
2021

SUSTAINABILITY ANNUAL REPORT



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Introduction

The Town of Whitby continues to implement its Corporate Sustainability Plan. The plan outlines the sustainability goals for the corporation and is focused on understanding the challenges and opportunities the entire community faces today.

This Annual Report follows the ten principles of the One Living Planning Framework. The ten principles guide the Town of Whitby to meet its overall vision for Whitby to be a healthy, sustainable and complete community.

Many sustainability projects and initiatives were accomplished in 2021. Key highlights include:

- Approval of Zero Carbon Whitby - the Town’s carbon budget framework;
- Installation Electric Vehicle Charging Stations across ten municipal locations;
- Completion of a Zero Carbon District Energy Pre Feasibility Study;
- Adoption of an updated Active Transportation Plan;
- Initiation of the Community Wide Climate Change Master Plan - a plan to address climate mitigation and adaptation.

It is anticipated that 2022 will further Whitby’s journey to sustainability with some of the priority initiatives including:

- A Zero Carbon Whitby Costing Study and first carbon budget
- Initiation of a Whitby Green Standard Demonstration Project;
- Completion of Zero Carbon District Energy Feasibility Study; and,
- Completion of Phase 1 of the Community Wide Climate Change Master Plan-Climate Adaptation.



whitby.ca/climatechange



One Planet Living

This report follows the One Planet Living Framework. This international framework consists of ten simple principles, clear goals and guidance to help ensure that the Town of Whitby advances all aspects of social, environmental and economic sustainability.



Health and Happiness

Encouraging active, social, meaningful lives to promote good health and wellbeing



Equity and local economy

Creating safe, equitable places to live and work, which support local prosperity and international fair trade



Culture and Community

Nurturing local identity and heritage, empowering communities and promoting a culture of sustainable living



Land and Nature

Protecting and restoring land and marine systems for the benefit of people and wildlife



Sustainable Water

Using water efficiently, protecting local water resources and reducing flooding and drought



Local and Sustainable Food

Promoting sustainable, humane farming and healthy diets, which are high in local, seasonal organic food and vegetable protein



Travel and Transport

Reducing the need to travel, encouraging walking, cycling and low carbon transport



Materials and Products

Using materials from sustainable sources and promoting products that help people reduce consumption



Zero Waste

Reducing consumption, reusing and recycling to achieve zero waste and zero pollution



Zero Carbon Energy

Making buildings and manufacturing energy efficient and supplying all energy with renewables

Projects listed within the report that include a \$ have or are in the process of being considered for subsidization by an external funding opportunity. For more details, please view **Appendix A**.

Health and Happiness

Encouraging active, social, meaningful lives to promote good health and wellbeing

2021 Accomplishments

Community

Playground Redevelopments

To support exercise and play, several park playgrounds were redeveloped in 2021, including:

- Guthrie Park
- Pringle Creek Park
- Davies Park
- Hannam Park
- Ennisclare Park

2022 Initiatives

Community

New Parks

The Town is overseeing the development of several new district parks, including:

- **West Whit BEE Park.**
This park will be themed for bees and nature with 5000 square meters of native plantings, a bee and pollinator-themed playground and a splash pad. Connections to trails will be added throughout the neighbourhood as well as interpretive signage about native bees. Sports opportunities include a multi-skills court, an illuminated multi-use field with LED lights and pickleball courts.
- **Micklefield Park**
This new local park within the West Whitby Heathwood Development will include a playground, splash pad, soccer field, walkways, tree plantings and a large naturalized meadow area with pollinator plantings.
- **Lynde Creek Park**
This new district park, located within West Whitby, will include a playground, splash pad, multiscale court, illuminated soccer field with LED lights, walkways, tree plantings and a large naturalized meadow area with pollinator plantings and created wetland.
- **Chelsea Hill Park**
This new district park located in West Whitby will include a playground with engineered wood fibre surfacing, a sand play area, a shade shelter, two tennis courts, a walking trail with bench rest areas, and tree planting.
- **Lazy Dolphin Park**
This new district park, located on the west side of Coronation Rd and south of Taunton Rd, will include a playground with engineered wood fibre surfacing, sand

play area, shade shelter, multi-skills court, sports field, walking trail with bench rest areas and tree planting.



Figure 1 Chelsea Hill Park Schematic

Whitby Sports Complex (\$)

The Town is designing a new Whitby Sports Complex to help meet our growing community's immediate and future recreational needs. The new complex will be located on the west side of Baldwin Street South, South of Highway 407. This new complex will include the following amenities:

- A twin-pad arena with 85' by 190' ice pads
- Indoor aquatics centre with a ten-lane, 25-metre pool
- Leisure pool Active Living/Wellness Studio/Multi-Purpose Space
- Indoor walking track
- Meeting rooms, arts and cultural space
- Landscaping, parking and pedestrian connectivity

To align with Council's commitment to climate change, various environmental sustainability initiatives will be explored during the design process, including LEED Gold and Zero Carbon Building (ZCB) Certifications. The facility design is underway, and park programming is being evaluated as part of the design process.

Corporate

Parks and Recreation Master Plan

In 2022, the Town will be updating its Parks and Recreation Master Plan to help identify actions to support future recreational services and infrastructure. The updated plan will identify long-range goals and objectives for activities that affect Parks Planning and Recreation Services.

Cullen Master Plan

In 2022, the Town will develop a Cullen Central Park Master Plan to maximize the potential of the park, which was once known as the Cullen Miniature Village. This park is connected to Heber Down Conservation Area, and together, makes some of the most significant stretches of publically accessible greenspace in Whitby.



Culture and Community

Nurturing local identity and heritage, empowering communities and promoting a culture of sustainable living

2021 Accomplishments

Community

Whitby Sustainability Advisory Committee

The Whitby Sustainability Advisory Committee (WSAC) is a community-based committee of Council whose role is to promote sustainability, support environmental management, and respond to climate change. In 2021, WSAC led several initiatives, including a four-part Climate Conversations webinar series, a community shoreline cleanup, waste reduction week seminars, and requested that Council declare 2022 the Year of the Garden.

