DURHAM REGION

WASTE MANAGEMENT ANNUAL REPORT

2024

Table of Contents

2024 At-A-Glance

36,807
tonnes of Green Bin organic waste processed

113
tonnes of batteries recycled

26,152
tonnes of Leaf and Yard Waste composted

3,980
tonnes of Waste Management Facility Diversion

333
tonnes of electronic waste recycled

18,808
tonnes of Blue Box recycling marketed

120,780
tonnes of garbage waste collected

1,141
tonnes of municipal Hazardous & special waste safely disposed

Durham Region remains committed to sustainability, actively reducing waste generation and repurposing materials through comprehensive waste diversion programs. By integrating circular economy principles, the Region ensures that valuable resources are recovered and reused whenever possible.

*Blue Box program transitioned to full producer responsibility July 1, 2024. Data shown is tonnage collected January 1 to June 30, 2024.

Introduction

The 2024 Waste Management Annual Report for the Regional Municipality of Durham provides an overview of the Region's Integrated Waste Management System and updates on the progress of the Long-term Waste Management Plan 2022-2040 (Waste Plan). This report is submitted annually to the Ministry of the Environment, Conservation and Parks to meet the requirements of the Durham York Energy Centre Environmental Condition Assessment for monitoring and reporting waste diversion.

Durham Region is committed to sustainable waste management, providing comprehensive curbside collection services to residents in Ajax, Brock, Clarington, Pickering, Scugog and Uxbridge. These services encompass the collection of organics, leaf and yard waste, and garbage, ensuring responsible disposal and environmental stewardship.

In addition to curbside collection, specialized waste collection services are available, including collection of bulky and metal goods, waste electrical and electronic equipment, batteries, and porcelain. These services support single-family homes ensuring proper waste handling and recycling.

While Oshawa and Whitby manage waste collection independently within their municipalities, Durham Region collaborates with both to maintain a unified and consistent waste collection program across the region.

A significant transition occurred July 1, 2024, when Durham Region transferred its Blue Box program to producers under the new Extended Producer Responsibility framework. This shift places full responsibility for the program on Producers, ensuring sustainable recycling practices and improved waste management efficiency.

Durham Region's commitment extends beyond single-family residences, offering dedicated waste collection programs to more than 100 multi-residential buildings. These locations benefit from onsite battery collection, as well as electronics and textile recycling initiatives. Additionally, Oshawa and Whitby manage waste collection for an additional 300 multi-residential buildings within their municipalities, contributing to a region-wide approach to responsible waste management.

Following collection, the processing of organics, yard waste and garbage is handled by Durham Region. This is carried out through a combination of external contracts for the treatment of organics and yard waste, as well as the recovery of energy-from-waste.

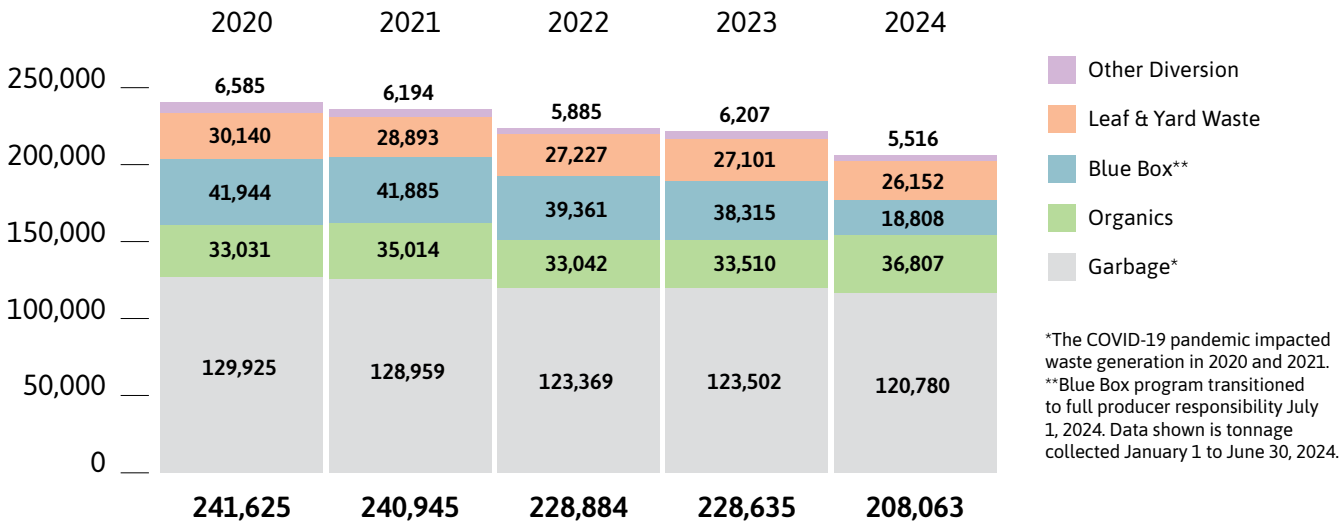
The Region is also responsible for disposing of residual waste generated by all eight of its local municipalities. In alignment with Durham's 5R hierarchy (rethink, reduce, reuse, recycle, recover), the preferred method of final disposal is through energy-from-waste at the Durham York Energy Centre (DYEC) in Clarington, which allows for the efficient capture of energy from residual waste.

Waste Management Hierarchy

The waste management hierarchy is a framework that aims to help us rethink our relationship with waste based on five priorities ranked in terms of what is best for the environment.

The hierarchy gives priority to waste prevention followed by waste reduction, reuse, recycling (including composting), recovery and disposal.

Total Tonnes Managed Year over Year



*The COVID-19 pandemic impacted waste generation in 2020 and 2021.
**Blue Box program transitioned to full producer responsibility July 1, 2024. Data shown is tonnage collected January 1 to June 30, 2024.

Long-term Waste Management Plan 2022-2040

Developed in consultation with stakeholders across Durham Region, the Long-term Waste Management Plan 2022-2040 serves as a strategic roadmap outlining the Region's Guiding Principles, Vision, and Objectives for waste management.

Durham Region implemented its Long-term Waste Management Plan 2022-2040, which prioritizes the 5Rs—rethink, reduce, reuse, recycle and recover as key strategies to minimize waste. The plan also emphasizes collaboration with producers and importers to implement Extended Producer Responsibility and adapt waste programs accordingly. As the Region's population continues to grow, ensuring cost-effective, accessible waste management services remains a top priority.

The five-year Action Plan, in effect until 2026, emphasizing short-term objectives to allow for the evaluation and refinement of long-term goals in response to the evolving needs of the Region. Many existing targets will be carried forward into the subsequent plan, with modifications and adjustments implemented as necessary to ensure continued alignment and effectiveness.

The 2024 progress report is included in this annual report.

Guiding Principles

1 Emphasize rethink, reduce, and reuse principles as the first step in reducing waste generation.

2 Deliver cost-effective waste management services to a rapidly growing and diverse population.

3 Work with producers and importers of designated products and packaging to implement "Extended Producer Responsibility" and adjust Region waste programs, as required.

4 Apply innovative approaches to region waste streams to manage them as resources in a circular economy.

5 Demonstrate leadership in sustainability to address the climate crisis by reducing greenhouse gas emissions from waste management activities.

Vision

Together, with our residents, we will reduce the amount of waste we create and manage the generated waste as a resource. We will build an innovative system, balancing financial needs and environmental sustainability.

To learn more and read the full Long-term Waste Management Plan, visit durham.ca/WastePlan.

Objectives

Engage with residents to build an understanding and awareness of the 5Rs (Rethink, Reduce, Reuse, Recycle, Recover) and the Region's waste management programs and services.

Reduce the quantity of waste we create.

Increase diversion of waste from disposal and support the circular economy.

Support the Region's greenhouse gas reduction and climate change mitigation efforts.

Protect or improve water, land, and air quality in Durham Region.

Climate Change

The Corporate Climate Change Action Plan serves as the Region's comprehensive framework aimed at achieving Net Zero greenhouse gas (GHG) emissions by 2045.

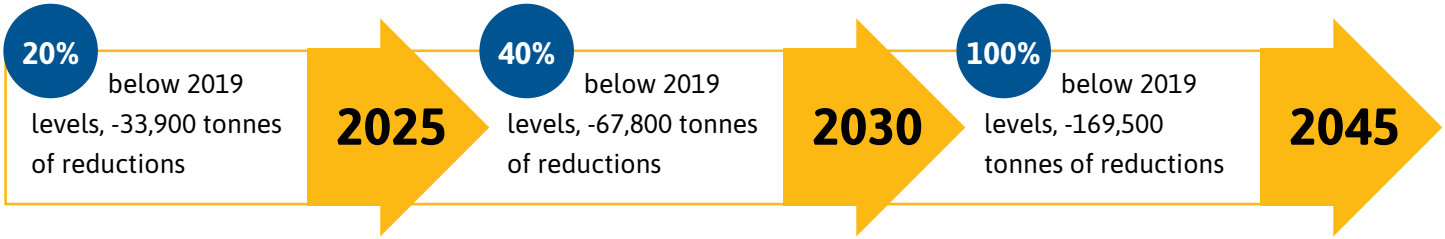
In 2020, Durham Regional Council declared a climate emergency, emphasizing the importance of addressing climate change and adaptation as key priorities. Over the past decade, the Region has consistently made decisions that align with this critical focus. Most recently, the Region developed the Corporate Climate Action Plan (CCAP), which outlines a series of initiatives to reduce GHG emissions across the Region's corporate operations. The CCAP and corresponding GHG reduction targets were formally approved in March 2021.

