City of Kitchener

SUSTAINABILITY Report 2019

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Kitchener, Changing For GOOD

Our corporate climate action plan for sustainability

THE GOAL

Reduction of greenhouse gases by 2026
Message from the Mayor

I was honoured to represent Kitchener, Waterloo Region and Canada as one of more than 1,000 mayors, local representatives, and community leaders from around the world to take part in the Climate Summit for Local Leaders during the 2015 United Nations Climate Change Conference. This experience not only underscored the scale of the global challenge climate change represents, it reaffirmed the critical role that local government has in facing that challenge.

I was happy to support the inclusion of Environmental Leadership as one of the five goals laid out in our 2019-2022 Strategic Plan, as well as the alignment of our plan to the 17 United Nations Sustainable Development Goals, ensuring that our focus is in the policy areas that will have the greatest impact, both globally and in our community. I was proud to see these strategic commitments translate into concrete action through the adoption of our Corporate Climate Action Plan in April of 2019 and the subsequent declaration of a climate emergency.

The urgency of the climate crisis is a sentiment echoed across our community – recent public consultations on the City’s strategic and budgetary priorities have consistently shown that Kitchener residents support strong climate action, and want to see even more done. That’s why I was proud to see that not only were the recommendations of the Corporate Climate Action Plan incorporated in the City’s 2020 budget, council actually directed staff to increase the scope of our investments into energy efficiency retrofits and a faster transition to sustainable energy sources for our facilities and vehicle fleet.

We’ve come a long way – our greenhouse gas emissions have been reduced by 27 per cent since 2010, but our journey is still in the early stages. This is the City of Kitchener’s first Sustainability Report, a new annual tradition to celebrate our progress and hold ourselves accountable to the residents of Kitchener that will inherit the world we leave behind. I hope you join us in working to ensure we can be proud of that legacy.

[Signature]
City-generated emissions reduced by 27 per cent or the equivalent to 3,100 tonnes of CO² since 2010.
Kitchener is working to reduce greenhouse gas emissions and manage the impacts of climate change by following the Federation of Canadian Municipalities (FCM) ‘Partners for Climate Protection’ (PCP) as well as Local Governments for Sustainability (ICLEI) Building Adaptive and Resilient Communities (BARC) frameworks. These frameworks help guide the City to focus efforts in five key areas under municipal control: Buildings, Pumping Stations, Fleet, Outdoor Lighting and Waste.

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MITIGATION

As of 2019, the City of Kitchener has reduced absolute emissions by 4 per cent from 2016 levels and by 27 per cent from 2010 levels.

Kitchener's Corporate Greenhouse Gas Inventory

- **Year**: 2010, 2016, 2017, 2018, 2019, 2026
- **Greenhouse Gas (tonnes of CO2 equivalent gasses)**: 0, 2,000, 4,000, 6,000, 8,000, 10,000, 12,000, 14,000
- **Categories**: Building, Fleet, Streetlighting, Pumping Stations, Waste

Legend:
- Building
- Fleet
- Streetlighting
- Pumping Stations
- Waste
10 million litres of water saved since 2018 using cisterns.
Energy Audits:
Kitchener completed energy audits at 53 City facilities, representing 1,225,000 square feet of total building footprint to plan for the most impactful efficiency opportunities.

Energy Efficiency Reserve Fund:
A revolving fund was approved to fund capital projects, with the operating savings being reinvested for future efficiency projects.

Measurement:
The City of Kitchener now has an Energy Dashboard that showcases energy data for all City of Kitchener facilities.

Several pilots have been launched to deploy sensors for real-time measurement of air quality, CO2e, soil wetness and recycling bin levels to improve operations and programming.

Key Energy Capital Projects:
• LED light retrofits at Sports World, Queensmount arena, Kitchener Memorial Auditorium, Breithaupt Gymnasium, Charles and Benton parking garage, Activa Sportsplex, Fire Hall 7 parking lots, Kitchener Market and more.
• Installation of variable frequency drives on pumps and fans at City Hall.
• Updating building automation systems at many community centers.
• Kitchener’s greenhouse saves water and grows healthier plants using watering mats instead of irrigation. Native and drought tolerant plants are grown that require minimal watering once established and very little maintenance.