Story Walks

The Whitby Library, in partnership with the Town of Whitby, installed two-story walks. Story Walks are a fun educational activity that places children's picture book pages along a popular walking route. The first took place in Whitby Civic Park with the book titled My Heart Fills with Happiness (sâkaskinêw nitêh miywêihtamowin ohci) written by Monique Gray Smith, and the second was at Darren Park with the children's book titled Dragonfly Kites (Kíweegínápíseek) written by Tomson Highway.

Youth Challenge International (YCI)

In 2021, the Town was once again a partner for the YCI's "Innovate MY Future" initiative and served as the Durham host of the program in partnership with the Region of Durham. "Innovate MY Future" offers Canadian youth the opportunity to take action on local climate issues and make a real difference in their communities.

Corporate

Corporate Sustainability Team

In 2021, the Corporate Sustainability Team met quarterly to share ideas and learn how to support Whitby in becoming more environmentally sustainable. Sessions included:

- Presentation from Plug N Drive to learn about the electric vehicle market in Canada and vehicle charging infrastructure.
- Presentation from the Canada Green Building Council to learn about the LEED, Net Zero Energy and Zero Carbon Building Certifications.

Corporate Energy Team

The Corporate Energy Team includes staff from across the organization who are involved in initiatives dealing with energy management, consumption, and impact greenhouse gas emissions. The integrated team supports the implementation of the Town's Corporate Energy and Greenhouse Gas Reduction Plan. In 2021, this team supported initiatives including:

- Corporate energy audits;
- Energy and emissions reporting;
- Dollars to Sense Energy Saving Training;
- Development of the Zero Carbon Whitby Plan.

Staff Earth Day Quiz

Town staff were invited to celebrate Earth Day on April 22, 2021, by participating in a lunch hour virtual eco quiz. Participants were asked several environmentally focused questions testing staff on environmental knowledge and speed.

2022 Initiatives

Community

Youth Challenge International

In partnership with the Region of Durham, the Town supports the YCI's "Innovate MY Future" initiative. It is anticipated that the 2022 team will be delivering an app-based urban forest story walk for residents to enjoy during the spring and summer of 2022.

Eco Events

In 2022, the Town of Whitby will be celebrating a number of significant days for environmental action through a number of eco-activities. These days include:

- Canada Water Week- March 21-27
- World Water Day- March 22
- Earth Hour- March 26
- Earth Day- April 22
- Provincial Day of Action Against Litter- May 10
- International Day on Climate Change- May 15
- World Bee Day- May 20
- Bike to Work Day- May 20
- Pollinator Week- June 20-26
- National Forestry Week- September 18-24
- Car-free day- September 22
- National Tree Day- September 21
- Energy Efficiency Day- October 5
- Walk to School Day- October 5
- Waste Reduction Week - October 17-23

Protecting and restoring land and aquatic systems for the benefit of people and wildlife

2021 Accomplishments

Community



Backyard Tree Planting Program

In 2021, Town of Whitby Council approved a five-year contract for the subsidized Backyard Tree Planting Program to property owners of Whitby. This program is delivered by the not-for-profit organization LEAF and is in partnership with the Region of Durham. In addition, the program received \$5000 in sponsorship from Elexicon Energy to help offset the Town of Whitby's costs to deliver the program.

Earth Day Scavenger Hunt

The Town launched a virtual Whitby Eco challenge to engage the community virtually in a series of different challenges to celebrate the week of Earth Day.

Examples of challenges included taking a picture with your favourite tree in Whitby, cooking a meatless meal, collecting litter, and visiting a town park. Activities were developed with considerations for equity, accessibility and COVID protocols.

Climate Conversations Webinar Series

The Whitby Sustainability Advisory Committee hosted Climate Conversations - a four-part webinar series to help increase knowledge and awareness of the natural environment and how it is impacted by climate change. Topics covered in the spring of 2022 included local food, the importance of wetlands, invasive species, and Bees Love Trees. Climate Conversations are presented in partnership with Durham Farm Fresh, Central Lake Ontario Conservation (CLOCA), Ontario Federation of Anglers and Hunters (OFAH) and Local Enhancement and Appreciation of Forests (LEAF).



Figure 2 Climate Conversations Webinar

Canada Forest Week and National Tree Day

The Town celebrated both National Forest Week (September 20-26) and National Tree Day (September 22, 2021) by hosting a virtual Tree Identification 101 session.

Free Conservation Lands and Ontario Park Passes

In partnership with [CLOCA](#) (Central Lake Ontario Conservation Authority) and [Ontario Parks](#), the Whitby Library lends passes that grant free day-use access to the conservation areas and [provincial parks](#). These loans encourage residents to explore and appreciate our local natural assets and sustainable outdoor activities.

Community Tree Planting

Two community tree-planting events took place in 2021, both at Rosedale Park. The Ontario Youth Council planted around the naturalized pond in the spring. In the fall, the Town collaborated with LEAF to deliver a community-wide Planting Event at Rosedale Park. This event allowed volunteers to come out and assist with planting over 400 trees to help increase and enhance Whitby's urban forest.



Figure 3 Family Planting Trees at Rosedale Park

Tree Cities of the World

[Tree Cities of the World](#) is an international effort through the Arbor Day Foundation, the Food and Agriculture Organization of the United Nations, alongside its Canadian partner, Tree Canada, to recognize cities and towns committed to ensuring that urban forests and trees are properly maintained, sustainably managed, and duly celebrated. Whitby was successful in 2021 and represented Canada at the Tree Cities of the World Conference hosted in June 2021.

2022 Initiatives

Community

Earth Day Celebrations

The Town will be offering several ways to participate in Earth Day (April 22) and Earth Week (April 18-24) celebrations through several eco-inspired activities, including community plantings, seminars and open houses.

Community Tree Planting

The Town of Whitby will be hosting several community tree-planting events in 2022.

Fleet to Trees

Fleet Services continues with the Fleet to Trees™ program, where every new vehicle the Town of Whitby purchases, new trees are planted within Whitby to help create mini forests that can act as Carbon sinks in local parks.