Waste Management Services is committed to minimizing greenhouse gas emissions within waste management operations. Key initiatives in 2024 include:

- A 13-year contract for the anaerobic digestion of organic waste, began July 1, 2024, allowing residents to divert additional items, including diapers and pet waste.
- Initiated the use of natural gas vehicles for the Ajax and Pickering curbside collection contract as of July 1, 2024.
- Awarded contract for source-separated organics collection to multi-residential buildings where the Region already provides garbage collection services. The program launched in June 2025.
- An ongoing pilot project at the Oshawa Landfill uses a biocover system to reduce fugitive methane emissions. Data gathered from this project will contribute the development of additional methane reduction strategies for the Region's closed landfills.
- A drafted Master Plan for the expansion and optimization of the Oshawa Waste Management Facility. The draft plan supports the Region's long-term objectives to enhance operational efficiency, expand diversion opportunities, improve service levels, and streamline traffic flow at the facility.

Efforts to implement the CCAP and meet Council-approved GHG reduction targets have been delayed by the COVID-19 pandemic, supply chain disruptions, and economic pressures. Ontario's Bill 23, passed in November 2022, has worsened fiscal constraints by shifting infrastructure costs for new communities onto current taxpayers. The Region's corporate emissions are further challenged by limited technological solutions for reducing emissions from solid waste and wastewater systems.

Corporate Climate Action Plan and Corporate Green House Gas emission reduction targets



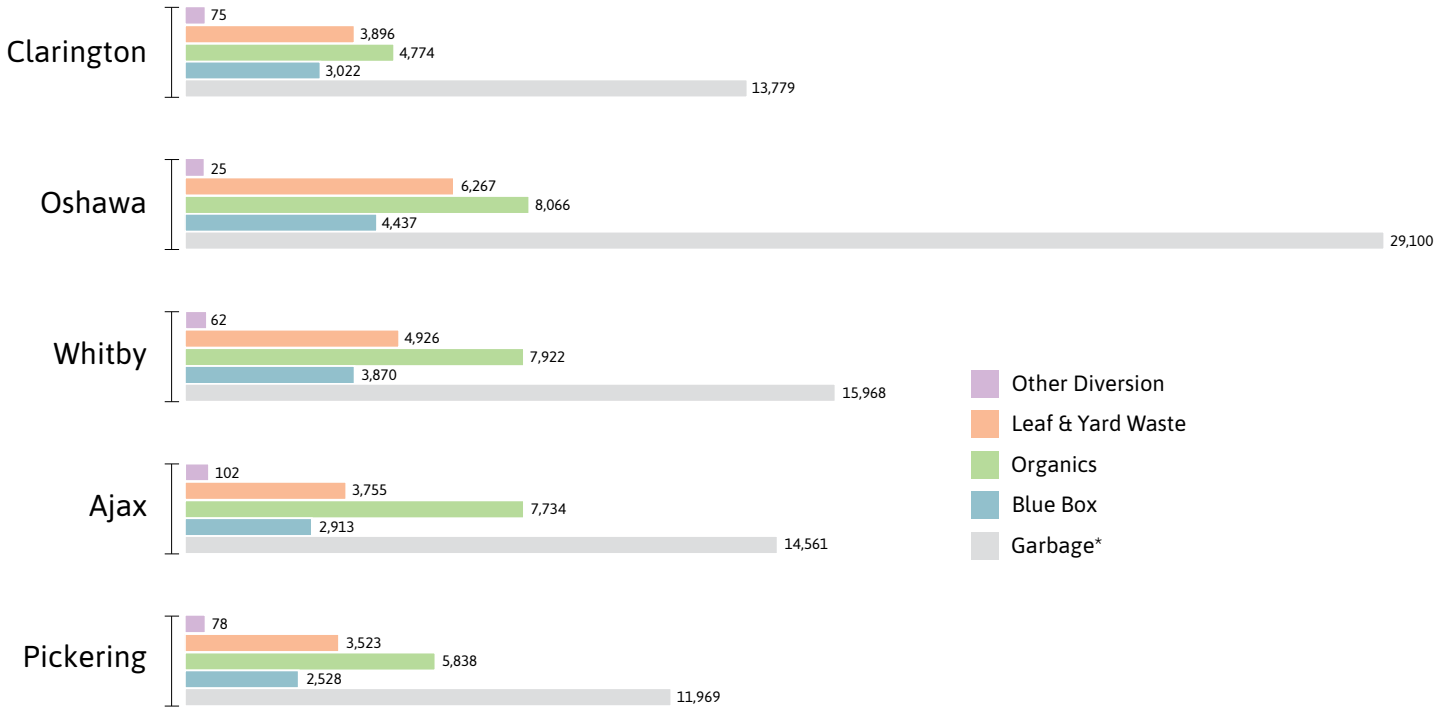
Resource Recovery

Curbside and Multi-Residential
2024 Total Tonnes Managed by Area/Source

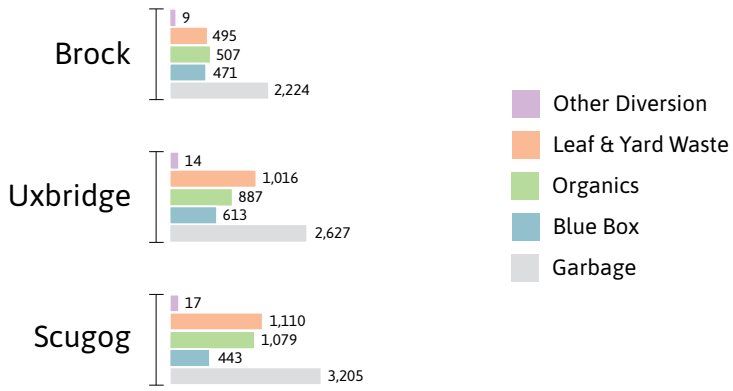
	Curbside Garbage	Multi-Residential Garbage	Bulky/ Other Goods	Curbside Recycling	Multi-Residential Recycling	Curbside Organics	Leaf and Yard Waste	Other Diversion	Total Waste
Pickering	10,665	1,304	0	2,407	121	5,838	3,523	78	23,936
Ajax	13,222	1,339	0	2,811	102	7,734	3,755	102	29,065
Whitby	12,996	2,567	405	3,459	411	7,922	4,926	62	32,748
Oshawa	20,038	8,694	368	4,308	129	8,066	6,267	25	47,895
Clarington	13,155	156	468	2,981	41	4,774	3,896	75	25,546
Scugog	2,969	163	73	443	0	1,079	1,110	17	5,854
Uxbridge	2,405	126	93	613	0	887	1,016	14	5,154
Brock	2,150	N/A**	74	471	0	507	495	9	3,706
Totals	**77,600**	**14,349**	**1,481**	**18,297**		**36,807**	**24,988**	**382**	**173,904**

*Amounts rounded to the nearest whole number.
**Brock Multi-residential Garbage included in Curbside Garbage number.
***Durham Region's recycling program transitioned to full Extended Producer Responsibility July 1, 2024. Data shown is tonnage collected January 1 to June 30, 2024.

Waste Managed – Lakeshore Communities (measured in tonnes)



Waste Managed - Township Communities (measured in tonnes)



Waste Management Facilities and Community Events
2024 Total Tonnes Managed

	Bulky/Other Goods	Recycling	Leaf & Yard Waste	Other Diversion	Total Waste
Oshawa	17,245	293	381	2,789	20,708
Scugog	3,943	172	551	1,454	6,120
Brock	3,223	45	232	562	4,062
Pickering				211	211
Clarington				101	101
Community Events				17	17
Recycling Facility Residue	2,939				2,939
Totals	**27,350**	**510**	**1,164**	**5,134**	**34,158**

*Amounts rounded to the nearest whole number.

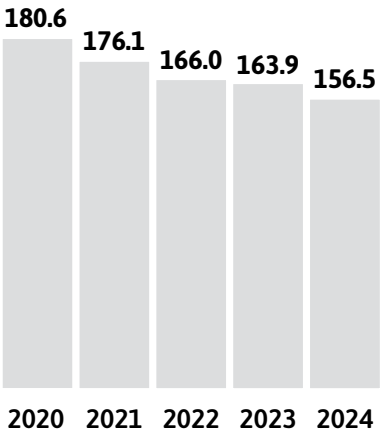
Waste Generation

The waste generation rate, measured in tonnes per person (kilograms/capita), is used to track progress in the Long-term Waste Management Plan's waste reduction efforts.

