway to deliver the 3rd annual Durham Climate Forum in the Fall of 2025.

b. Durham Climate Dashboard - Launched in April 2024, the Durham Climate Dashboard is an online platform designed to track the progress of the DCEP in meeting the Region's climate targets. The dashboard presents local energy use and GHG emissions data, allowing community members to monitor the progress and impact of climate action initiatives led by the Region and area municipalities. In 2025, the dashboard was updated to include adaptation-focused actions and initiatives. These updates also incorporated new data on municipal climate efforts, such as the rollout of EV charging infrastructure, energy retrofits in municipally owned facilities, and other best practices that highlight climate action across the Region.

3. Durham Region Corporate Climate Action Plan Update

3.1 In 2021, following Regional Council's declaration of a climate emergency, Council approved the Corporate Climate Action Plan with a goal for the Region to achieve net zero corporate GHG emissions by 2045. To accomplish this goal, a 2019 baseline level was established, accompanied by short- and medium-term targets to ensure a sustained and measurable commitment to GHG reductions over time, namely:

- 20 per cent GHG emissions reduction by 2025,
- 40 per cent GHG emissions reduction by 2030, and
- 100 per cent GHG emissions reduction by 2045.

3.2 Durham Region Corporate GHG Emissions Inventory

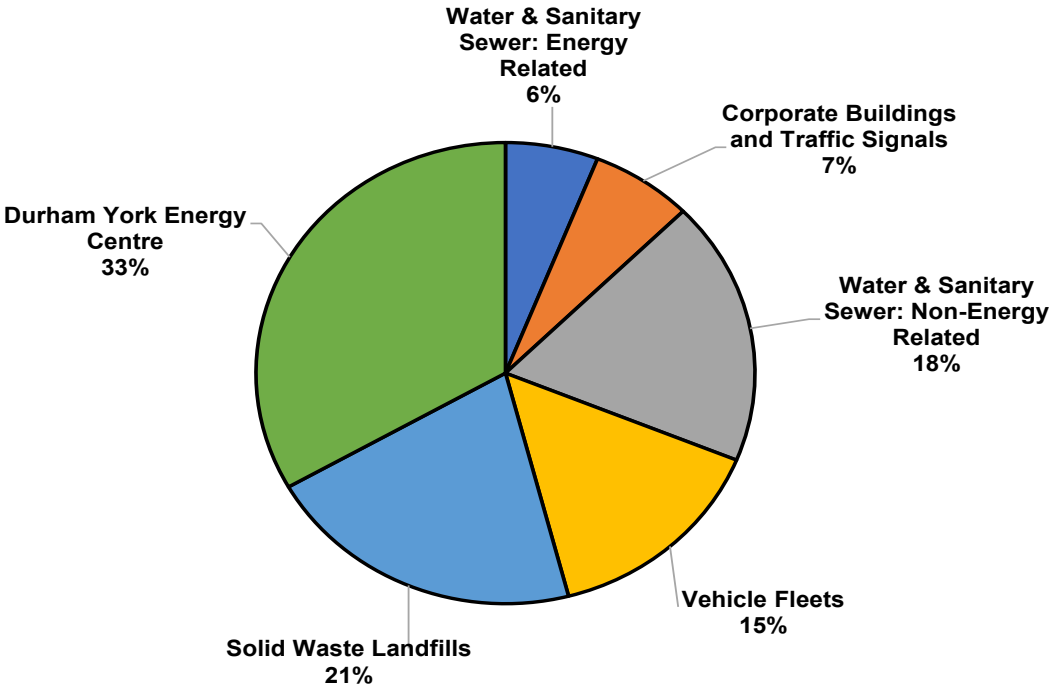
a. Durham Region's corporate GHG emissions include energy consumption in regional buildings, vehicles, and infrastructure (e.g. water, wastewater, and solid waste management), as well as non-energy GHG emissions associated with the Region's solid waste management (closed landfill and DYEC emissions) and wastewater operations (process fugitive emissions).