Climate Conversations Webinar Series

The Whitby Sustainability Advisory Committee will once again be hosting “Climate Conversations” - a four-part seminar series to help increase knowledge and awareness of the natural environment and how it is impacted by climate change.

Canada Forest Week and National Tree Day

The Town will be celebrating National Forest Week (September 19-25) and National Tree Day (September 21, 2022) by hosting several forestry-related activities to help increase our awareness and appreciation for the benefits of trees.

Corporate

Staff Tree Planting

In the spring of 2022, Town staff will be invited to participate in the Canadian-wide Earth Day tree-planting relay and will be planting 50 native trees to celebrate the 50th anniversary of Earth Day.



Figure 4 2020 Earth Day Tree Relay

Tree Cities of the World

When the program launched in 2019, Whitby was one of only 59 cities worldwide to receive this designation. Since then, the program has increased to 120 cities Worldwide. Whitby continues to meet the commitments of the programs and will reapply in for this designation in 2022.

Urban Forest Management Plan

In 2022, the Town of Whitby will be developing its first Urban Forest Management Plan. The Plan will provide recommendations to improve tree health and diversity, increase tree cover, cope with climate change, reduce risk to the public, and increase the wide-ranging benefits of a sustainable, healthy, and safe urban forest.



Figure 5 Whitby Urban Forest Streetscape



Using water efficiently, protecting local water resources, reducing flooding and drought

2021 Accomplishments

Community

Waterfront Trail Improvements

In 2021, the Town of Whitby completed trail improvements along the waterfront trail from Heydenshore Park to Boundary Road.

Drinking-Water Stations

Starting in 2019, the Town of Whitby began to expand drinking water stations throughout several municipal facilities to promote reusable water bottles. In 2021, water fill stations were added to the Fire Headquarters.

Seabin Initiative

The Council of the Great Lakes Region, thanks to funding from Environment and Climate Change Canada, launched the [Lakes Plastic Cleanup initiative](#). In 2021, 16 [Seabin](#) devices were installed across Ontario, including the Port Whitby Marina, to collect litter, help researchers study plastic pollution in our waterways as well as reinforce the importance of “Reduce, Reuse, Recycle”.

Corporate

Boating Ontario Clean Marine Rating for Port Whitby Marina

On March 2021, the Town of Whitby’s Port Whitby Marina participated in an environmental audit by Boating Ontario to satisfy membership requirements within the Clean Marine Eco-Rating Program. Port Whitby Marina has achieved a 2021 audit score of 96% and is now one of only six of over 300 rated marinas in Ontario to achieve this top-level Diamond Elite rating.

Vanier Park Dry Storm pond

In 2021, over 1000 m² of native plants were installed in a newly constructed dry storm pond on the west side of Vanier Park to help manage stormwater runoff.

Michael Boulevard Flood Mitigation Assessment (\$)

This project is partially funded by the National Disaster Mitigation Program to protect 45 houses from 100-year flooding risk. This project reviews past recommendations to find a new socio-economically acceptable solution and completes a conceptual design of the recommended solutions. The project report has been filed with the Ministry of Environmental Conservation and Parks.

Bridge/Culvert Master Plan – Hydraulic Capacity Assessments (\$)

This project is partially funded by the National Disaster Mitigation Program to assess the Town’s culverts and bridges compliance with the Town’s current engineering standards, flood resiliency, assessment of climate change impacts, and potential future capital/mitigation expenditure prioritization. The project report has been filed with the Ministry of Environmental Conservation and Parks.

Rowe Channel Upgrade Study Environmental Assessment

In partnership with Central Lake Ontario Conservation Authority (CLOCA), the Town has started a Municipal Class Environmental Assessment (EA) Study to identify possible improvements to Rowe Channel. The project team has identified and evaluated a range of design options to decrease the risk of flooding, invasive species and the Town’s costs to maintain the channel while improving channel aesthetics. Based on the evaluation results, the preliminary preferred solution is replacing the existing channel with an open channel lined with armour stone.

2022 Initiatives

Community

Canada Water Week Celebrations

The Town of Whitby is partnering with the Whitby Public Library on March 22 (World Water Day) to host a free screening of the documentary "[SHORELINE: The Paddle Against Plastic](#)," an inspiring film that follows Rochelle Byrne as she embarks on a 430km paddle journey across Lake Ontario to raise awareness about plastic pollution. A live question and answer session will occur with Rochelle following the screening.



Figure 6 Canada Water Week Webinar

Corporate

Lake Ontario Shoreline Erosion and Protecting Critical Infrastructure (\$)

This project is funded by the National Disaster Mitigation Program to assess the 100-year flood hazard risk along the Town's Lake Ontario shoreline, inundation zone and erosion risk. The project will enable the informed risk assessment of existing public and private lands and infrastructure along the Town's waterfront. The project is planned to be complete by mid-2022.

Local and Sustainable Food

Promoting sustainable, humane farming and healthy diets are high in local, seasonal, organic food and vegetable protein

2021 Accomplishments

Community

Pollinators

In 2018, Whitby was designated the 10th Bee City in Canada and the first in Durham Region. The Bee City designation is awarded to municipalities that declare to protect pollinators and their habitat through action and education. In 2021, the Town undertook several measures as identified throughout this report to maintain the Bee City status including educational seminars, community plantings, and even the development of a native plant nursery which are further outlined below.



Climate Change Webinar Series - Local Food & Climate Change

Kicking off the Climate Conversations webinar series on Earth Day 2021, (April 22nd) was a presentation from Durham Farm Fresh called “Buy Local, Buy Fresh - why buying local is good for you and our climate”. This presentation identified ways to buy local all year round, reduce food waste, and support local farmers while helping reduce climate change impacts.