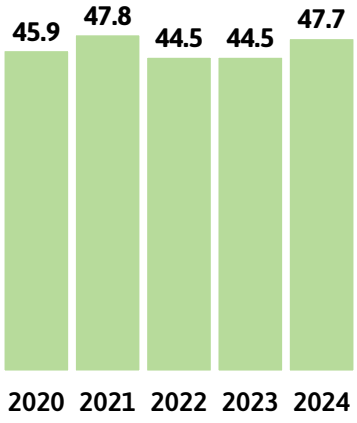
With Durham Region's transition to extended producer responsibility for the Blue Box program on July 1, 2024, Durham Region focuses now on two primary waste streams: green bin organics and garbage. Yard waste generation is excluded from this measurement, as it is highly variable and influenced mainly by the number of housing units and weather conditions.

Waste includes residential garbage collected from single family dwellings, multi-residential units and business improvement areas serviced by the Region and garbage managed through the Region's three waste management facilities.

Durham Region Garbage Generation Rate (kilograms/capita)



Durham Region Green Bin Generation Rate (kilograms/capita)



* July 1, 2024, the Region launched the Enhanced Green Bin program, which now accepts diapers, pet waste, menstrual and incontinence products.

Waste Audits

To assist residents in adopting waste reduction behaviours, the Region has developed a waste audit program to monitor progress and encourage positive behavioural changes.

In late 2024, waste audits were conducted across Durham Region, analyzing waste set out by 100 single-family homes. These audits aim to provide an accurate snapshot of residential curbside waste composition and generation data for municipalities in the region. The studies also assess set-out practices, recording number of garbage bags, green bins, blue boxes, leaf and yard waste bags, and bulky items placed at the curb by each household.

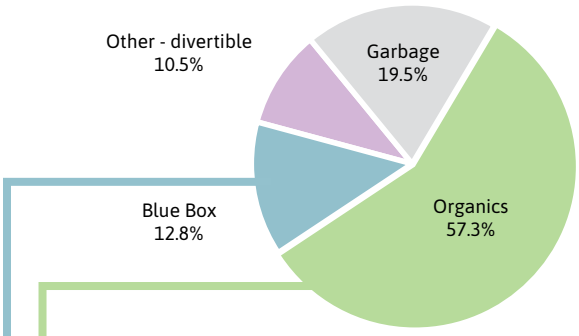
Additionally, they examine the composition of garbage and Green Bin waste to identify divertible materials in the garbage and quantify avoidable food waste and other acceptable items in the Green Bin. The initial results are outlined below; for a more accurate analysis audit data should encompass all seasonal variations.

Over a two-week period, a total of 998 kilograms of garbage was gathered from 78 addresses covering 100 households. This equates to an average of 4.99 kilograms of garbage per household each week.

Avoidable food waste refers to food that could have been consumed if properly managed. This includes items like leftovers, imperfect produce, food discarded due to over-purchasing, or improper storage.

Unavoidable food waste, on the other hand, consists of food that was never intended for consumption, such as meat bones, eggshells, fruit and vegetable peels, and tea bags. While unavoidable food waste can't be prevented, it can often be repurposed through beneficial uses, composting or other waste management solutions.

Figure 1: Composition of the Garbage Stream

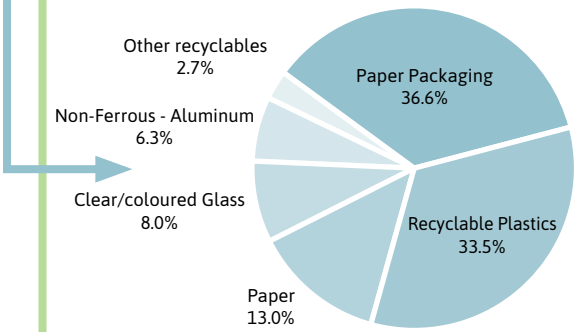


80.5% of the garbage stream is targeted by diversion programs in place or is easily divertible, such as recyclables, organics, and other diverted material (batteries, other HHW, textiles, etc.);

57.3% of the garbage stream is composed of organics that could have been diverted by the green bin stream;

Blue box materials represent 12.8% of the waste generated in the Durham Region.

Figure 2: Recyclable Materials in the Garbage



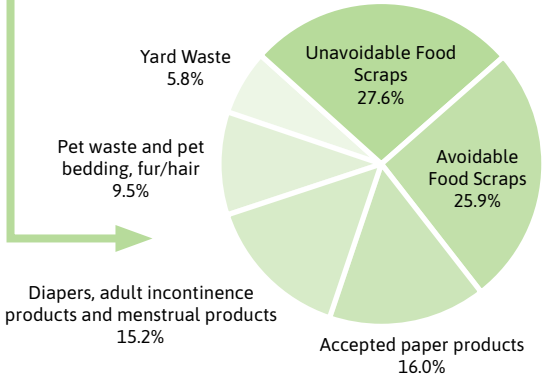
The 12.8% of blue box material in the garbage stream is mainly composed of:

36.6% of Paper Packaging;

33.5% of Recyclable Plastics;

13.0% of Paper.

Figure 3: Organic Materials in the Garbage



The 57.3% of organic materials in the Garbage Stream is mainly composed of:

27.6% Unavoidable Food Scraps;

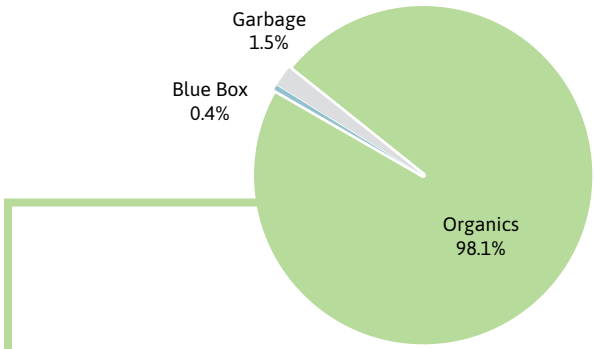
25.9% Avoidable Food Scraps;

16.0% Accepted Paper Products;

15.2% Diapers, Adult Incontinence Products and Menstrual Products.

During a two-week period, 585 kilograms of organic waste was collected from 121 samples across 100 households. This corresponds to an average of 2.93 kilograms per household per week.

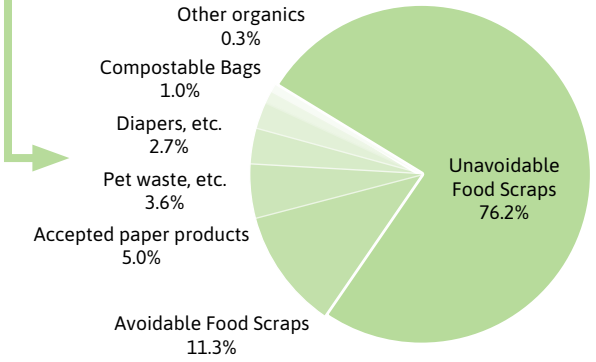
Figure 4: Composition of the Organic Stream



98.1% of the material put in the green bins is effectively organic materials;

1.5% of the content of the green bin is garbage, that is, a contaminant of the stream.