b. The 2024 corporate GHG emissions are estimated at approximately 192,300 tonnes (tCO_2e, rounded), which represents a 3.7 per cent increase from the 2023 total of 185,500 tCO_2e. The more notable contributing sources to the net year-over-year GHG increase include:

- Increased consumption of diesel fuel in corporate fleet operations, namely transit fleet operations (transit makes up over 90 per cent of corporate road diesel usage) driven by expanded transit operations. During this time transit ridership increased by 21 per cent;
- Increase in DYEC-related GHGs due in part to a greater share of non-biogenic waste materials compared to prior year (e.g. plastics and non-recyclable products that are not biodegradable); and
- Increase in non-energy related emissions in wastewater operations (including Duffin Creek WPCP, net estimated Durham share) including, but not limited to, process emissions from wastewater treatment and biosolids incineration.

c. Non-energy related emissions in solid waste management and wastewater treatment operations continue to represent the largest share of total corporate emissions (over 70 per cent of corporate totals). GHG emissions from other corporate operating areas are associated with fossil fuel consumption in fleets (e.g. gasoline and diesel fuel) whereas GHG emissions in corporate buildings are mainly related to natural gas use for space and water heating.

Figure 4: Corporate GHG Emissions by Operational Area for 2024



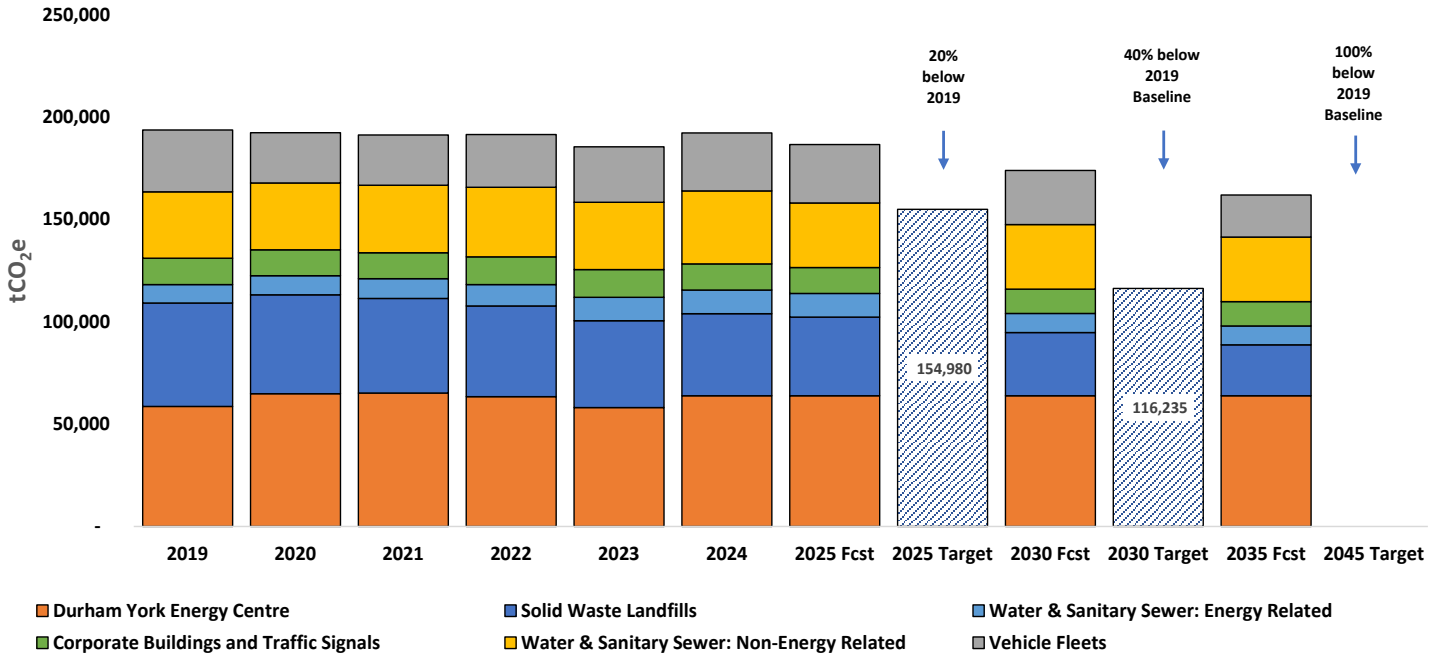
d. In 2024, the Region saw varying levels of progress in the overall reduction of GHG emissions through facility upgrades, greening of fleets, advancement of comprehensive studies to further building retrofit activity and other decarbonization initiatives. Factors limiting advancement included:

