

City of Ottawa Climate Change Initiatives

Overview

- The City's 2015-2018 Strategic Plan included two specific objectives:
 1. Supporting an environmentally sustainable Ottawa (implement priority projects that protect property, land, air and water for City residents)
 2. Reduce long-term costs through planned investment and staging of diversion and conservation strategies (demonstrating sustainability and fiscal responsibility in planning, maintaining and renewing utility services and assets through City-led actions and municipal partnerships)
- The City has a proactive environmental strategy that targets an 80% reduction in GHG emissions by 2050.
- It is working toward this target and increased climate resiliency in future growth and development through its Air Quality and Climate Change Management Plan, Official Plan policies, its energy transition strategy (Energy Evolution) and a variety of specific energy conservation and environmental initiatives.
- This is a cross-departmental effort, involving multiple departments in collective and individual projects.
- Key initiatives range from applying an energy conservation and climate resiliency lens to City policies, to greening operations, to collaborating with local and international partners to achieve meaningful results in GHG emission reductions and becoming a low-carbon economy.
- The progress made to date, with many results on track or exceeding targets, demonstrates the City's deep commitment to tackling climate change head-on.
- The City is also taking a proactive approach to protecting and preserving its natural assets for future generations through initiatives such as the Ottawa River Action Plan and the Urban Forest Management Plan.
- The initiatives completed or underway have the added benefit of making Ottawa a cleaner and environmentally-responsible community and one that protects and enhances its natural features.
- Some of the things we are doing (for example, converting to LED lighting, greening our fleet and buildings) are also reaping economic benefits in terms of cost savings for our City operations.
- We are also working on increasing the City's capacity for climate resilience through important initiatives such as updating floodplain mapping and community flood risk profiles to better position vulnerable areas for future environmental stresses.

City of Ottawa Key Climate Change Initiatives

Last updated on April 23, 2019

Note re department acronyms used below:

CSS	Community and Social Services department
PIED	Planning, Infrastructure and Economic Development department
PWES	Public Works and Environmental Services department
OPH	Ottawa Public Health
RCFS	Recreation, Cultural and Facilities Services department

Policy Framework

Air Quality and Climate Change Management Plan (PIED)	<ul style="list-style-type: none"> • Sets framework for City's adaptation to climate change • City is on track to meeting key short-term targets • 5-year review and update expected by the end of 2019
Official Plan Renewal (PIED)	<ul style="list-style-type: none"> • Revised OP in 2021 • Supports reduction of GHG emissions and increased resiliency planning • Builds energy and climate resiliency in future growth/development
Energy Evolution: Ottawa's Community Energy Transition Strategy (EE strategy) (PIED)	<ul style="list-style-type: none"> • Identify corporate and community actions needed to drive 80% reduction in GHG emissions by 2050 • Phase 1 – 33 medium to short term actions • Phase 2 – additional actions and priorities • Final report expected by the end of 2019 • The 2019 City budget included Council direction to direct any Hydro Dividend Surplus that exceeds projections in the Long-Range Financial Plan to corporate initiatives that improve energy efficiency, conservation or renewable energy for the 2018-2022 Term of Council
Ottawa River Action Plan (ORAP)	<ul style="list-style-type: none"> • In progress • 17 individual projects aimed at enhancing and protecting the health of the Ottawa River • Includes the Combined Sewage Storage Tunnel (CSST) project

Specific City Initiatives

Combined Sewage Storage Tunnel (CSST) (PIED)	<ul style="list-style-type: none"> • Project to reduce the frequency of combined sewage overflows to the Ottawa River, add redundancy to downtown sewer system and reduce risk of basement flooding in Glebe/Centretown – to be in operation in 2020
--	---

City of Ottawa Key Climate Change Initiatives

Last updated on April 23, 2019

	<ul style="list-style-type: none"> • Climate change was factored in by upsizing the Tunnel storage volume by 72% • Reduce volume of combined sewage overflow to the Ottawa River by up to 43,000 m³ (18 Olympic-sized swimming pools) • Reduce frequency of overflow events from approximately 28 to 2 • Reduced risk of flooding for 7,000 residential and 150 non-residential properties
O-Train Confederation Line (Transportation Services)	<ul style="list-style-type: none"> • 34 electric-rail vehicles, replacing ~ 180 buses with zero-emission vehicles • Reduce GHGs by ~ 94,000 tonnes and criteria air contaminants by 4,500 tonnes per year by 2031 • Project began in 2012
O-Train Stage 2 Extensions (Transportation Services)	<ul style="list-style-type: none"> • Vehicles for Confederation Line will be fully electric • Trillium Line vehicles to meet Tier 4 emissions standards under <i>Canadian Environmental Protection Act</i> • Reduce GHGs by 110,000 tonnes and air contaminants by 3,000 tonnes over a 25-year period • Key maintenance and storage facilities will be LEED certified • Project began in 2019
Bus, diesel train and electric train simulators (Transportation Services)	<ul style="list-style-type: none"> • Installed 2017-2018 • Reduces diesel and energy consumption • Estimated GHG avoidance of ~ 30,000 kg/year for bus/diesel train simulators + additional savings for electric train simulator
Adaptive Traffic Control – Innes Road Project (Transportation Services)	<ul style="list-style-type: none"> • Using artificial intelligence (AI) technology as part of a traffic flow management system • Increased efficiencies in travel time, stop reductions and overall delays • Ongoing – results available before end of July
Community Energy Innovation Fund (PIED)	<ul style="list-style-type: none"> • One-time funding for community-based projects supporting Energy Evolution (EE) strategy • 8 organizations received funding for projects to be completed by August 31, 2020