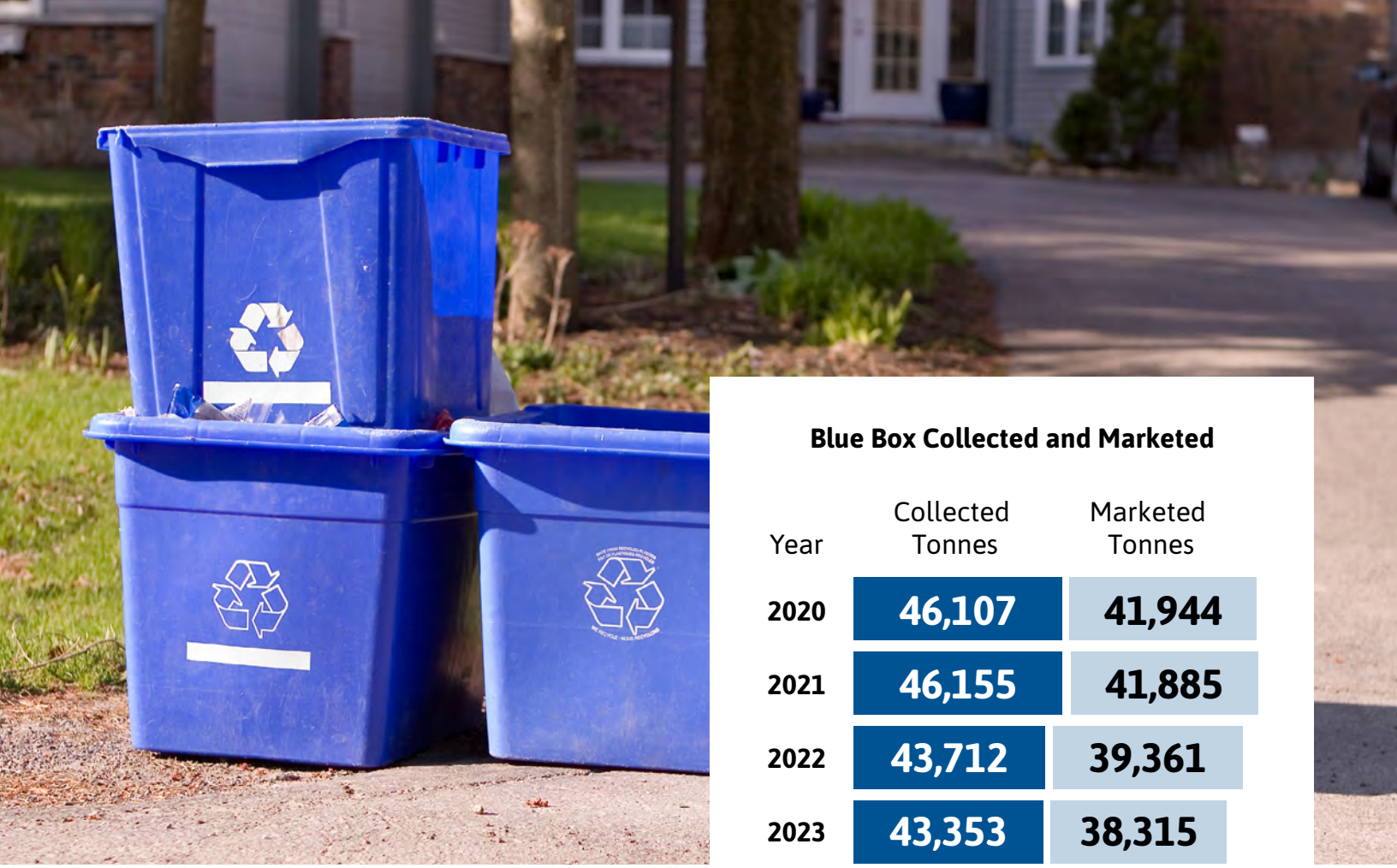
Figure 5: Composition of Organic Materials



The 98.1% of organic material in the green bins is mainly composed of:

76.2% Unavoidable Food Scraps;

11.3% Avoidable Food Scraps.



Blue Box Collected and Marketed

Year	Collected Tonnes	Marketed Tonnes
2020	46,107	41,944
2021	46,155	41,885
2022	43,712	39,361
2023	43,353	38,315
2024	21,762	18,808

Blue Box

Durham Region's recycling program transitioned to full Extended Producer Responsibility July 1, 2024.

In June 2021, the Province of Ontario introduced Regulation 391/21 under the Resource Recovery and Circular Economy Act, 2016, which shifts the financial and operational responsibility for recycling from municipalities to the producers of packaging, paper, and packaging-like products.

As part of a three-year, province-wide transition, the Region transferred its Blue Box program to Producers on July 1, 2024. Under the new Extended Producer Responsibility (EPR) framework, producers assume full responsibility for the program. The transition across Ontario will be completed by December 31, 2025.

The Region continues to promote the Blue Box program to residents under a cost recovery contract until December 31, 2025. This includes directing resident inquires to their designated Blue Box collection contractors and ensuring collection schedules are available on the Durham Region Waste app and on the Regions website.

*Durham Region's recycling program transitioned to full Extended Producer Responsibility July 1, 2024. Data shown is tonnage collected January 1 to June 30, 2024.

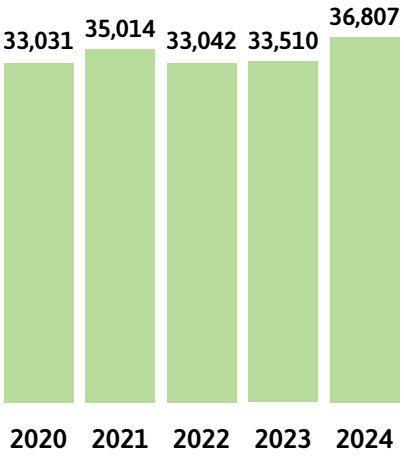
Green Bin

The Green Bin Program reduces Green House Gas emissions and captures valuable resources from food and organics.

On July 1, 2024, the Region launched the Enhanced Green Bin program, which now accepts diapers, pet waste, menstrual and incontinence products for weekly collection. The Region contracts a third-party contractor for the anaerobic digestion of the green bin program, enabling the removal of plastics from the organics stream.

The process generates renewable natural gas and a solid material that can be composted, land applied or used as a fertilizer. Preliminary data from July to December 2024 shows an 18 per cent increase in the amount of organic waste diverted from disposal compared to the same period in 2023.

Green Bin Tonnes Collected



In December 2023, Durham Regional Council authorized the implementation of a multi-residential Enhanced Source Separated Organics Collection program to comply with Ontario's Food and Organic Waste Policy Statement. The program launched in June 2025.

Green Bin Tonnes collected from July to December 2023 versus 2024

Month	2023 Tonnage	2024 Tonnage	Difference (%)
July	**2,620**	**3,142**	**+20**
August	**3,138**	**3,467**	**+10**
September	**2,933**	**3,088**	**+5**
October	**2,750**	**3,686**	**+34**
November	**2,741**	**3,345**	**+22**
December	**2,689**	**3,190**	**+19**
Overall	**16,871**	**19,918**	**+18**

On July 1, 2024, a new online sales and exchange platform was introduced, enabling residents of the Region to conveniently order Green Bins, kitchen containers, backyard composters, and other materials through myDurham311, with direct doorstep delivery.

This modernization of the Waste Diversion Inventory sales and exchange process has enhanced customer service, providing a more efficient and accessible way for residents to obtain new items or exchange broken bins, ultimately supporting greater participation in the Region's waste diversion programs. The delivery service also ensures that new bins are delivered, and broken bins are exchanged within five days of ordering.

Leaf and Yard Waste

Collected leaf and yard waste is processed into nutrient-rich compost, which is made available to residents through spring compost giveaways.

From April to early December, residents can take advantage of seasonal curbside collection for leaf and yard waste, with additional Christmas tree collection available in January. Fall collections account for up to 70 percent of the total leaf and yard waste collected each year.

Leaf and yard waste is collected in paper yard waste bags, open-top reusable containers, or tied bundles for outdoor windrow composting. The collected materials are then processed into compost and sold into the commercial market. Compost is also made available to residents through complementary compost giveaways in the spring.

Waste Management Facilities

Waste Management Facilities offer easy access to expanded waste diversion programs.

As the Region grows, more residents are utilizing its Waste Management Facilities. Strategic planning will ensure that both current and future facilities effectively meet the anticipated demand, while also aligning available programs with the needs of users.

In 2024, Durham completed a draft Master Plan for expanding and optimizing the Oshawa Waste Management Facility. This plan will support the Region's long-term objectives to enhance operational efficiency, expand diversion initiatives, improve service levels, and better manage traffic flow at the facility.

Annual Facility Visitors

Oshawa
Waste Management Facility
220,642

Scugog
Waste Management Facility
65,241

Brock
Waste Management Facility
19,273

Clarington
Special Waste Depot
(Household Hazardous Waste only)
6,752

Pickering
(private Household Hazardous Waste site only)
5,480

Total Site Visits: 317,388

2024

Waste Management Facilities	Tonnes of Recycling	Tonnes of Leaf and Yard Waste	Tonnes of Other Diversion	Tonnes of Garbage
Oshawa	293	381	2,222	17,245
Scugog	172	551	1,259	3,942
Brock	45	232	499	3,223
Total	**510**	**1,164**	**3,980**	**24,410**

Electronic Waste

Durham Region offers residents a network of drop-off facilities for electronic waste, including the Region's Waste Management Facilities in Oshawa, Scugog, and Brock. Additionally, curbside collection programs for electronic waste are available in Ajax, Brock, Clarington, Pickering, Scugog, and Uxbridge. In Whitby bulky item curbside collections include electronic waste.

In Oshawa, electronic waste is considered regular waste, and residents are encouraged to take their items to the Region's Waste Management Facilities. Additionally, many multi-residential buildings also receive electronics collection services from the Region.

2024 Electronic Waste Collected by Source

Source	Tonnes
Curbside Collection	34
Multi-Residential Buildings	14
Waste Management Facilities	283
Events	2
Total	**333**

Battery Collection

Durham's battery collection programs remain a key initiative in maximizing the recovery of batteries, preventing the release of mercury, cadmium, and other harmful metals into the waste stream and natural environment. Collection services include a twice-annual curbside collection program, collection receptacles in multi-residential buildings, and collection at the Region's Waste Management Facilities.

