

CORPORATE ENERGY CONSERVATION AND DEMAND MANAGEMENT PLAN 2019 UPDATE

York Region's energy conservation and emissions goals are driven by Vision 2051 and legislative requirements. Vision 2051 guides the Region to achieve zero greenhouse gas emissions by 2051. The 2019 Energy Conservation and Demand Management Plan (ECDM) is a corporate-wide plan that focuses on reducing greenhouse gas emissions resulting from York Region's services.

York Region owns and operates over \$12.3 billion in assets in the form of buildings, transit vehicles, fleet vehicles, water and wastewater facilities, and supporting infrastructure. The ECDM Plan outlines ways the region can reduce energy and greenhouse gas emissions through three key pathways:

- **Conservation** leading to reduced demand
- Improvements in **efficiency** to meet service requirements and use less energy
- Shifting to renewable energy and less emission intensive **alternatives** with the aim of achieving net-zero emissions

This plan will be updated every 5 years.

2016-2018 HIGHLIGHTS

FOREST EDUCATION CENTRE OPENED

- ✔ Living Building Challenge Certified in 2018
- ✔ Generates more energy each year than it consumes

INSTALLED 375 KW OF SOLAR PANELS

- ✔ Generates on average 437 MWh per year of emissions-free electricity; enough to power 45 average sized houses for a year

ANTI-IDLE AND HYBRID AMBULANCE TECHNOLOGIES

- ✔ Reduced ambulance fuel consumption by 84,500 litres in nine months; equivalent to 214 tonnes of greenhouse gases

TRANSIT BUS FLEET UPGRADES

- ✔ Topography dependent transmission shifting, real-time driver feedback, and electric cooling fan retrofits have increased transit bus efficiency by four per cent; equivalent to 1,100 tonnes of GHG emissions per year

SUSTAINABLE BUILDINGS CERTIFICATIONS

- ✔ 17 Leadership in Energy & Environmental Design (LEED®) certified buildings: one Platinum, five Gold, 10 Silver, one Certified
- ✔ Six more buildings in progress applying for LEED® certifications

FUTURE INITIATIVES AND SAVINGS

ANNUAL EMISSIONS TARGETS (IN TONNES OF CO ₂ e)	TRANSIT	BUILDINGS	NON-TRANSIT FLEET	WATER AND WASTEWATER	STREETLIGHTS AND SHELTERS
SHORT TERM (2019-2025) 2025 TARGET 79,800 TONNES	<ul style="list-style-type: none"> • Pilot projects and evaluation of electric vehicle technology • Diesel hybrid buses • Mid-life refurbishment strategy 	<ul style="list-style-type: none"> • Energy efficient retrofits • De-carbonization plans for new and existing buildings • Ongoing-commissioning • Energy performance building monitoring: energy data management and dashboards • Alternative work strategies and supportive policies 	<ul style="list-style-type: none"> • Electric vehicle strategy • Vehicle right sizing • Driver training programs • Fleet route planning • Active and sustainable transportation options 	<ul style="list-style-type: none"> • Water conservation and sanitary sewer inflow and infiltration reduction programs • Water and wastewater facility energy conservation 	<ul style="list-style-type: none"> • Intersection streetlight conversion to light emitting diode technology • Alternative energy sources for stationary assets
MEDIUM TERM (2026-2030) 2030 TARGET 64,600 TONNES	<ul style="list-style-type: none"> • Battery electric buses • Hydrogen fuel cell • Mobility as a Service (MaaS) 	<ul style="list-style-type: none"> • Housing York Inc. – Energy and Utility Management Plan implementation • Energy Study at Materials Recovery Facility 100 Garfield Wright 			
LONG TERM (2031-2051) 2051 TARGET 30,600 TONNES	<ul style="list-style-type: none"> • Fully implemented zero-emissions fleet solution 	<ul style="list-style-type: none"> • Deep energy retrofits to existing buildings 			<ul style="list-style-type: none"> • Adaptive streetlight technologies

TOTAL CUMULATIVE SHORT-TERM COST AND SAVINGS INCREMENTAL TO CURRENT BUDGETS & PLANS (PROJECTED 2019-2025)

CUMULATIVE EMISSIONS REDUCTION	TRANSIT COUNCIL APPROVED (IN PROGRESS)	BUILDINGS INCREMENTAL COST	NON-TRANSIT FLEET INCREMENTAL COST	WATER & WASTEWATER INCREMENTAL COST	STREETLIGHTS, SHELTERS INCREMENTAL COST
15,000 TONNES	SAVINGS \$1.2 MILLION	SAVINGS \$6.1 MILLION	SAVINGS \$150,000	SAVINGS \$5 MILLION	SAVINGS \$2.4 MILLION
	EMISSION REDUCTION 3,600 TONNES	EMISSION REDUCTION 9,600 TONNES	EMISSION REDUCTION 500 TONNES	EMISSION REDUCTION 900 TONNES	EMISSION REDUCTION 400 TONNES



ELECTRIC TRANSIT BUS PILOT (2019 - 2025)

- Six electric buses purchased from Canadian manufacturers
- Partnerships with Canadian Urban Transit Research and Innovation Consortium, Town of Newmarket, Newmarket - Tay Power Distribution, New Flyers Industries, Nova Bus, Siemens and ABB
- Demonstrates commitment to leadership and the environment

A FULLY ELECTRIC BUS FLEET WOULD REDUCE CORPORATE EMISSIONS BY OVER 50%