- slower and limited senior government funding for large scale retrofits and transit electrification
- increase in the emissions intensity of electricity due to a ramp up in the share of Ontario's electricity generated by natural gas over the past several years as the province's fleet of nuclear reactors is refurbished.

e. Figure 5 provides a projection of anticipated GHG reductions based on information contained within departmental 10-year capital plans. Based on current information and assumptions, reductions will be realized through fleet operations, including the planned electrification of transit service and through the natural decline of methane generation in closed landfills.

f. As reported in 2024, there remains a significant gap between forecasted emissions and Council endorsed corporate GHG reduction targets. Staff expect that this gap will narrow through capital planning for corporate building decarbonization following completion of GHG Emission Reduction Pathways studies for corporate facilities. However, there is a clear risk that the Region's corporate GHG targets for 2025 and 2030 will not be achieved without the identification and implementation of new GHG reduction initiatives in corporate operations.

Figure 5: Durham Region Total Corporate Emissions, 2019 to 2024 Actuals and Forecast versus Targets (tCO_2e)



3.3 Corporate Buildings

a. Corporate buildings account for seven per cent of total corporate GHG emissions. However, they contribute to a significantly larger share of the energy-related emissions at just over 24 per cent.

b. Corporate decarbonization projects underway and new buildings commissioned in 2024 include:

- Traffic Operations/Health Protection at 101 Consumers Dr. in Whitby: deep retrofit will lead to the phase out of on-site fossil fuel consumption resulting in a greater than 70 per cent reduction in annual GHG emissions. This project is due for completion in 2026,

- Durham Regional Local Housing Corporation (DRLHC) 155 King Street East in Oshawa: deep retrofit includes improved building envelope and upgrades to building heating, cooling, and ventilation systems including a hybrid heat pump ventilation system which alone is estimated to reduce natural gas usage by almost 39,000 m^3 (or 75 tonnes CO_2e). This project is due for completion in 2025,

- DRLHC 655 Harwood Avenue South in Ajax: deep retrofit includes improved building envelope and upgrades to building heating, cooling, and ventilation systems resulting in a greater than 50 per cent reduction in annual GHG emissions. This project is due for completion in 2026,

- Region of Durham Paramedic Services' new Seaton Station and Training Facility: project includes a geothermal system that will provide heating and cooling for the building and a rooftop solar photovoltaic (PV) system that will contribute to making this a near zero-carbon building, resulting in a greater than 70 per cent reduction in annual GHG emissions as compared to a similar building built to the Ontario Building Code. This new build project will be completed in 2025,

- Beaverton Heights Transitional Supportive Housing Facility features all-electric building systems and a rooftop solar PV system which will offset approximately 50 per cent of the building's electrical consumption. This zero-carbon building will be almost 20 per cent more energy efficient than a similar building built to the Ontario Building Code. The facility opened in 2024,

- Seaton Long-Term Care, scheduled for completion in 2026, is the first new building designed following adoption of the Durham Standard in 2023. The building has been designed to perform 25 per cent more efficiently than the minimum requirements under the OBC, resulting in an estimated 70 per cent reduction in annual GHG emissions compared to the Ontario Building Code standard). Future upgrades will be

required to retrofit the building to meet the Region's net zero target by 2045,

- Clarington Police Complex Phase 2 buildings, scheduled for completion in 2025, is designed to include a geothermal field for heating and cooling resulting in estimated reductions of over 70 per cent in GHG emission intensity when compared to the Ontario Building Code base standard. Natural gas will remain on site as a backup system required by DRPS for operational emergency redundancy, and

- The DRT Thornton Road Transit Maintenance Facility in Oshawa, the Raleigh Transit Facility (both admin and bus storage), and the Whitby Paramedics Station are currently in the design phase, whereas the Clarington Police Complex Phase 2 and the Seaton Long Term Care Facility are currently under construction, all aiming for net zero GHG emissions.