Mayors’ Monarch Pledge



Figure 7 Monarch Butterfly on Milkweed

The Town of Whitby continues to be committed to the Mayors' Monarch Pledge. This is a program led by the National Wildlife Federation. Through this initiative, Whitby is committed to creating a habitat for the monarch butterfly and pollinators and educating residents about how they can make a difference at home and in their community. To participate, the Town must commit to at least three action items (out of 30) that the community will initiate throughout the year. The Town has committed to the following actions:

- Launch or maintain a public communication effort to encourage residents to plant monarch gardens in their homes or neighbourhoods.
- Launch, expand, or continue an invasive species removal program to support the re-establishment of native habitats for monarch butterflies and other pollinators.
- Display educational signage at monarch gardens and pollinator habitats.
- Increase the percentage of native plants, shrubs and trees that must be used in city landscaping ordinances and encourage the use of the milkweed, where appropriate.

Native Bee Seminars

Early in 2021 the Town hosted a successful virtual presentation with our volunteers at 55+ Community Centre. The presentation by Alveole beekeepers focused on native bee species. The volunteers were given kits ahead of time to construct their bee hotels.

Corporate

Seeds to Bees

Inspired by the Shark Tank and Dragon's Den, the Town's Culture Team, developed the Hornet's Nest, a program designed to provide staff teams with the opportunity to create, submit, present and potentially fund new ideas that move the organization forward and support the achievement of the Corporate Strategic Plan. In 2021, staff from four departments collaborated and gained approval to launch Seeds for Bees, an initiative to start a native plant nursery to assist community-planting efforts.

2022 Initiatives

Community

King St. Parkette Community Garden

The Town is working with a local community group interested in creating a community garden at the King Street Parkette to demonstrate permaculture gardening methods. An application is currently under review, and a decision will be brought forward to Council in 2022.

Urban Rooftop Beehive (\$)

The Town of Whitby has installed an urban beehive on the rooftop of Town Hall. Elexicon Energy sponsors the urban rooftop beehive. The Town will extract approximately 10 kilograms of honey from its rooftop beehive each year. In support of the beehive installation, the Town will be hosting several educational workshops throughout the year.

Whitby in Bloom

Whitby in Bloom presents annual events, including webinars, speaker series and the annual garden tour. The webinars and speakers focus on horticultural, landscape and environmentally responsible projects. In 2022, several sessions are planned including Mix and Match: Plants and Shrubs for Pollinators on April 27 and a session titled Trees, a wise investment, on May 25.

Pollinator Week

Pollinator Week (June 20-26) is a time to celebrate the vital role of pollinators like bees, birds, bats, and butterflies in our local ecosystem and support global food production. Whitby is committed to protecting pollinators and their habitat through action and education as a designated Bee City. As part of that commitment, the Town is planning several fun activities and workshops for residents to take part in and learn more about why pollinators matter.

Corporate

Seeds to Bees

In 2022, Town staff will be planting its first nursery crop of native plants across the community. The nursery was established in 2021 by Town Staff, who competed for a small amount of funding to initiate innovative ideas aligned with the Town's Corporate Strategic Plan.



Travel and Transport

Reducing the need to travel, encouraging walking, cycling and low-carbon transport

2021 Accomplishments

Community

Active Transportation Plan

In 2021, Whitby Council endorsed an update to the [Active Transportation Plan](#). The Town of Whitby's Active Transportation Plan (ATP) encourages people to use transit, walk and cycle more often and strives to make our community more connected, accessible and safer for everyone.

Electric Vehicle MEET- Test Drive Event

In 2021, the Region of Durham, with support from Elexicon Energy, received federal funding to support several educational electric vehicle events across Durham Region. The Town of Whitby hosted a four-day event at the Iroquois Park Sports Centre where partners, Plug N Drive, brought their Mobile Electric Vehicle Education Trailer and several electric vehicles for the public to test drive.



Figure 8 Council and MP Turnbull at the 2021 EV MEET event

Corporate

Bicycle Friendly Community

The Town of Whitby supports cycling through a network of bike routes, shared roads, multi-use paths and trails. Whitby is a bronze-level [Bicycle Friendly Community](#), which means we

are working hard to create more safe places to ride, along with cycling education and programming.



Trail Improvements

In 2021, several Trail improvements were made to improve accessibility to active transportation projects including:

- a. Hydro Electric Power Corridor (HEPC) trail improvements for the section from Manning Rd to William Stephenson Dr
- b. Waterfront Trail improvements from Heydenshore Park to Boundary Road
- c. Jeffrey off-leash dog park trail construction
- d. Cullen Central Park multi-use path construction
- e. Heathwood Community trail connection to Cullen Central Park and Heber Down Conservation Area
- f. Ash Creek Trail connection through Bradley Park
- g. Pringle Creek trail and bridge

Fleet Master Plan (\$)

The Town of Whitby completed a Fleet Strategic Master Plan to address long-term fleet needs to deliver services to the community. The final plan highlights actions, strategies, and benchmarks that can be implemented to support the Town's current needs with the flexibility and resilience to adapt to changes in future growth in the Town of Whitby.

EV Charging Stations (\$)

The Town of Whitby, in partnership with the Region of Durham, Town of Ajax, City of Oshawa, Oshawa Public Utility Corporation, and the Municipality of Clarington, was successful in an application to Natural Resources Canada to support 50% of the cost to purchase and install charging infrastructure at several locations across the Region.

In 2021, the Town of Whitby installed Level 2 charging stations at the following locations for public and employee use:

- Brooklin Community Centre & Library;
- Iroquois Park Sports Centre;
- McKinney Centre;
- Centennial Building/1855 Accelerator;
- Whitby Civic Recreation Complex;
- Operations Centre;
- Whitby Marina;
- Fire Headquarters; and
- Town Hall.

EV Charging Policy

In 2021, an EV user Policy, a Fee By-Law Amendment and a Traffic By-Law amendment were adopted to support the newly installed Electric Vehicles Changing stations.

The policy provides details related to:

- Station usage and fees
- Station maintenance
- Municipal fleet charging procedures
- Station usage restrictions and enforcement
- Data collection and sharing

The fees have been developed to recover costs to operate the new EV charging stations and support the development of a proposed Zero Carbon Whitby Revolving Fund to support future sustainability projects.