In Ontario, household batteries are carefully managed and recycled through proper processing, supporting the conservation of valuable resources while ensuring environmental protection.

2024 Batteries Collected by Source

Source	Tonnes
Curbside Collection	30
Multi-Residential Buildings	6
Waste Management Facilities	77
Total	**113**

Tonnes of Other Diversion

Textiles
59 tonnes

Drywall
172 tonnes

Electronics
283 tonnes

Porcelain
189 tonnes

Scrap Metal
661 tonnes

Tires
419 tonnes

Wood
2,197 tonnes

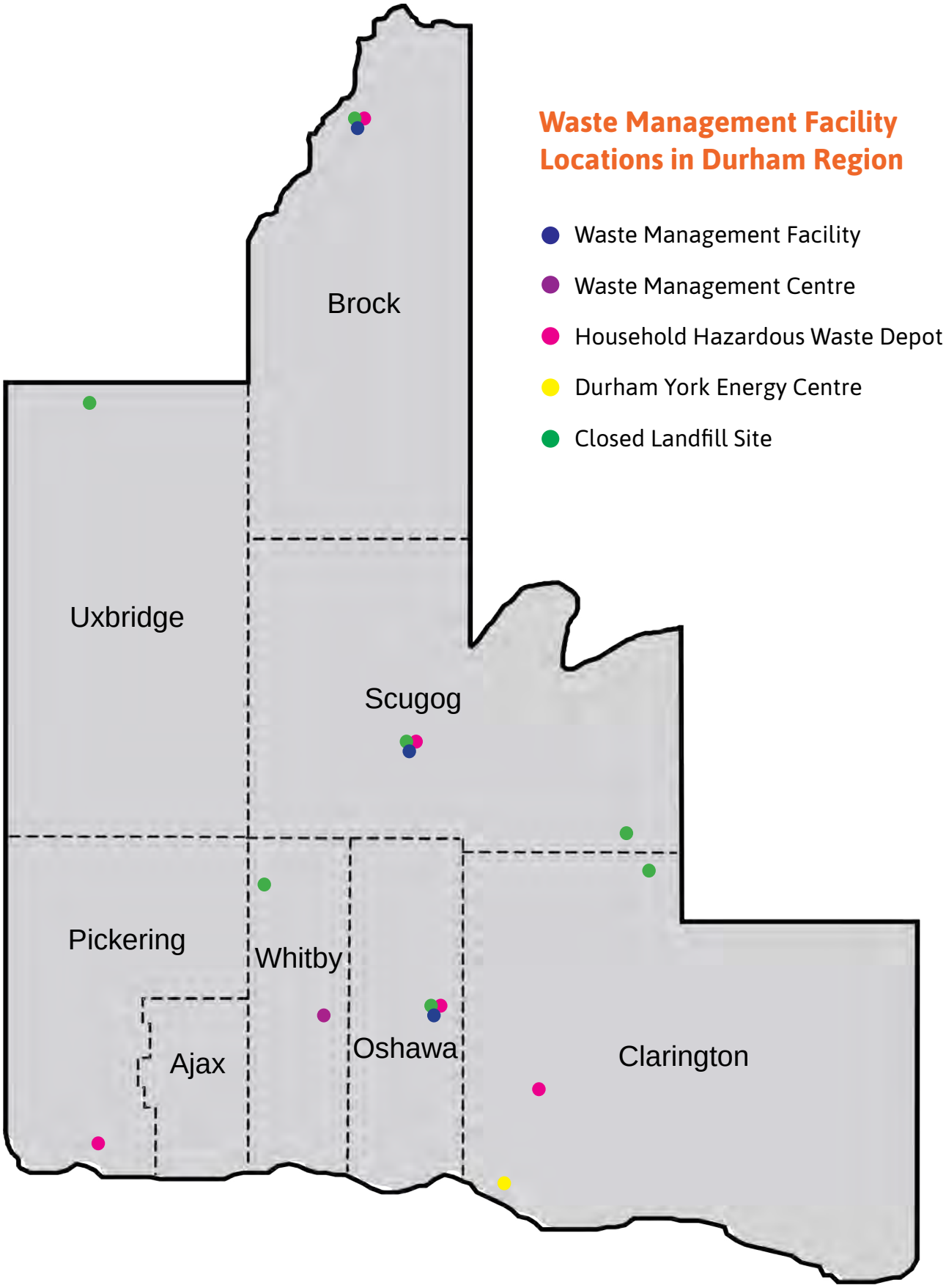
Hazardous Waste

The Region is committed to the safe and environmentally responsible disposal of household hazardous waste for its residents. A comprehensive network of drop-off locations is available, including Waste Management Facilities in Oshawa, Scugog and Brock. In addition, the Region operates a hazardous waste depot in Clarington and partners with a privately operated site in Pickering to offer free hazardous waste disposal services. All hazardous waste collected is either recycled or treated and disposed of responsibly using specialized contract services, ensuring the highest environmental standards are met.

Hazardous Waste Collected	Tonnes
Paint (latex and alkyd)	**366**
Motor Oil	**306**
Batteries (single-use and rechargeable)	**21**
Automotive Batteries	**63**
Propane Tanks and Cylinders	**54**
Aerosol Containers	**31**
Other Materials	**300**

2024 Hazardous Waste Collected

Source	Tonnes
Brock	63
Scugog	194
Oshawa	566
Pickering	211
Clarington	101
Events	6
Total	**1,141**



Waste Management Facility Locations in Durham Region

- Waste Management Facility
- Waste Management Centre
- Household Hazardous Waste Depot
- Durham York Energy Centre
- Closed Landfill Site

Garbage

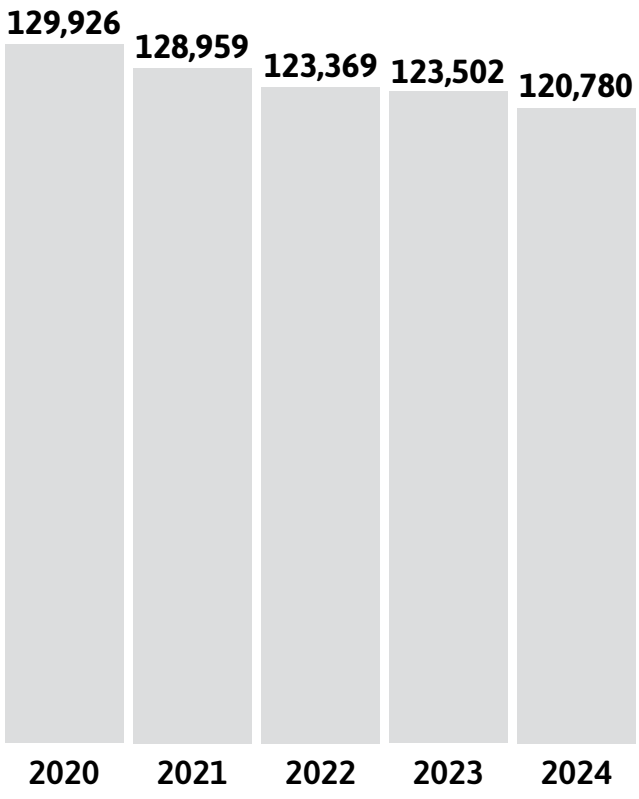
After reducing, reusing, recycling and composting, any remaining garbage is primarily managed through energy recovery. Energy-from-waste (EFW) allows both energy and materials to be recovered, offering more value than simply disposing of waste in a landfill.

In 2024, together through the efforts of our residents, our waste management programs and partnerships, and our waste processing infrastructure, Durham Region collected 120,780 tonnes of residential waste.

Garbage Waste Tonnes Processed for Durham Region

Destination		Tonnes
Energy-from-waste	Durham York Energy Centre	108,297
	Bypassed to another EFW facility	341
Landfill		12,809
Year-end pit inventory		666
	Total Waste	**120,780**

Garbage Waste Tonnes Collected



Automated Cart Garbage-Based Collection Pilot Project

The Region of Durham conducted an automated cart garbage collection pilot project during the 2024/2025 period, involving approximately 700 households in the Township of Scugog and the Town of Ajax. This initiative aimed to evaluate the impacts on the Region, the community, and collection contractors.

To reflect Durham's diverse geography, the project included two distinct areas: the urban community of Ajax and the rural community of Scugog. Participating households received a 95-gallon garbage cart for collection purposes, with a smaller cart option available upon request.

Throughout the pilot, Durham's collection contractor and waste staff worked together to monitor the pilot project, to help with resident concerns, and to collect relevant data. The insights gained will help future decisions on waste collection services across the region.

So far, the pilot project yielded several notable results:

•**Improved collection efficiency:** Automated waste collection is expected to boost collection efficiency across the region by approximately 30 per cent. This improvement will streamline operations, enhance reliability, and better accommodate future growth.