3.4 Corporate Fleet

a. Corporate fleet vehicles made up 15 per cent of overall corporate emissions in 2024, but more than half of energy-related emissions.

b. In February 2023, Council approved Durham Region Transit's 2023-2032 Transit Service and Financing Strategy (Report #2023-DRT-05) which outlines a 10-year investment in DRT services, including increases in revenue services, significant capital investments to implement the DRT Fleet Electrification Plan, and priorities for infrastructure, accessibility, and passenger amenities. In 2024, DRT achieved its highest ever number of annual revenue rides at 13 million.

c. DRT's first six battery electric buses were delivered in 2024. Through the 2023 and 2025 budget an additional 25 electric buses have been purchased and will be delivered in 2026 (7 in Q1 2026, and 18 in Q4 2026). Purchase quantities of electric buses in 2024 and 2025 were reduced from the original forecast due to the lower than anticipated federal funding support.

d. In April 2023, Regional Council adopted a Light Duty Fleet Electrification Plan which outlines preliminary target years for 100 per cent electrification by fleet group. The Plan established 2024 as the first reporting year. A total of 33 electric vehicles are in the Region's light duty fleet as of end of 2024, with the majority being plug-in hybrid electric vehicles (PHEV) in the Works fleet.

3.5 Solid Waste Management

a. Durham's residential solid waste management serves a growing region of over 250,000 households. Closed landfills and DYEC operations account for over 54 per cent of corporate emissions. In 2024, solid waste emissions

declined by nearly two per cent due to a decrease in estimated annual methane generation at the Region's closed landfills.

b. Following Regional Council's decision to pause the procurement process for the Mixed-Waste Pre-Sort and Anaerobic Digestion Project in 2022, staff enhanced the Region's organics management program in 2024 with the addition of more organic materials. Residents can now put pet waste, diapers, incontinence and menstrual products in the Green Bin which is processed at an anaerobic digestion facility to create biogas and nutrient rich fertilizer.

c. The 10-year Source Separated Organics (SSO) processing contract with a third-party anaerobic digestion facility was initiated in July 2024. The Green Bin will also be expanded to multi-unit residential buildings where the Region collects waste, which will add 125 buildings to the Region's Green Bin program starting in June 2025. This enhanced program is designed to maximize waste diversion and increase convenience while achieving compliance with Ontario's Food and Organic Waste Policy Statement.

d. In October 2023, a pilot consisting of two different types of biological methane oxidation systems known as a biowindow and biocover were installed at the closed Oshawa landfill site. The pilot included monitoring throughout 2024 until February 2025, to evaluate its effectiveness as a methane emissions reduction method from closed landfill sites. Data collected during the pilot showed that the systems were effective in reducing methane. Following a review of the data, staff are considering a second phase to the pilot that would assess the performance of the biocover under increased methane flows and to identify potential areas of the landfill for further expansion of the biocover system.