Water Efficient Technology (WET) Award:
Awarded by the Region of Waterloo for completing major water efficiency upgrades, resulting in a reduction of 7,600 cubic metres per year, plus an estimated 19,700 cubic metres per year on less measurable projects. The projects included:
• Audited eight splash pads and installing water efficiency upgrades.
• Optimized a rainwater harvesting system at the city’s Operations Centre.
• Installing 32 water flow monitors at city facilities to detect leaks.
• Upgrading City Hall’s cooling tower to a model that conserves more water.
3,719 megawatt hours of electricity saved since 2010.
**Key Electric Fleet Items:**

In 2019 the City added a zero-turn electric mower, seven electric lawn mowers, 11 electric handblowers, one electric pole pruner, 20 electric line trimmers, one electric chainsaw and one hybrid SUV. In total, these electric units save 300 litres of fuel per season.

**Biofuel Increase:**

Increase to a level of B-50 (50 per cent Biodiesel) implemented during warm weather periods and 5 per cent in cold weather.

**Fleet Pilots:**

Idle-reduction technology, including solar photovoltaic power kits.

**Education Programing:**

The Sustainability Office engaged with fleet users to further reduce emissions, fuel consumption and maintenance costs.

**Review of Fleet repair:**

A review of the fleet repair and maintenance process was completed to enhance repair and maintenance delivery, modernize the process and reduce operating costs of the ISO 14001 Certified fleet.

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**Design Standard:**

For new land development in Kitchener, LED street lighting is now standard and installed by the developer.

These streetlights are significantly more energy-efficient, saving money over the long run.
53 energy audits completed at City facilities like arenas, pools and community centers.
Waste Diversion Station:
Kitchener events now often feature a volunteer-run diversion station, encouraging event attendees to divert in the proper stream (organics, recycling, or landfill). The diversion station was a great success and the schedule of events that offer this service will be expanded in 2020!

Construction waste:
Industrial plastic recycling program at the Kitchener Operations Facility was expanded to include hard hats and other similar plastic, in addition to underground piping.

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ADAPTATION

Kitchener uses the Local Governments for Sustainability (ICLEI Canada) Building Adaptive and Resilient Communities’ (BARC) program to assess risk and vulnerability of the corporation and community.

Largest Funding Ever Received:
The City has an award-winning and industry-leading stormwater master plan and program through which it secured $49.9 million of the federal Disaster Mitigation and Adaptation Fund to implement gray and green infrastructure throughout the city.

Asset Management:
Kitchener is participating in an FCM initiative as one of six municipalities working together to embed climate change indicators into municipal service levels to inform a new FCM guide.

Urban Forests:
Urban forests ensure the City has the ability and resiliency to respond to a changing climate. The Sustainable Urban Forestry Strategy 2019 – 2028, is focused on establishing tree canopy target by 2020 and eliminating current tree planting backlog. Urban trees and associated soil directly store carbon and play an important role in mitigating the effects of climate change.
81 hours of service provided by 20 Waste Diversion Station Volunteers at city run events.
**Complete Streets:**

Through extensive public consultation, the City developed the [Complete Streets Kitchener – Streets for All](https://completestreets.kitchener.ca) guidelines in 2019 with the vision that every street in Kitchener is safe, comfortable and convenient for all, including three design goals for every street to prioritize: design for safety, improve transportation choice and advance sustainability.

**Greening Your Neighborhood Workshop:**

The City, along with [REEP Green Solutions](https://www.reepgreensolutions.ca), hosted a workshop for residents and stakeholders on ways to reduce stormwater runoff in their neighbourhood, minimize flood risks and provide multiple community benefits through the use of green infrastructure.