•**Significant reduction in work-related injuries:** Automated collection demonstrated a 90 per cent decrease in work-related injuries compared to manual collection.

•**Decrease wind-blown litter:** The neighbourhoods participating in the pilot experienced visible improvements in reducing wind-blown litter.

•**Enhanced resident experience:** Residents reported that the carts were easier and quicker to use than traditional bags and can, citing improved maneuverability and accessibility.

Durham York Energy Centre

The Durham York Energy Centre (DYEC), located in Clarington, is a vital asset for waste management for Durham and York Regions. Since its inception in 2016, the facility has been transforming household waste into energy, producing electricity while diverting 90 per cent waste from landfills.

In 2024, the DYEC processed 140,000 tonnes of waste, recovering 3,577 tonnes of metal for recycling and generating 113,381 megawatt hours (MWh) of electricity, enough to power approximately 10,000 homes for one year. This electricity is fed into the provincial grid, reinforcing the Region's sustainable energy supply. Over the past five years, the DYEC has generated a total of 591,931 MWh of electricity, underscoring its ongoing contribution to Ontario's energy needs and highlighting our commitment to the 5R's (Rethink, Reduce, Reuse, Recycle, Recover) to maximize waste diversion.

The DYEC supports both the Recover, Recycle, and Reduce R's, of the Waste Management Hierarchy, through the separation of metals from the processed waste. The amount of metals recovered in 2024 is equivalent to the metals required to create approximately 3,000 vehicles. The Recovery and Recycling of the metals from waste effectively helps to reduce the need for raw materials and conserves our natural resources.

The DYEC utilizes proven, reliable energy-from-waste technology that meets stringent environmental standards. The facility is equipped with advanced air pollution control systems that effectively reduce greenhouse gas emissions compared to traditional landfill methods.

The facility's environmental impact is closely monitored through continuous emissions testing, with independent stack tests conducted in the spring and fall to ensure compliance with environmental regulations. The results from both tests in 2024 confirmed that the DYEC is operating well within the limits of its environmental compliance approval. Additionally, ongoing monitoring of groundwater, air quality, and odour confirmed no significant environmental impacts from the facility's activities in 2024.

Durham and York Regions have proposed expanding the DYEC's annual waste processing capacity from 140,000 tonnes to 160,000 tonnes in preparation for supporting a growing population. The Regions continue to move forward completing the necessary documents and studies to support an amendment to the Environmental Compliance Approval for the increased processing capacity. The capacity expansion will enhance operational efficiency by providing greater flexibility to manage waste generation fluctuations and optimize electrical generation. The DYEC ensures steady waste processing and electrical generation, but during maintenance periods, waste must be diverted to other licensed facilities. In 2024, 13,150 tonnes of waste was bypassed to other processing facilities.

Key Facts About the Durham York Energy Centre

- 100 per cent publicly owned by Durham and York Regions.
- Accepts only household residential waste from Durham and York Regions.
- Processes up to 140,000 tonnes of waste annually (with plans to expand to 160,000 tonnes).
- Recovers and Recycles metals from the processed waste.
- Recovers thermal energy from waste and converts the energy to electricity to power the facility and approximately 10,000 homes annually.
- Reduces the volume of waste sent to landfill by approximately 90 per cent.
- Negative pressure is used to contain odours inside the building by drawing outside air into the building and using the odorous air in the combustion process thereby capturing and destroying odours.
- Ash residue from the combustion process is repurposed as daily cover at landfills.
- Adheres to a strict environmental monitoring program to ensure emissions remain well below regulatory limits.

Why did Durham and York Regions choose Energy from Waste?

In 1998, the Durham Region Works Committee directed the formation of two committees, comprised of staff and residents, to recommend strategies for managing all residential waste in Durham Region from the year 2000 to 2020. These Committees proposed the Long-term Waste Management Strategy Plan that was endorsed by Durham Region Council. Recommendations made included the investigation of Energy from Waste (EFW) as an alternative to landfill for final disposal of residential garbage remaining after diversion.

In 2005, both Durham and York Regions started an Environmental Assessment (EA) that included extensive public consultation to determine the preferred alternative for managing residential garbage that remains after diversion taking into account social, environmental and economic factors. EFW was selected as the most environmentally sound, sustainable and cost-effective solution. This solution was approved by both Durham and York Regional Councils in 2006. The EA was completed in 2009 and approved by the Ontario Ministry of Environment, Conservation and Parks (MECP) in 2010.

Landfill Perpetual Care

Durham Region is implementing measures to address the potential impacts of its managed historic landfill sites.

Before the operation of the Durham York Energy Centre, Durham Region relied on landfill as its primary waste disposal method. The Region is responsible for the long-term care of seven landfill sites located across the area. These landfills were originally owned and operated by the local municipalities prior to the establishment of the Region of Durham in 1974.

The Region collaborates with the Province, Regional Council, and other stakeholders to monitor any potential environmental impacts from these sites, ensure the infrastructure is properly maintained, and continue to meet environmental standards and regulations.

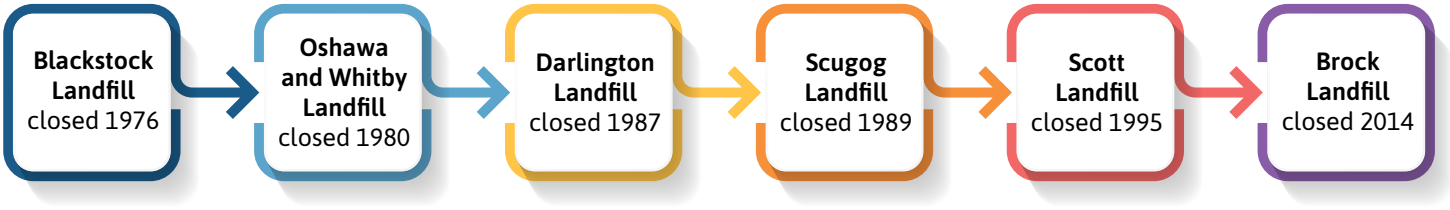
Each year, Durham Region prepares and submits annual reports to the Ministry of the Environment, Conservation and Parks (MECP) for review. The monitoring activities include surface and groundwater monitoring, well maintenance, seep repair, gas monitoring, soil erosion control, and site grading and landscaping. In addition to regular monitoring, the Region is actively taking steps to mitigate the potential environmental effects of the historic landfill sites under its management.

The Region is actively exploring methods to reduce the environmental impacts of closed landfills while considering potential conversion for future community use. One such method is landfill mining, a process in which materials are excavated from landfills and sorted for reuse or disposal according to modern standards. This process offers several benefits, including the reduction of greenhouse gas emissions, minimizing leachate impacts on groundwater quality, diverting materials that were not previously separated for recycling, recovering energy from reclaimed waste, and potentially eliminating the need for long-term groundwater monitoring.

In 2019, Durham successfully completed landfill mining at the closed Blackstock landfill site in the Township of Scugog, excavating a total of 4,796 tonnes of waste. Additionally, in 2022, the Region implemented a pilot project for an alternative landfill bio cover system at the Oshawa Landfill.

The Region continues to seek innovative ways to mitigate environmental impacts from closed landfills, such as using compost from Durham's Green Bin program for site naturalization at various landfill locations.

These landfills were owned and operated by the local municipalities when the Region of Durham was established in 1974.



Consultant retained January 2022

Preliminary field and lab studies February to August 2022

Pilot granted ministry approval November 2022

Construction of the biofilter and biowindow June to July 2023

Monitoring program for the initial pilotSeptember 2023 to February 2025

Bio cover Pilot

In 2022, the Region initiated a pilot project at the Oshawa Landfill to evaluate the effectiveness of using a biofilter and biowindow to reduce methane gas emissions from the site. Methane is a potent greenhouse gas (GHG) that traps heat in the Earth's atmosphere, contributing significantly to global warming and climate change. In the pilot systems, landfill gas passes through a bed of organic material, which contains naturally occurring methanotrophic (methane-eating) bacteria that convert methane into carbon dioxide, a much less harmful GHG.

The construction of the systems was completed in July 2023, marking the start of an 18-month monitoring period. Initial data from 2023 indicates that the biofilter consistently achieved a 90 percent conversion rate of methane into carbon dioxide. However, the full study period is necessary to assess the overall efficiency of the systems. These pilot systems are expected to result in substantial GHG reductions, further advancing the Region's sustainability goals.

Community Engagement

Durham Region actively encourages waste reduction, reuse and diversion through a range of community outreach and public education efforts.

In 2024, Durham Region enhanced its commitment to waste reduction through expanded community outreach and education initiatives. Increased participation in large community events is aimed at fostering a culture of sustainability and environmental responsibility. Key strategies included recurring messaging, innovative delivery methods, and incentives, with promotion through various media channels.