3.6 Water and Wastewater

a. In 2024, water and wastewater operations accounted for over 25 per cent of total corporate emissions. These emissions, stem from the treatment, storage, and pumping of drinking water and wastewater, serving residents, businesses, and institutions across the Region. Combined, these operations produced approximately 47,200 tCO_2e primarily due to wastewater treatment activities, including biosolids incineration at Duffin Creek WPCP, non-energy process-related emissions from wastewater operations and plant natural gas usage. As major electricity consumers, water and wastewater operations have been materially impacted by an increase in the Ontario-wide electricity grid emission intensity.

b. Following the development of the Water and Wastewater GHG Emission Management Strategy in 2023, staff initiated measures outlined in the roadmap towards decarbonization across the Region's water and sanitary sewer treatment plants, storage facilities, and pumping stations. The Strategy

identified measures such as fugitive nitrous oxide monitoring and mitigation, renewable natural gas generation from wastewater treatment plants, and thermal heat recovery from the Region's sewer network as key opportunities to align corporate leadership with community-wide decarbonization.

c. The Strategy also made recommendations for the inclusion of additional emissions within the Region's corporate emissions inventory, mainly related to Regional wastewater process emissions not previously quantified and reported. The Region's emissions reporting protocols and boundaries for GHG reporting have been expanded for the 2025 Corporate Climate Action Plan update to include these four additional Scope 1 emission sources, adding about 8,000 tCO_2e to corporate totals (including to the 2019 baseline value).

4. Durham Community Climate Adaptation Plan Update

4.1 This section provides an update on climate adaptation and resilience measures, and highlights implementation progress that occurred in 2024. This work is guided by the Durham Community Climate Adaptation Plan (DCCAP) endorsed by Regional Council in 2016 through Report #2016-COW-103.

4.2 Corporate Resilience

a. Following significant progress made on implementation of DCCAP recommendations since 2016, Regional staff have applied for FCM funding to undertake a DCCAP progress update, strategic refresh, and implementation plan. This will support coordinated and accelerated corporate resilience efforts and clarify regional roles in community resilience in collaboration with local area municipalities and Indigenous communities.

b. Sustainable Infrastructure Policy and Guidelines - The Works Department, supported by the CAO's Office, is leading the development of a Sustainable Infrastructure Design Policy and Standard, which will operationalize sustainability for the Region's transportation, water and wastewater, and waste infrastructure projects. Phases 1 and 2 were completed in 2024, including consultant procurement, staff engagement, draft sustainability guidelines for transportation projects, draft policy development, and FCM funding application for Phases 3 and 4 (water, wastewater, and waste management). More details on this initiative have been shared with Council through Council Information Report #2025-INFO-55.

c. The Region's 2024 Asset Management Plan details the state of the Region's climate change risks and adaptation initiatives to protect the Region's assets in accordance with Ontario Regulation 588/17 requirements. The Plan outlines measures to proactively adapt assets to a changing climate and address potential risks through specific risk mitigation strategies.

d. Staff from the CAO's Office Sustainability team joined 15 other Canadian municipalities in participating in the Global Covenant of Mayors for Climate and Energy Canada Cohort, facilitated by ICLEI Canada. The Cohort is a transformative initiative funded by the European Union to empower municipalities in the crucial phase of implementing climate mitigation and resiliency efforts. The Region received tailored support to help realize climate goals with a focus on (1) identifying and securing capital and operational funding, (2) working across municipal departments and community partners, and (3) maintaining, monitoring, and evaluating the impact of municipal climate initiatives. ICLEI Canada worked with staff to develop a draft set of adaption indicators to be used in future tracking efforts.

4.3 Building Sector

a. DGH Climate Resilience Enhancements – As noted previously in Section 2.2, the Region is working to expand the DGH program to include weather-ready home renovations that reduce the impact and potential costs associated with extreme weather events. Program design work in 2024 included support from Ontario Research Centre for Climate Adaptation Centre and Windfall Ecology Centre, scoping with local area municipalities and conservation authorities, as well as community and industry engagement through online survey, resident focus groups, community organization meetings, and interviews. This program enhancement was endorsed by Regional Council in April 2025 through Report #2025-COW-17.

b. Regional staff provided input to improve resilience of new developments, including through review of local area municipal secondary plans and Durham Region Local Housing Corporation redevelopment plans.