City of Ottawa Key Climate Change Initiatives

Last updated on April 23, 2019

Hydro Ottawa Dividend Surplus (2018) (PIED)	<ul style="list-style-type: none"> • Actions at City sites to reduce GHG emissions and energy consumption • 8 projects implemented by PIED and RCFS – completion end of 2019 • Driving GHG reductions beyond usual payback criteria + secondary benefits (upgrades to bird-friendly lighting and reduced maintenance costs)
Green Building Policy (PIED)	<ul style="list-style-type: none"> • Target - new City buildings >500 m² at least LEED certified – targeting LEED Gold • Ongoing since September 2005 • Currently 27 LEED certified buildings (including 5 LEED Gold, 12 LEED Silver) • Lansdowne is Ottawa's first green LEED community
Corporate Electric Vehicle Charging Station Policy (PIED)	<ul style="list-style-type: none"> • Supports use of electric vehicles (EV) through charging stations/infrastructure on City property • Ongoing since December 2017 • Ex.: driving installation of EV charging at new Chapel Hill Park and Ride
Electric Vehicle Charging Stations at City facilities (RCFS)	<ul style="list-style-type: none"> • To encourage the public to adopt electric vehicles (EVs) • Installation by outside contractor who received provincial funding (free to City) • 6 sites = 7 level 2 outlets; 6 fast DC chargers
Mainstreaming Climate Change Resilience in Wet Weather Infrastructure planning and design (PIED)	<ul style="list-style-type: none"> • To achieve consistent and persistent improvements in the performance of wet weather infrastructure (sewer design, separation, extraneous flow removal and retrofits) • Lower risk of basement flooding • Key risk reduction measures standard in new housing developments
Energy Reduction Program capital investments in facilities (2015-2018) (RCFS)	<ul style="list-style-type: none"> • Reduce energy use and costs, delivering a 5.5 year simple payback over 4 years (2015-2018) • Reduced GHGs by >800,000 kg annually through 105 lighting, 35 building automation, 42 mechanical and 5 water projects
Energy Reduction Program capital investments in facilities (2019-2022) (RCFS)	<ul style="list-style-type: none"> • Reduce energy use and costs, delivering a 8 year simple payback • Annual investment over 4 years (2019-2022) • Expected reduction in GHGs by 3 million kg annually (fully achieved by 2023) • Includes lighting controls, building automation systems, mechanical and HVAC improvements, and water initiatives

City of Ottawa Key Climate Change Initiatives

Last updated on April 23, 2019

Solar panels on City buildings (RCFS)	<ul style="list-style-type: none"> • Clean local renewable energy being created and used within the City • 3,500 kW of solar panels installed at 8 sites • Installed by Energy Ottawa who is renting 7 City roofs + City-owned panels at Glebe garage
Various other facility upgrades to improve energy efficiency (RCFS)	<ul style="list-style-type: none"> • City Hall outdoor lighting upgrade • Jim Durrell facility lighting upgrade • Vestibule heating, ground source heat pump to replace propane at Carp mess hall
Fleet Vehicle Greening (Fleet Services)	<ul style="list-style-type: none"> • Acquisition of hybrid, electric or alternative fuel vehicles ongoing • 79 hybrid vehicles (9 additional on order) and 1 plug-in hybrid (Volt) to date • First 2 fully electric vehicles to be acquired in 2019 • 4 electric ice resurfacers • 5 new natural gas ice resurfacers into service in April 2019 • Fleet's overall target GHG reduction = 5%; actual = 10.4%
Fleet Use of Green Vehicle Technologies (Fleet Services)	<ul style="list-style-type: none"> • Telematics in snow plow trucks to track idling as part of a comprehensive idling reduction campaign • 7 new cargo vans outfitted with aftermarket hybridization systems • Anti-idling devices installed on entire ambulance fleet • Working with different departments to pilot telematics devices and further explore this technology, with a view to tracking/reducing idling
EcoDrive Projects (Transportation Services)	<ul style="list-style-type: none"> • Using Connected Autonomous Vehicle (CAV) technology to leverage existing traffic infrastructure and reduce fuel consumption and GHG emissions • To permit drivers to adjust their driving behaviours when approaching a traffic signal by providing timing information to vehicles • 2 projects <ul style="list-style-type: none"> ○ EcoDrive I (in collaboration with Transport Canada, MTO, and Carleton University – completed early 2018) ○ EcoDrive II (to be completed by December 2019)
OttawaRideMatch (Transportation Services)	<ul style="list-style-type: none"> • Free online ride-matching service pairing up potential carpoolers based on work hours and home/workplace locations