Outreach efforts emphasized the Five Rs (rethink, reduce, reuse, recycle, and recover) and highlighted important changes to the Region's collection services, such as the Blue Box transition to extended producer responsibility and the expansion of the Green Bin program. Durham Region continues to promote initiatives such as Compost Giveaway and Environment Day events, Curbside Battery Collection and Curbside Giveaway Days.

Durham Region remains dedicated to offering comprehensive promotional and educational resources through its website, waste app, social media, public space ads, digital advertising, and traditional media platforms like newspapers, radio, and television. This multi-channel approach further engages the community, encouraging greater participation in sustainable waste management practices.

Durham's Waste Management school outreach program continued to offer online resources and virtual presentations for elementary and secondary students, while providing in-person sessions for kindergarten and post-secondary groups. In 2024, Grade 6 students were also introduced to specialized educational sessions at the Durham York Energy Centre (DYEC) as part of a pilot program.

To further engage the community, the Region hosted two PA Day open house events and a 50th Anniversary Celebration at the DYEC, where families explored waste management initiatives through interactive activities and tours of the facility's control room. Additionally, staff participated in two watershed festivals and conducted presentations and workshops for various school-age audiences, including summer camps and local library programs.

Reached over **4,000 Kindergarten to Grade 12 students** across Durham's school boards through presentations.

Conducted 27 additional in-person Durham York Energy Centre presentations/ tours, reaching **250 participants.**

Delivered presentations to five library and summer camp groups, engaging over **200 participants.**

Held an Open House at the Durham York Energy Centre and staffed a booth at the Regional Headquarters for the Region's 50th Anniversary, engaging **448 participants.**

Eight Compost Giveaway events

Delivered four in-person Durham York Energy Centre presentations/ tours to college students, engaging **39 participants.**

Hosted two PA-Day Open House events at the Durham York Energy Centre, reaching **148 participants.**

Spring and Fall Curbside Giveaway events

Staffed booths at four farmers' markets, reaching **758 participants.**

Participated in six large community events, reaching over **2,600 participants** (excluding compost and Environment Day events).

Participated in two Watershed Festival events.

Four Environment Days events

Summary

Through active participation in waste diversion programs, Durham Region continues to minimize waste generation and maximize resource recovery within the circular economy. Our commitment to sustainability drives the development of innovative, cost-effect waste management policies and programs that ensure high-quality service for residents while supporting environmental stewardship.

See how our commitment translates into real progress in our

2024 Progress Report

Progress Report

2022, 2023, **2024**, 2025, 2026

Summary Snapshot

Objective/Target
1A — Education
2A — Reduce Food Waste
2B — Reduce Waste
3A — Increase Organics Diversion
3B — By-Law Update
3C — Extended Producer Responsibility Transition
3D — Extended Producer Responsibility Advocacy
4A — Reduce Green House Gas Emissions
5A — Optimize Waste Management Facilities
5B — Increase Accessibility
5C — Closed Landfill Options

Objective 1

Engage with residents to build an understanding and awareness of the 5Rs (Rethink, Reduce, Reuse, Recycle, Recover) and the Region's waste management programs and services.

Targets	Action to Achieve Target
Target A Increase public engagement on the 5Rs through partnerships, increased accessibility, and different media.	Work with schools to provide educational content for youth.
	Increase Waste app subscribers and explore the possibility of including donation locations on the app.
	Launch a dedicated web page on Reduction and Reuse.
	Digital and/or in-person educational opportunities for all residents.
	Evaluate more languages for publications, and promotional and educational materials.
	Transition to myDurham 311 for residents to obtain waste information.

Legend

 **Projected to meet or surpass target**

 **Projected to be near target**

 **Projected to not meet target** (external factors may contribute)

 **Complete**

 **Future reporting period**

Baseline Measurement	Status	Summary of Progress
Progress since 2018 2018 school engagement: 41 schools		• Presentations to over 4,000 Kindergarten to Grade 12 students across Durham's school boards. • Piloted an in-person education session at the DYEC for grade six students. • Participated in the Central Lake Ontario Conservation Authority Children's Watershed Festival for grade four students. • Participated in Durham Districts School Board Watershed Festival for grade six students. • Introduced PA-Day events at the DYEC. • Four in-person DYEC presentations/tours, reaching 39 participants. • School engagement activities above: Over 85 schools.
Progress since 2018 2018 app subscribers: 50,000		• 2024 new app subscribers: 17,792 • All time app subscribers: 160,191
New initiative (no baseline)		• New web page launched with linked resources. • Includes Textile Recycling Donation Site locator. • Initial collaboration to join Circular Innovation Council's Share, Reuse, Repair Hub
Progress since 2018		• 29 in-person Durham York Energy Centre presentations/tours, reaching 257 participants. • Durham Region's 50th Anniversary including DYEC Open House and HQ booth, reaching 448 participants. • Staffed booth at four farmers markets. • Presented to five library and summer camp groups, reaching over 2,600 participants. • Participated in several community events
New initiative		• Waste app available in different languages. • Multi language website using Google translate. • School program activity book available in French.
New initiative		• Waste management call centre transitioned to myDurham 311 December 2022.

Objective 2

Reduce the quantity of waste we create.

Targets	Action to Achieve Target
Target A Support residents in making behavioural changes to reduce food waste.	Continue the Buy it, Eat it food waste reduction campaign.
Target B Support residents in making behavioural changes to reduce the amount of waste generated.	Reduce quantities of waste materials generated, such as textiles and single-use plastics.
	Develop waste audit program to measure progress.

Legend

 **Projected to meet or surpass target**

 **Projected to be near target**

 **Projected to not meet target** (external factors may contribute)

 **Complete**

 **Future reporting period**

Baseline Measurement	Status	Summary of Progress
Less avoidable food waste in the Green Bin program. Baseline reduction targets to be determined with implementation of regular waste audits.		• Initial waste audits completed in 2022. • Baseline for avoidable food waste will be determined in seasonal audit program.
Progress since 2018 2018 garbage generation rate: 173.1 kilograms garbage disposed per capita.		• 2024 garbage generation rate: 156.5 kg garbage disposed per capita. • Future audits will focus on quantities of textiles and single use items in the garbage. • Promoted spring and fall Curbside Giveaway Days.
New initiative		• Audit program refined in 2023 with implementation in 2024. • Seasonal audits, 100 households. Two waste composition audits November 2024 and mid-2025.

Objective 3

Increase diversion of waste from disposal and support the circular economy.

Targets	Action to Achieve Target
Target A Increase diversion of organics from disposal.	Build the Mixed Waste Pre-sort and Anaerobic Digestion Facility.
	Enhance the Green Bin program for single-family residences.
	Encourage backyard composting.
	Expand collection services to Regional facilities and consider service for municipal and institutional facilities (e.g. school boards).
Target B Revise by-law 46-2011 to reflect changes to collection and processing programs.	Revise by-law to reflect new Extended Producer Responsibility programs and include a section on mixed waste pre-sorting.
	Explore options for collecting waste in mid-to high-density developments.

Legend

- **Projected to meet or surpass target**
- **Projected to be near target**
- **Projected to not meet target** (external factors may contribute)
- **Complete**
- **Future reporting period**

Baseline Measurement	Status	Summary of Progress
Increase Green Bin organics diversion from disposal up to 10% by 2026. 2018 baseline: • 41 kilograms Green Bin organics collected per capita. • 50 kilograms of food waste in garbage per capita.		• Project cancelled due to significant and continuing inflation in 2021/2022. Action will be re-evaluated in the next five year action plan. • Request for Proposal awarded for processing Source Separated Organics. New contract commenced July 1, 2024.
		• Enhanced curbside Green Bin program launched July 1, 2024.
		• Promoted backyard composting at numerous public events including the PA Day events at the DYEC, Durham Region's 50th Anniversary events, and Durham's Climate Change Roundtable Fall Forum. • Backyard composters sold through online sales portal and at the Waste Management Centre.
		• Efforts on this action are on hold and will be re-evaluated in the next five year action plan.
Existing by-law 46-2011		• Revisions to the by-law for council approved in 2024.
		• Council approved the implementation of a multi-residential Enhanced Source Separated Organics Collection program to comply with Ontario's Food and Organics Waste Policy Statement. Program roll-out begins June 2025.

Objective 3 (Continued)

Targets	Action to Achieve Target
Target C Develop a plan that supports Extended Producer Responsibility (EPR) programs.	Work with producers to understand how programs will be rolled out and the impact on the Region.
	Education campaigns to inform residents of changes to programs.
	Transition the programs to producers.
	Investigate ways to reuse or recycle Household Hazardous Waste not covered under regulations.
	Determine best options for Material Recovery Facility and equipment when no longer needed by the Region.
	Evaluate possible changes at waste management facilities to adapt to Extended Producer Responsibility regulations.
	Consider options to continue to provide recycling collection service to ineligible sources.