Figure 9 Level 2 EV Station at 1855

2022 Initiatives

Community

Trail Construction, Improvements and Expansion

In 2022, the Town intends to construct new trails and make several trail improvements to Whitby's existing active transportation infrastructure projects, including:

- a. Florence Trail
- b. Waterfront Trail LCBO Boardwalk
- c. Lynde Creek Trail - Dundas to Bonacord
- d. Minto Development Trail- connecting Deverell Park to Thicksen Road and Dryden Boulevard through the open space lands.
- e. Waterfront Trail redevelopment - Corbett Creek Bridge (replacement) to Intrepid Park
- f. HEPC Trail connection from Longwood Park to Thicksen Road

Corporate Initiatives 2022

Greening the Town's Fleet

Fleet services are exploring the purchase of 10 Plug-in Hybrid vehicles that can utilize the newly installed electric vehicle charging stations and provide a means of transferring from fossil fuels to fully electric cars. Fleet is pursuing reduced sized vehicles and investigating purchasing pick-up trucks compared to the standard half-ton.



Zero Waste

Reducing consumption, reusing and recycling to achieve zero waste and zero pollution

2021 Accomplishments

Community

Waste Reduction Week

In 2021, the Town celebrated waste reduction week by:

- Council officially proclaiming Waste Reduction Week in Whitby
- Educational Social Media and Web Campaign promoting best sorting techniques
- Promoting the Town's online Rethink Your Waste Sorting Game
- Promoting the Town's new Anti-Litter App
- Hosting a Community Waste Reduction Week Webinar Series
- Hosting an internal Waste Reduction Week Quiz for Town Staff

Waste Reduction Webinar Series

The Town hosted a Waste Reduction Week Webinar Series open to the public free of charge, which included the following topics:

- **Textile Repair/Repurposing Café Webinar**
Guest speaker Vera Hugel, a local sewing specialist, led them shared how to repair holes on clothing or simple ways to repurpose textiles like transforming a t-shirt into an apron.
- **Webinar on Backyard Composting 101**
Durham Master Gardeners led this virtual session where participants learned about the benefits of backyard composting and how to set up and compost in their backyard correctly.

Waste Sorting Game (WSAC)

The Whitby Sustainability Advisory Committee helped sponsor a Waste Sorting Game through the Town's website and Whitby Waste Buddy App. The game allows residents to test their knowledge on how waste is sorted in Whitby. Each level becomes more challenging with everyday items. From March 1 to October 27, 2021, over 3,939 games were played. The average time played per game was 9 min 25 sec. After running the game for six months, Staff could see which items were most misunderstood and these included dirt, rocks, soiled newspaper and liquor bottles. This information was passed on to communications to inform future campaigns.



Figure 10 Rethink Your Waste Game

Community Cleanup Online Tool

Whitby launched the Anti-Litter App in May of 2021 to support the Provincial Day of Action on litter. The new app allowed residents to pre-register for a one-time community clean-up or make a longer-term commitment to adopt and clean a road, park or trail.

Paperless Waste Calendar-Public Survey

A community survey was conducted in August 2021 using the Whitby Connect online platform to gauge whether the community would support going paperless for the waste collection calendar.

1,296 respondents completed the survey with 77.6% of respondents indicating yes, 19% indicating no and 3.4% did not know. Based on the survey results and the identified environmental and operational benefits of going paperless, the Town will review this option for 2022.

Whitby Library Discovery Kits

As an early adopter of the sharing economy, the Library expanded its lending in 2021 to include a collection of [Discovery Kits](#) that allow families to borrow and experiment with a selection of high and low tech items rather than purchasing them.

Corporate

New Waste Collection By-Law

In 2021, the Town updated the Waste Collection By-Law. This initiative aligned with Zero Waste and Sustainability principles by reinforcing the 3Rs. Simplifying the by-law and language helps both the resident and the Town to ensure better compliance. Through the new Waste Collection By-Law, the Town can better reinforce limits and encourage waste diversion, which helps achieve waste reduction goals.

Implementation of Updated Special Large Item Bulk Collection Program

In 2021, the Town implemented a new online booking and payment platform for residents to book their special collection. The new software directly integrates with the existing online

and mobile Whitby Waste Buddy App provided by Re-collect. In addition to the upgraded software, the Town's fee structure for this program also changed. The new program eliminated the one free annual Special Collection pickup and instead implemented a collection fee of \$25 per 12 for non-divertible items like bulky goods. Divertible goods like electronic waste and porcelain waste are now collected free of charge.

Staff Waste Reduction Quiz

Sustainability and Public Works Operations departments jointly hosted a lunchtime quiz for Town Staff to participate in Town-wide Waste Reduction Week celebrations. This was a simple, fun and interactive way to increase staff awareness about Waste Reduction Week.

2022 Initiatives

Community

Waste Reduction Week

The Town of Whitby will be celebrating Waste Reduction Week (October 18-24).

2022 marks the 20th-anniversary celebration for this recognition, which focuses on the principles of circular economy, resource efficiency, and waste reduction.

Provincial Day of Action on Litter

In Ontario, the Provincial Day of Action on Litter is celebrated on the second Tuesday of May. This year, the Town of Whitby will be celebrating by hosting several community cleanup events and encouraging people to keep Whitby clean all year round by adopting public spaces and hosting cleanups, all of which can be quickly scheduled via the online App www.whitby.ca/cleanup.



Figure 11 Whitby Sustainability Advisory Committee Volunteer completing a Shoreline Cleanup



Making buildings and manufacturing energy-efficient and supplying all energy with renewables 2021 Initiatives

2021 Accomplishments

Community

CDP Global Climate Reporting Scorecard

The Carbon Disclosure Project (CDP) is a not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts.

The annual evaluation report is used to gain an overview of environmental performance and how the Town's response can be improved in the future. Reporting through CDP meets yearly reporting requirements as a member of the Global Covenant of Mayors.

2021 is the Town's third year for reporting climate performance. Whitby scored an overall **A minus in Leadership for climate adaptation, which** demonstrates that the Town is at a leadership level demonstrating a clear understanding of future climate risks and is implementing climate adaptation actions.