City of Ottawa Key Climate Change Initiatives

Last updated on April 23, 2019

	<ul style="list-style-type: none"> • Sign-ups increasing (2018 = 4,296 registered users)
TravelWise for Workplaces (Transportation Services)	<ul style="list-style-type: none"> • TravelWise Action Plan identified the most effective policies and programs to increase sustainable commuting to the workplace • 9 workplaces participating, including <ul style="list-style-type: none"> ○ CHEO – new carpool policy ○ Ottawa Hospital – shuttle service upgrade with rack and roll ○ IKEA – increased secure bike parking ○ Park of Commerce – added EV charging stations
Various other programs/policies encouraging use of alternative modes of transportation, including cycling and walking (Transportation Services)	<ul style="list-style-type: none"> • Increased safety (measures include Pedestrian Crossover Program; Safer Roads Ottawa Program, Accessible Pedestrian Signal Program, Pedestrian Safety Evaluation Program, Cycling Safety Evaluation Program and Temporary Traffic Calming Measures Program) • Encourage commuter cycling <ul style="list-style-type: none"> ○ Annual Bike to Work Month – in 2018, 4,033 participants; 141,580 kg of GHG emissions avoided ○ Ring-and-Post Bike Racks at Bus Stops (50) and Bike Racks at City facilities (1,300) • Ottawa Cycling Plan, to strengthen and support cycling in the City – ~ 117 km of new cycling facility added to the City's network during previous Term of Council and new bike maps were developed with the NCC and City of Gatineau for public distribution • Ottawa Pedestrian Plan – ~ 7.3 km of new sidewalks (constructed as stand-alone projects) added during previous Term of Council • Reduces fuel consumption and GHGs

City of Ottawa Key Climate Change Initiatives

Last updated on April 23, 2019

Electrical Reliability and Co-generator Replacement Business Case (PWES)	<ul style="list-style-type: none"> • In progress • Expected to reduce digester gas flare and improve reliability/redundancy of ROPEC's electrical distribution system • Lower GHG emissions and improve climate resiliency (allow ROPEC to operate independent of the utility grid in the event of a catastrophic failure)
Streetlight conversion to LED (Transportation Services)	<ul style="list-style-type: none"> • Increase number of streetlights converted to LED by 15,000 per year • LED technology reduces City streetlight energy consumption by 64% and street light maintenance costs by 50% • Energy savings = 21,700,000 kWh (\$3.15 million), representing a reduction of 1,843 metric tons of GHGs
Traffic signal conversion to LED (Transportation Services)	<ul style="list-style-type: none"> • Replace all incandescent bulbs with LEDs • Reduce energy consumption and maintenance costs • Ongoing – over 75% of signalized intersections have been upgraded as of Q1 2019 (goal is to complete conversion by end of this Term of Council)
Tree Planting Programs (PWES)	<ul style="list-style-type: none"> • Trees in Trust; Schoolyard Tree Planting Grant Program; Parks and Streetscape Tree Planting Program; Green Acres Program; Commemorative Tree Program • Increase forest cover; enhance City streets, parks, facilities; mitigate climate change
Urban Forest Management Plan (PWES and PIED)	<ul style="list-style-type: none"> • 20-year plan • Structured approach to protecting/enhancing forest into the future • Includes Tree By-law review, inventory of forest canopy cover, tree planting/establishment guidelines
Energy Efficiency improvements//GHG reductions for social and supportive housing (CSS)	<ul style="list-style-type: none"> • Reduce energy consumption, GHG emissions and maintenance costs (replacing doors, windows, insulation and heating systems with higher energy efficiency rating components) + improve residents' physical comfort <ul style="list-style-type: none"> ○ Under Social Housing Improvement Program (SHIP) and Housing and Homelessness Investment Plan (HHIP) (provincial funding) – estimated annual natural gas savings of 20% for heating components + additional savings from building component upgrades