**Good design is Sustainable Design:**

A sustainable city actively and comprehensively pursues sustainable practices in all avenues of city building. An [Urban Design Manual](https://www.kitchener.ca/eng/what-we-do/planning/designguide) was created to detail the city’s urban design guidelines and standards including:

- Green Areas
- Stormwater Management Facilities
- Landscape Design
- Community Trails and Building Design
- Sustainable Design Elements in the Right-of-Way

**Separated Bike Lanes:**

As part of a pilot, five kilometres of separated bike lanes have been built in Kitchener. Queen’s Boulevard, Belmont Avenue and Water Street have separated bike lanes that provide space exclusively for bicycles and include a form of physical separation on the travelled portion of the roadway.

**Waste to Energy:**

The [Downtown Waste Diversion Pilot](https://www.kitchener.ca/eng/waste-and-resource-management/assessment-and-reporting/downtown-waste-diversion-pilot) focuses on 14 businesses in the downtown core. The Kitchener Business Improvement Area (BIA) initiated the pilot to divert food waste from the landfill to the local energy grid. Food waste is separated from other garbage by restaurant staff, collected by The Working Center employees and sent to a biogas plant in Elmira, where it is processed into electricity.

**Naturalization:**

Kitchener is recognized as a ‘Bee City’ and in 2019 converted seven acres of park lands into pollinator meadow habitat.

**Cycling and Trails Master Plan:**

The [Cycling and Trails Master Plan](https://www.kitchener.ca/eng/transportation/cycling-and-trails-master-plan) will lay the groundwork for a connected network of bikeways and trails. Investment in active transportation infrastructure facilitates a shift towards alternative transportation modes.

**Neighbourhood Greening Toolkit:**

All residents of Kitchener have the ability to create a more sustainable neighbourhood with the [LoveMyHood Matching Grant](https://www.kitchener.ca/eng/environment-and-urban-facilities/lovelymhood-matching-grant) through the newly launched Neighborhood Greening Toolkit. Neighbourhood greening projects include:

- Forest Heights Food Forestry
- Heritage Learning Garden Seating

**Showcase Cities Pilot:**

Kitchener was selected to participate in the first-ever [Global Covenant of Mayors Showcase Cities](https://globalcovenantofmayors.org) pilot. Staff will receive intensive support to reduce greenhouse gas emissions and adapt to climate change.
Sustainability Highlights 2019

More than $50 million in funding and grants received in 2019.
Kitchener residents overwhelmingly support strong climate action and in January 2020 city council approved millions in capital funding for corporate climate action.

The 2020 set of projects will result in a reduction of approximately 500 tonnes of CO2 equivalent emissions annually through:

**Fleet:**
- Purchase of five hybrid vehicles and three electric vehicles for fleet.
- Installation of electric vehicle charging stations.
- Extensive idling reducing technology and solar powered batteries to reduce idle time while maintaining frontline staff health and safety.

**Facilities:**
- Solar panel array at Breithaupt Centre.
- Solar wall at Forest Heights Pool.
- Geothermal hydronic improvements at the Kitchener Operations Facility.
- Extensive LED lighting retrofits.
- Multiple efficiency measures, such as energy recovery, arena water de-aeration, demand control ventilation variable speed pump, and condensing hot water heaters.
- Installation of multiple de-stratification circulation fans at indoor pools and Budd park to reduce heating load and improves user comfort.

**Outdoor Lighting:**
- Extensive retrofitting of decorative streetlights across the city to LED Lighting.

**Community Transportation:**
- Will recommend the development of a minimum grid of protected cycling infrastructure.
- Pedestrianization of Gaukel Street.
- City’s Comprehensive Review of the Zoning By-law (CRoZBy) eliminates minimum parking requirements and requires secure bike parking.
Local action can make a big difference, and the City of Kitchener is proud to be a key part of the ClimateActionWR (CAWR) collaboration - the group behind the development of Waterloo Region's first community action plan on climate change.

CAWR’s initial GHG reduction target of 6 per cent below 2010 levels by 2020 has been updated with unanimous municipal and regional support of 80 per cent reduction by 2050.

ClimateActionWR is currently drafting a new plan with the Region and area municipalities and townships to achieve this target. You can also review the ClimateActionWR plan and progress reports at https://climateactionwr.ca.

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- Kitchener Mayor Berry Vrbanovic
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