4.4 Flooding and Roads Sector

a. Flood Hazard Mapping – In 2024, the Region partnered with Ganaraska Region Conservation Authority (GRCA) to update 46-year-old floodplain mapping for watersheds within the eastern portion Durham Region. Building on this work, the Region supported GRCA initiation of a Flood Vulnerable Road and Crossing Hydraulic Capacity Assessment to increase the transportation system resilience. This work is scheduled for completion in 2025.

b. Decision-making support - Works Department staff are working to internally share and operationalize the results of the above-mentioned Flood Vulnerable Road and Crossing Hydraulic Capacity Assessment to support decision making and asset management. Flood risk assessment results are now available to Regional staff through the Works Department Data Portal, and staff are working on developing additional resilience design guidance for priority projects.

c. FCM Sustainable Communities Award - Durham Region was awarded an FCM Green Municipal Fund Sustainable Communities Award for "Moving Towards a Flood Resilient Transportation System" under the category of reconciliation, anti-racism, equity, and inclusion. Led by the Works Department, this award recognized the series of flood risk assessments undertaken by Durham Region in collaboration with conservation authorities, incorporating future climate data and an innovative social equity lens. This project supports informed infrastructure investments that withstand future climate conditions and address potential flooding impacts.

d. Watershed Planning – In 2024, Kawartha Region Conservation Authority launched a watershed planning update, partially funded by the Region. Another watershed planning project will be launched in 2025.

e. Floodplain Mapping Project – In 2025, Lake Simcoe Region Conservation Authority will initiate a 2-year project for Beaver River and Whites Creek Floodplain Mapping updates.

4.5 Human Health Sector

a. To help learn, prepare for, and act against climate change, Durham Region Health Department has launched a series on climate change and health to examine the health-related impacts of climate change. In 2024, the background primer entitled Understanding the Local Health Impacts of Climate Change Report was issued, followed by the first in a series of seven reports, entitled Extreme Heat and Heath Report. The series will include reports on vector-borne disease, poor air quality, air pollution, extreme weather, solar ultraviolet radiation, and food and water impacts.

4.6 Natural Environment Sector

a. Durham TREES – In 2021, Durham Region and its five conservation authority partners launched Durham TREES, a subsidized rural tree-planting program for a 3-year implementation period. Approximately 525,000 trees have been planted under the program by year end 2024. Planning is underway for a second phase, as well as a partnership with Trees for Life to support the federal government's 2 Billion Trees Program across the Region.

b. LEAF - Since 2020, the Region and local area municipalities have partnered with Local Enhancement & Appreciation of Forests (LEAF) to plant approximately 1,300 native trees and shrubs. LEAF planting program offers a subsidized rate through the Backyard Tree Planting Program for residents, multi-unit, and commercial properties in participating municipalities. LEAF community tree plantings have added an additional 4,300 trees and shrubs.

c. Pollinator Gardens along Regional Roads - Roads and Facilities staff successfully secured funding from the Canadian Wildlife Federation (CWF) to implement pilot pollinator gardens at 1442 Lakeridge Road in Uxbridge and at the Scugog Works Maintenance Depot. A third site at the northwest corner of Ninth Concession and Lakeridge Road in Uxbridge will be planted in Spring 2025. The process and outcomes will continue to be monitored to inform a broader strategy for pollinator plantings on a larger scale.

d. Region-wide Phragmites Management – In 2024, a new Durham-wide phragmites collaborative created the Durham Region Phragmites Management Area Working Group consisting of representatives from all five local conservation authorities, local area municipalities, Ontario Power Generation, Mississaugas of Scugog Island First Nation, and other governments to launch stakeholder mapping, management, and coordinating strategic actions on the management of this invasive species. Durham Region staff are participating to support mapping and management. The Working Group is facilitated by Central Lake Ontario Conservation Authority (CLOCA).

e. Natural Environment Climate Change Collaborative (NECCC) - In 2024, Regional staff assumed the role of NECCC chair to support knowledge and information sharing in support of natural system resilience across the Region, member municipalities, conservation authorities, and Indigenous organizations. This collaborative meets virtually twice a year.