Legend

 **Projected to meet or surpass target**

 **Projected to be near target**

 **Projected to not meet target** (external factors may contribute)

 **Complete**

 **Future reporting period**

Baseline Measurement	Status	Summary of Progress
Successful transition to EPR in 2024		• The Region's Blue Box program transitioned to EPR July 1, 2024..
New initiative (no baseline)		• Expanded community outreach and education initiatives with a focus on promoting the Five Rs (rethink, reduce, reuse, recycle and recover) and the changes to the Region's collection services, including Blue Box transition to EPR and the expanded Green Bin program.
New initiative (no baseline)		• Blue Box program was the last municipal diversion program to transition to Extended Producer Responsibility. • The Region's Blue Box program transitioned to EPR July 1, 2024.
New initiative (no baseline)		
New initiative (no baseline)		• Contract to lease of Material Recovery Facility to third party executed in 2022. • Lease commenced July 1, 2024.
New initiative (no baseline)		• Ongoing discussions in 2024.
New initiative (no baseline)		• Negotiations with Circular Materials in 2023 allow for continued Blue Box collection in the Business Improvement Areas until the end of 2025.

Objective 3 (Continued)

Targets	Action to Achieve Target
Target D Advocate for the expansion of Extended Producer Responsibility programs and increased materials management.	Continue participation in waste management committees, advocacy organizations and industry associations.
	Continue to participate in consultations for Federal and Provincial waste management changes.

Legend

 **Projected to meet or surpass target**

 **Projected to be near target**

 **Projected to not meet target** (external factors may contribute)

 **Complete**

 **Future reporting period**

Baseline Measurement	Status	Summary of Progress
Existing participation		• Durham Region supported several initiatives by municipal organizations advocating for higher diversion targets and more diversion programs in 2024.
Existing advocacy efforts		• Participation continued in 2024.

Objective 4

Support the Region's greenhouse gas reduction and climate change mitigation efforts.

Targets	Action to Achieve Target
Target A Develop initiatives to offset or reduce corporate greenhouse gas emissions from solid waste.	Explore opportunities to convert contracted collection vehicles to alternative fuels.
	Explore opportunities to convert biogas to renewable natural gas at facilities owned by the Region.
	Identify methodologies to capture greenhouse gas emissions avoidance resulting from waste diversion.
	Analyze how to better recover energy resources from waste operations.

Legend

 **Projected to meet or surpass target**

 **Projected to be near target**

 **Projected to not meet target** (external factors may contribute)

 **Complete**

 **Future reporting period**

Baseline Measurement	Status	Summary of Progress
Aligned with the Region's Corporate Climate Change Action Plan Actions taken to reduce the Corporate GHG emissions to 40 per cent below 2019 levels by 2030 (and 100 per cent below 2019 levels by 2045).		• Renewable Natural Gas vehicles required in the new Ajax/Pickering collection contract. • Contract commenced July 1, 2024. • Alternative fuels required for future Clarington and Townships collection contract.
		• Mixed Waste Pre-sort and Anaerobic Digestion project cancelled. Action will be re-evaluated for next five year action plan.
		
		

Objective 5

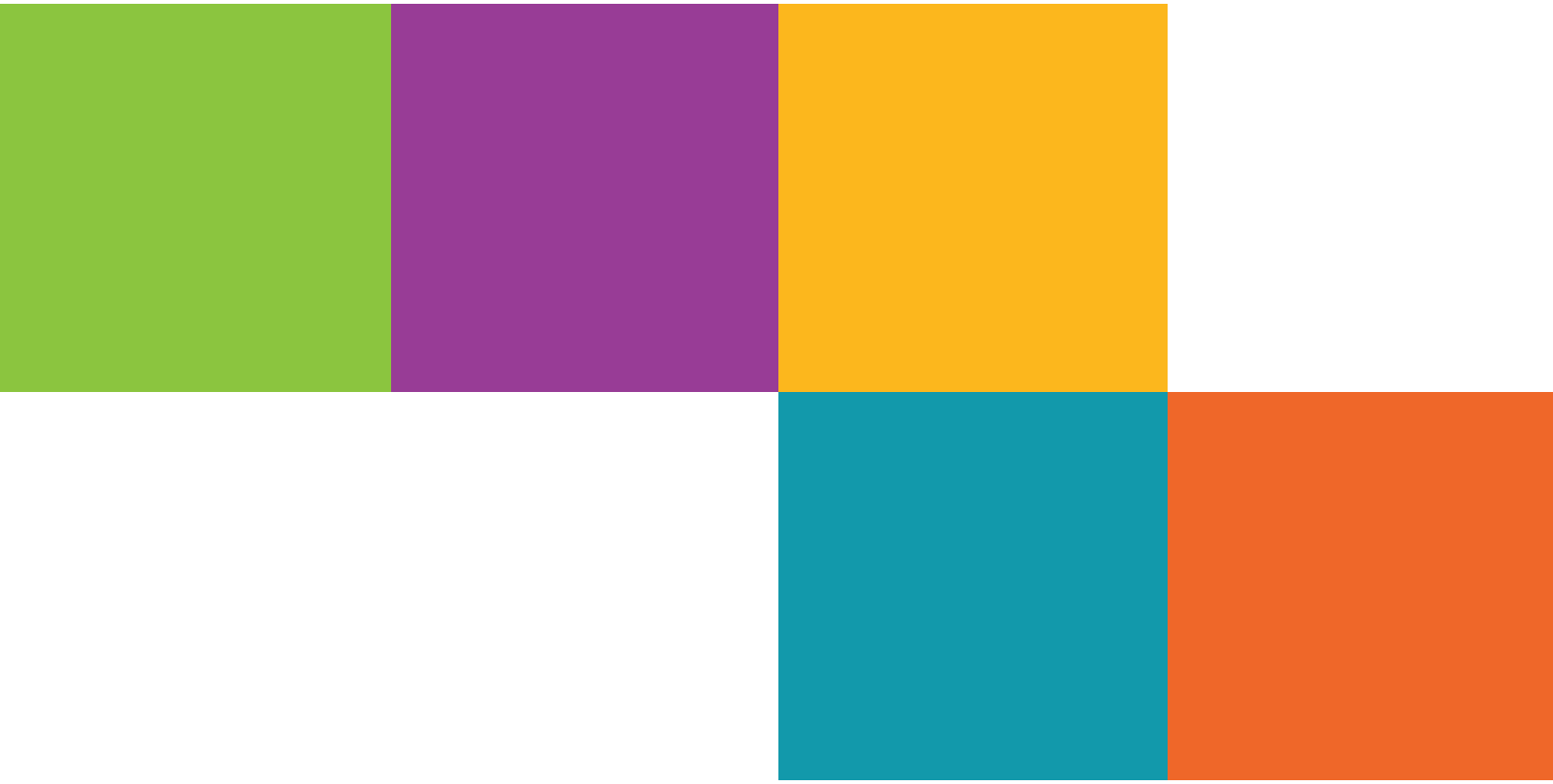
Protect or improve water, land, and air quality in Durham Region.

Targets	Action to Achieve Target
Target A Optimize waste management facilities.	Develop options to improve traffic flow and renovate the Oshawa Waste Management Facility (WMF).
	Develop actions to improve waste sorting levels at waste management facilities in general.
Target B Increase accessibility to waste management programs and services.	Investigate improving convenience for users of the waste management facilities.
	Assess physical accessibility of all waste management facilities.
Target C Explore options to reduce environmental impacts of closed landfills and their potential for future community use.	Evaluate outcome of pilot project at Oshawa Landfill for an alternative landfill cover system.

Legend

- **Projected to meet or surpass target**
- **Projected to be near target**
- **Projected to not meet target** (external factors may contribute)
- **Complete**
- **Future reporting period**

Baseline Measurement	Status	Summary of Progress
Existing waste management facility operations and annual actions to optimize operations at Oshawa WMF.		• Durham completed a Master Plan for expanding and optimizing the Oshawa WMF.
Existing waste management facility operations and annual actions to optimize operations.		• To be explored with consultant in the Master Planning phase.
Existing waste management facility hours and signage and changes to operating hours and physical accessibility of WMFs.		• New bin identification signage at Oshawa waste management facility.
		• Region's Facilities Division completed Accessibility Audit at Oshawa waste management facility and assessed compliance with AODA, making recommendations for improvement. • Accessibility to be considered in design of the improved facility.
Existing closed landfill perpetual care program and annual progress toward implementing alternative landfill cover.		• Bio cover pilot began in 2023 at the Oshawa landfill site. • Monitoring started in August 2023 and will continue until February 2025. Looking to extend/expand pilot. • Initial monitoring results show an approximate decrease in methane concentration of 90 per cent. • The performance of the bio cover will be evaluated to determine if a full-scale bio cover system should be constructed.



Works Department, Waste Management Services
durham.ca/Waste

If you require this information in an accessible format, contact 311 (within Regional limits) or 1-800-372-1102.