Zero Carbon District Energy Pre-feasibility Study

In 2021, the Town completed a pre-feasibility study to determine the technical and financial viability of establishing a geothermal district energy system in North Whitby. If successful, this project can provide clean, low carbon heating and cooling to several buildings, including the future Whitby Sports Complex. Whitby Council has since directed staff to work with Elexicon Group to complete an in-depth feasibility study, which will be completed in early 2022.

Whitby Green Standard

2021 was the first full year of implementing the Whitby Green Standard for all new Site Plan and Plan of Subdivision applications. In all, over 70 applications were reviewed, with most applicants exceeding Tier 1 mandatory requirements.

Climate Change Master Plan

In 2021, the Town initiated Phase 1 of a Climate Change Master Plan- Climate Adaptation. This plan will enable the community to prepare for the future impacts of climate change. The Town has partnered with I See Change to encourage residents to share photos, stories, and data about how weather and climate change affect them to ensure the plan reflects the community. Submissions to this tool will help prioritize actions that will be included in the Plan.

Whitby Signs on to Race to Resilience and Race to Zero

[Race to Resilience](#) and [Race to Zero](#) are global campaigns run by the COP26 Presidency and high-level Climate Champions. The purposes of these campaigns are to rally leadership and support from cities, regions, businesses and investors to help frontline communities build resilience and adapt to the impacts of climate change while also reducing greenhouse gas emissions to stay within the 1.5 °C global temperature increase as outlined in the 2016 Paris Agreement.

In 2021, Whitby Council endorsed joining these campaigns. By joining Race to Resilience and Race to Zero, Whitby is joining cities worldwide, committing to be a catalyst for change while also demonstrating the commitment to and delivery of the goals of the Paris Agreement and COP26.

Corporate

Zero Carbon Whitby

[Zero Carbon Whitby](#) was endorsed by Council in March 2021; this plan serves as the Town's Corporate Energy Management Plan and Corporate Climate Adaptation Plan.

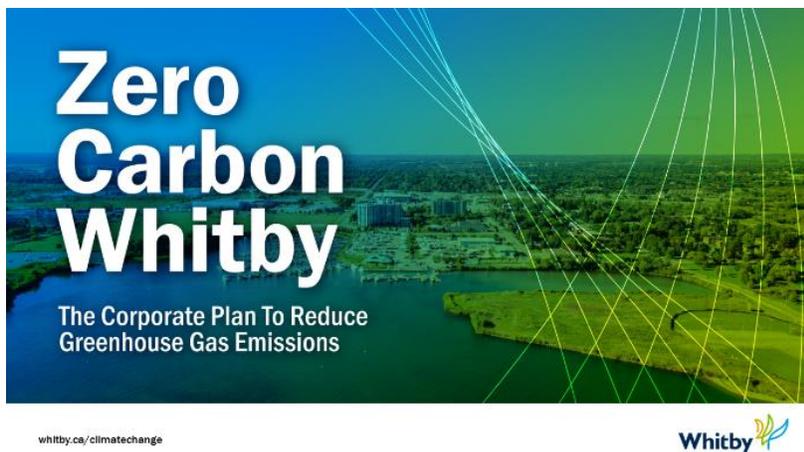


Figure 12 Zero Carbon Whitby

Zero Carbon Whitby has been developed as a framework for implementing a low carbon decision mechanism across the organization. The Plan derives the fair amount of emissions that Whitby's corporate operations have to spend (Carbon Budget) to support global greenhouse gas emission reduction targets.

As part of the plan, Council approved short, medium, and long-term targets to reduce corporate greenhouse gas (GHG) emissions, namely:

- 20 percent GHG emissions reduction by 2025, below 2019 levels
- 40 percent GHG emissions reduction by 2030, below 2019 levels
- 100 percent GHG emissions reduction by 2045, below 2019 levels;

This target was developed to reflect the Town's contribution to limiting the global annual average temperature increase to 1.5 °C.

Embedded within the Plan is a Carbon Reduction Framework- an overarching framework for greenhouse gas emissions management, extending over multiple years and all aspects of municipal operations. This framework empowers staff to develop and implement actions from the bottom up to meet GHG reduction targets by aligning capital and operating budgets with GHG reduction targets.

Corporate Building Policy

To minimize the impact that the Town's growth has on carbon emissions, Council endorsed a new Corporate Building Policy in 2021 that requires all new buildings and major retrofits to achieve Tier 3 of the Whitby Green Standard.

The Whitby Green Standard is an existing framework that allows for a flexible approach for addressing climate and sustainable design criteria in all new buildings. Tier 3 of the standard would require new facilities to be designed to be net-zero ready or equivalent. This means that if zero carbon emissions cannot be met at the time of opening, they are designed to allow them to be retrofitted in the future; therefore, ensuring the long-term carbon reduction goals can be achieved.

Global Covenant of Mayors

The Town of Whitby joined the Global Covenant of Mayors (GCoM) in 2019.

GCoM is a global network of more than 10,000 cities spanning 139 countries worldwide. These local governments all recognize that ambitious climate initiatives in their communities need to be taken to keep global temperatures from rising more than 1.5°C.

Whitby's participation in the Global Covenant of Mayors commits the community and Town to the following milestones:

- Develop greenhouse gas (GHG) emissions inventory;
- Assess climate risks and vulnerabilities of your city;
- Define ambitious climate mitigation, resilience and energy targets;
- Create and complete climate action plans.

In 2021, the Town obtained two badges for its efforts in climate change, including:



Mitigation Badge

This badge is awarded as soon as one of the steps (i.e. Inventory, Target, or Plan) is accomplished.



Adaptation Badge

This badge is awarded as soon as one of the steps (i.e. Assessment, Goal, or Plan) is accomplished.

For more information about the Global Covenant of Mayors, please visit globalcovenantofmayors.org.

Weather Station at the Brooklin Community Centre & Library

In July, CLOCA installed a [weather station](#) on the roof of the program room at the Brooklin Community Centre & Library. The monitor displays barometer pressure, wind speed and direction, rainfall, temperature, humidity, etc. The public can also access these stats online through CLOCA's website. This is part of an initiative funded through RBC to help raise awareness of climate change and provide opportunities for citizen science.