4.7 **Cross-Sector Resilience**

a. The Sustainable Neighbourhood Action Program (SNAP) is led by Conservation Authorities in collaboration with local area municipalities and the Region. The Region plays a supportive role, participating in development of community-based plans and projects that advance regional climate and community health and well-being objectives and increase visibility of Regional programs. There are two active SNAPs in Durham that enhance community resilience and promote sustainable practices:

- Ajax SNAP – Led by Toronto and Region Conservation Authority (TRCA) and Town of Ajax, 2024 work included Ajax Council approval of the neighbourhood SNAP Action Plan, delivery of a targeted residential retrofit program increasing uptake in the DGH program, and community engagement in the development of a neighbourhood resilience strategy to proactively address extreme weather events.

- Whitby SNAP – Led by CLOCA and Town of Whitby, 2024 work included Whitby Council approval to develop a SNAP for West Lynde neighbourhood based on a strategic selection process and alignment with Whitby, CLOCA, and Durham priorities, and establishment of a Project Management Team to guide the project.

4.8 **Relationship to Strategic Plan**

This report aligns with/addresses the following strategic goals and priorities in the Durham Region Strategic Plan:

f. Goal: Environmental Sustainability and Climate Action

- E2. Collaborate with partners on the low-carbon transition to reduce community greenhouse gas emissions across Durham Region.
- E3. Prepare for and respond to severe weather impacts.

5. Conclusion

5.1 Following Durham Region's climate emergency declaration, staff have been implementing Council-endorsed plans to position the municipality as a leader in community-wide climate action. This report updates Council on the status of three climate action plans: community-wide energy transitions (DCEP), climate resilience initiatives (DCCAP), and corporate climate leadership. It also highlights key challenges, opportunities, and next steps to align efforts with the Council's vision, goals, and targets.

5.2 The DCEP focuses on energy retrofits for existing homes and buildings, enhancing the Durham Greener Homes program with digital technologies, and implementing the Durham Greener Buildings program. Exploring district energy as a utility created from waste heat is an excellent opportunity to create a resource from an under-utilized product. Reducing transportation-related emissions requires sustained investment in public transit, active transportation infrastructure, light-duty fleet, and EV charging infrastructure.

5.3 Corporately, based on current estimates of quantifiable emissions, the Region is not on track to meet Council-endorsed GHG reduction targets. However, key initiatives are being advanced including fleet electrification investment, deep energy retrofits at region-owned facilities, and capital investment in measures to decarbonize wastewater infrastructure operations while accommodating planned capacity growth.

5.4 Implementation of adaptation measures through the Durham Community Climate Adaptation Plan is progressing well, led by the Region, local municipalities, and conservation authorities. In 2024, the focus was on designing resilience retrofit enhancements for the DGH program, development of a Durham Sustainable Infrastructure Design Policy, and completing Public Health climate vulnerability assessments. These efforts will integrate equity considerations, leverage collaborations, and employ strategic monitoring and evaluation to track progress and demonstrate success.

5.5 For additional information, contact: Ian McVey, Director, Environment & Climate at 905-668-7711, extension 3803.

Respectfully submitted,

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Sandra Austin,
Commissioner, Community Growth &
Economic Development

Appendix A: Summary of Approved External Funding Programs secured in 2024

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Funding Program	Funding	Description	Value of Approved funding in 2024
ZEVIP Round 5	NRCan –Grant	Installation of EV Chargers	$1.13 million total conditionally pre-approved grant
Affordable Housing Multi-Residential Program	Enbridge - Grant	GHG Pathways Studies for DRLHC	$22,479 grant
Study: Community Energy System	FCM GMF – Grant	Courtice District Energy System	$100,000 grant
Lighting Retrofit	IESO	Lighting Retrofit HQ	$8,460,000 grant
Energy Treasure Hunt	SaveOnEnergy & Enbridge	Hillsdale Estates LTC Energy Treasure Hunt, October 2024	$11,000 grant
Energy Treasure Hunt	SaveOnEnergy & Enbridge	Central East Division DRPS Energy Treasure Hunt, Nov 2024	$8,000 grant
Total			$9,731,479 grant