City of Ottawa Key Climate Change Initiatives

Last updated on April 23, 2019

	<ul style="list-style-type: none"> ○ Funding under Social Housing Apartment Retrofit Program (SHARP) for 150+ unit high-rise apartments – estimated annual natural case savings of 12.5% and electricity savings of 8%; estimated GHG reduction 900 tonnes/yr ○ Funding under Social Housing Apartment Improvement Program (SHAIP) for 100-150 unit high rise apartments – estimated annual natural gas savings of 9.3% and electricity savings of 13%’ estimated GHG reduction 700 tonnes /yr ○ Action Ottawa Capital Funding for Affordable Housing encourage/facilitate development of units that exceed Building Code standards for energy efficiency and GHG emissions – funding for 2 completed projects + one underway
Health promotion videos and website on need to create climate resilient built and natural environments (OPH)	<ul style="list-style-type: none"> ● To raise awareness of actions that can be taken to support the City in becoming more climate resilient ● Other municipalities have adopted and branded them ● OPH also provides input on climate adaptability for new development applications within the City
Public and community partner education (OPH)	<ul style="list-style-type: none"> ● To raise awareness and educate community partners and the public about climate change risks so they can respond ● Presentations on topics such as health equity and climate change, climate change and extreme weather, Ottawa’s response to climate change and extreme weather, and climate change and the built environment ● Audiences include residents, City staff, local air and waste engineers, Canadian health agencies and workplace continuity specialists
Active living initiatives to encourage active transportation (OPH)	<ul style="list-style-type: none"> ● Encourage healthy lifestyles, including walking, cycling, etc.
Information on prevention strategies for West Nile Virus and Lyme Disease (OPH)	<ul style="list-style-type: none"> ● Reduce vector-borne diseases that are increasing with climate change ● New diseases may become possible with rising temperatures (e.g. Zika)

City of Ottawa Key Climate Change Initiatives

Last updated on April 23, 2019

City of Ottawa Interagency Extreme Weather Plan (OPH)	<ul style="list-style-type: none"> • Reduce illness and deaths associated with increased numbers of extreme weather events and warming trends • Work with vulnerable groups • OPH staff assist service providers to develop resiliency plans for extreme weather events including storms and extreme heat and cold
Climate change health vulnerability assessment (OPH)	<ul style="list-style-type: none"> • Assist in identifying priority health issues in Ottawa and in developing a climate change adaptation plan based on local health needs • Identified by the Ontario Ministry of Health and Long Term Care as an activity to be conducted by Public Health Units
Emergency response during flooding 2017 and windstorm 2018 (OPH)	<ul style="list-style-type: none"> • Assist residents to recover from extreme weather events associated with climate change conditions
Collaborating with Others	
Global Covenant of Mayors for Climate and Energy (PIED)	<ul style="list-style-type: none"> • World's largest coalition of mayors promoting/supporting voluntary action toward a low-carbon economy • Ongoing since 2016 • Participating cities must meet certain requirements,, including setting and tracking GHG emission reduction targets
Low Carbon Cities Canada (LC3) partnership	<ul style="list-style-type: none"> • LC3 – partnership between seven municipalities and the Federation of Canadian Municipalities (FCM) to achieve ambitious local climate action • City of Ottawa letter of support December 7, 2018 • Funding identified in the federal budget March 2019
EnviroCentre's Carbon 613 program (PIED)	<ul style="list-style-type: none"> • Made-in-Ottawa, target-based sustainability program for businesses • Ongoing since 2016 • Participants must set and track GHG reduction targets
NRCan Infrastructure and Gold Readiness Working Group (PIED)	<ul style="list-style-type: none"> • Develops best practices for expansion of electric vehicle (EV) charging infrastructure • Currently focused on multi-residential buildings • Potential to save millions on costs of installing charging infrastructure

City of Ottawa Key Climate Change Initiatives

Last updated on April 23, 2019

Regional Climate Projections (PIED)	<ul style="list-style-type: none"> • Joint project with National Capital Commission (NCC) and Environment and Climate Change Canada • Generate local climate projections to 2100 for National Capital Region • Ongoing, with completion by Q1 2020 • Will be used to inform a City Vulnerability Assessment and Climate Resiliency Strategy
Flood risk analyses (PIED)	<ul style="list-style-type: none"> • To understand and reduce potential flooding risks • Ongoing - led by Infrastructure Services in collaboration with Conservation Authorities • Floodplain mapping updates + community flood risk profiles inform emergency preparedness and flood mitigation and response efforts
Agricultural grants through Rural Clean Water Program (PIED)	<ul style="list-style-type: none"> • To support farmers to adapt to drought conditions and build economic resiliency to climate change • 16 types of environmental projects – delivered by Conservation Authorities on behalf of the City