Energy Sub Metering

The Town of Whitby installed energy sub-metres at the McKinney Community Centre. These meters provide real-time monitoring of gas, electricity and water equipment at the panel and building level. Energy Sub Meters provide an in-depth overview of energy consumption in the facilities.

Facility Upgrades

In 2021, several energy efficiency upgrades were scheduled to be completed, including:

- Port Whitby Marina LED lighting conversion
- Whitby Municipal Building
 - Rooftop HVAC system equipment efficiency upgrade
 - LED lighting conversion
- Firehall HQ LED lighting conversion
- McKinney Centre
 - High efficiency boiler upgrade
 - Arena radiant tube heaters efficiency upgrade
- Iroquois Park Sports Complex
 - Ventilation system equipment efficiency upgrade
 - Arena radiant tube heaters efficiency upgrade

2022 Initiatives

Community

Whitby Climate Change Master Plan

Phase 1 of the Climate Change Master Plan- Adaptation will be completed by June 2022. Town staff have secured Sustainable Solutions Group to develop Phase 2 of the Climate Change Master Plan, which will focus on Climate Mitigation. It is anticipated that Phase 2 will be complete in January 2023.



Figure 13 Climate Change Master Plan- Phase 1- Adaptation

Greener Homes Durham Residential Retrofit Program

In 2022, the Region of Durham will be launching its “Deep Retrofit Program,” as identified within the Durham Community Energy Plan. This program will help stimulate energy retrofits of existing residential buildings. The Town of Whitby supports this initiative and will explore ways to promote the program.

Whitby Green Standard Demonstration Project (\$)

The Town is working with partners to complete a Demonstration Project that measures the costs and benefits of integrating advanced sustainability criteria outlined in the Whitby Green Standard. This will include monitoring the design, construction and occupancy stages to develop 3-6 low-rise residential homes. The outcomes of this project will be used to inform an incentive program that can be applied to promote advanced environmental performance in new home development.

District Energy Feasibility Study (\$)

Elexicon Group, in partnership with the Town, is currently completing a feasibility study for a geothermal district energy system in North Whitby. If successful, this project can provide clean, low carbon heating and cooling to many buildings, including the future Whitby Sports Complex. It is anticipated that a decision will be made in spring 2022 as to whether this project moves forward.

Town-wide District Energy Assessment

To support the uptake of clean energy technology in new development and re-development, the Town of Whitby will complete a comprehensive District Energy Assessment to identify opportunities where decentralized and clean energy could be generated.

Corporate

Zero Carbon Whitby Costing Study (\$)

To include the Carbon Budget as a part of the 2023 Budget, a Zero Carbon Whitby Costing Study is being completed. This study will:

- Complete the detailed costing analysis for recommended projects over 22 years that will support the achievement of the goals set out in Zero Carbon Whitby;
- Project detailed cost savings or cost avoidance from lower energy options;
- Prioritize and align low carbon projects with asset management plans; and,
- Apply a life-cycle approach to projects and account for future costs, including rising energy costs and the Federal Carbon Tax to allow a holistic comparison of low carbon and business-as-usual projects and technologies, and avoid locking in emissions.

Sub meters at Town Hall (\$)

The Town of Whitby has initiated a project to install energy sub-metres at Town Hall. These meters will provide real-time monitoring of gas, electricity and water equipment at the panel and building level. They will provide an in-depth overview of energy consumption in the facility.

Energy Star Portfolio Manager



The Town is currently completing the Energy Star Portfolio Manager for all major Town facilities. Energy Star Portfolio Manager is an interactive resource management tool that benchmarks the energy use of any building that allows you to:

- Identify underperforming buildings to target for efficiency improvements;
- Identify best practices from efficient buildings;
- Set investment priorities;
- Verify savings and prevent snapback;
- Share and report performance
- Earn recognition; and,
- Benchmark and track water use, waste and materials, and greenhouse gas emissions.

McKinney Centre Zero Carbon Retrofit (\$)

To support the implementation of Zero Carbon Whitby, the Town of Whitby has submitted grant applications for \$6 million to support the deep carbon retrofit of the McKinney Centre.

If successful, work would commence in 2023 and include several upgrades to the building's exterior, equipment, and renewable energy options.

Energy Efficiency Upgrades

In 2022, several energy efficiency upgrades are scheduled to be completed, including:

- Whitby Public Library LED lighting conversion
- Operations Centre
 - LED lighting conversion
 - Radiant tube heaters efficiency upgrade
- Iroquois Park Sports Complex
 - Rooftop HVAC system equipment efficiency upgrade
 - Ice Pad 2 & 5 LED lighting conversion
- Civic Recreation Complex
 - VFD systems on Wading Pool and Heating pumps
 - Rooftop HVAC system equipment efficiency upgrade
 - LED lighting conversion
- Firehall 3 Furnace equipment efficiency upgrade
- Firehall 4 Furnace equipment efficiency upgrade
- Firehall 5 Boiler equipment efficiency upgrade

Greenhouse Gas & Energy Consumption

Town of Whitby Buildings

Corporate Buildings - Energy Consumption*

| Energy Type | ekWh 2012 | ekWh 2019 | ekWh 2020 | Difference between 2019 and 2020 | % Difference between 2019 and 2020 |
|--------------|-------------------|-------------------|-------------------|----------------------------------|------------------------------------|
| Electricity | 15,518,808 | 12,944,006 | 9,366,953 | -3,577,053 | -28% |
| Natural Gas | 13,581,738 | 18,174,969 | 14,150,057 | -4,824,912 | -25% |
| Total | 29,100,546 | 31,918,975 | 23,517,010 | -8,401,964 | -26% |

Corporate Buildings - Greenhouse Gas Emissions*

| GHG (tCO ₂) 2012 | GHG (tCO ₂) 2019 | GHG (tCO ₂) 2020 | Change 2019-2020 | % Change 2019-2020 | Change 2012-2020 | % Change 2012-2020 |
|------------------------------|------------------------------|------------------------------|-----------------------|--------------------|-------------------------|--------------------|
| 3,921 | 3,782 | 2,837 | -945 tCO ₂ | -25% | -1,084 tCO ₂ | -28% |

Please note that much of the energy and emissions saved in 2020 were as a result of COVID-19 facility closures.

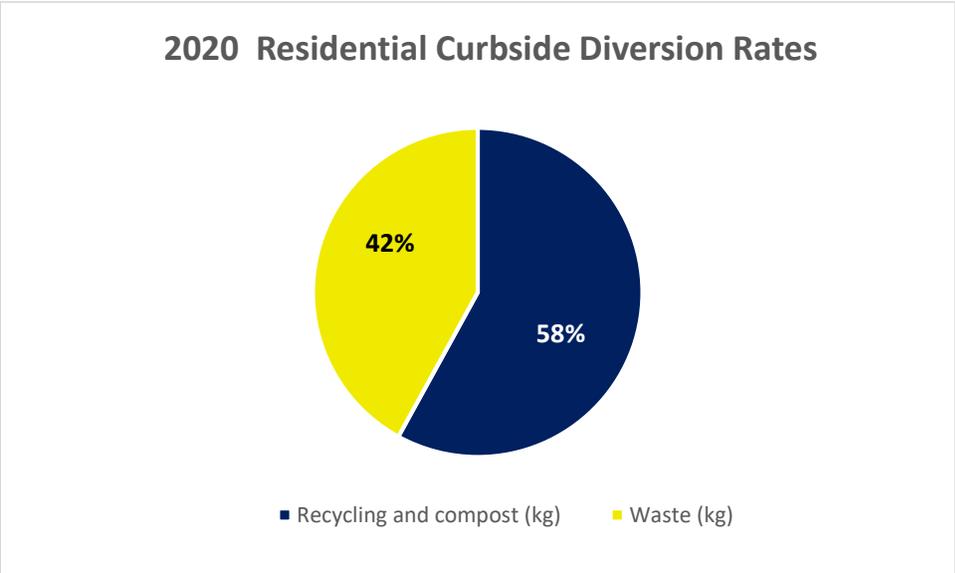
2020 Corporate Waste

| Waste Generated (ton) | Recycling (ton) | Organic Waste (ton) | Diversion Rate (%) | GHG (tCO ₂) 2020 |
|-----------------------|-----------------|---------------------|--------------------|------------------------------|
| 291 | 23 | 7 | 10.3% | 140 tCO ₂ |

Corporate Fleet GHG emissions

| GHG (tCO ₂) 2017 | Diesel (l) | Gasoline (l) | GHG (tCO ₂) 2020 | Diesel (l) | Gasoline (l) | Change 2017-2020 | % Change 2017-2020 |
|------------------------------|------------|--------------|------------------------------|------------|--------------|------------------------|--------------------|
| 1,956 | 493,997 | 259,659 | 1,663 | 466,783 | 176,148 | - 293 tCO ₂ | - 17.6% |

Residential Waste Diversion



2014-2020 Residential Curbside Diversion Rates

| Year | Total Waste Generated | Total Waste Diverted | Curbside Diversion |
|------|-----------------------|----------------------|--------------------|
| 2014 | 44,610 | 27,854 | 62% |
| 2015 | 40,551 | 23,919 | 59% |
| 2016 | 39,398 | 22,915 | 58% |
| 2017 | 39,124 | 22,639 | 58% |
| 2018 | 38,247 | 21,740 | 57% |
| 2019 | 37,674 | 21,372 | 57% |
| 2020 | 41,489 | 23,894 | 58% |

Appendix A: Funding

| Sustainability Action | Funding Source | Year Applied | Amount Requested/Received | Success |
|---|---|--------------|---------------------------|---------|
| Whitby Sports Complex | Infrastructure Canada-Green and Inclusive Community Building Fund | 2021 | \$25 million | TBD |
| Michael Boulevard Flood Mitigation Assessment | Infrastructure Canada National Disaster Mitigation Program | 2020 | ? | Yes |
| Bridge/Culvert Master Plan – Hydraulic Capacity Assessments | Infrastructure Canada-National Disaster Mitigation Program | 2020 | ? | Yes |
| Lake Ontario Shoreline Erosion and Protecting Critical Infrastructure | Infrastructure Canada-National Disaster Mitigation Program | 2020 | ? | Yes |

| Sustainability Action | Funding Source | Year Applied | Amount Requested/Received | Success |
|---|---|--------------|---------------------------|---------|
| Urban Rooftop Beehive | Elexicon Energy Sponsorship | 2020 | \$5,000 | Yes |
| Fleet Master Plan | Natural Resources Canada - Energy Manager Program | 2019 | \$24,198 | Yes |
| EV Charging Stations | Natural Resources Canada- Zero Emission Vehicle Infrastructure Program | 2018, 2019 | \$100,000 | Yes |
| Zero Carbon Whitby | Natural Resources Canada - Energy Manager Program | 2019 | \$87,750 | Yes |
| Sub Meters at Town Hall | Federation of Canadian Municipalities (FCM): Green Municipal Fund - Community Buildings Retrofit Initiative | 2022 | \$25,000 | TBD |
| Whitby Green Standard Demonstration Project | The Atmospheric Fund | 2021 | \$250,000 | Yes |
| District Energy Feasibility Study | Federation of Canadian Municipalities (FCM): Green Municipal Fund - District Energy Fund | 2021 | \$44,250 | Yes |
| Zero Carbon Whitby Costing Study | Federation of Canadian Municipalities (FCM): Green Municipal Fund - Community Buildings Retrofit Initiative | 2022 | \$128,800 | TBD |
| McKinney Centre Zero Carbon Retrofit | Infrastructure Canada Green and Inclusive Community Building Fund. Federation of Canadian | 2021 | \$2,936,500 | TBD |

| Sustainability Action | Funding Source | Year Applied | Amount Requested/Received | Success |
|-----------------------|---|--------------|---------------------------|---------|
| | Municipalities (FCM): Green Municipal Fund - Community Buildings Retrofit Initiative | 2022 | \$2,914,032 | TBD |



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