

# Durham Long-term Waste Management Plan

## Executive Summary

Final January 2022



# Contents

<b>Long-term Waste Management Plan.....</b>	<b>1</b>
<b>About Durham Region .....</b>	<b>3</b>
Past Accomplishments .....	3
Durham York Energy Centre .....	5
Mixed Waste Pre-sort/Anaerobic Digestion .....	5
What Will the Region be Managing in the Future?.....	6
What’s in Your Garbage? .....	6
<b>What Else Does the Waste Plan Have to Consider?.....</b>	<b>7</b>
Alignment with Corporate Strategies .....	8
<b>Other Regulations Considered .....</b>	<b>9</b>
Blue Box EPR Program .....	9
Food and Organic Waste Framework .....	9
Plastics Ban .....	9



**Council Approved Guiding Principles, Vision and Objectives . . . . .11**  
Guiding Principles. . . . .11  
Vision. . . . .11  
Objectives . . . . .12

**Targets and Actions. . . . .13**  
Objective 1 . . . . .14  
Objective 2 . . . . .15  
Objective 3 . . . . .16  
Objective 4 . . . . .19  
Objective 5 . . . . .21

**Stay Connected. . . . .23**



# Long-term Waste Management Plan

Durham Region (Region) developed its initial Long-term Waste Management Strategy Plan (LTWMSP) in 1999 to cover the 20 years to 2020. The Region is developing the next Long-term Waste Management Plan (Waste Plan) for the next 20 years (to 2040). The Waste Plan will help divert as much as possible from the garbage to minimize the need for disposal and recover resources, like energy, from the waste that is left.

The approved guiding principles, vision and objectives will be achieved through Action Plans with measurable targets and accompanying actions for the following timelines – short-term (2022 to 2026), mid-term (2027 to 2033) and long-term (2034 to 2040) which will be reviewed and updated (if required) every five years to ensure alignment with corporate direction and associated legislation.

## 2019 - 2020



- Council approved developing new Waste Plan 2021 - 2040
- Start development of New Waste Plan (2021-2040)
- Procurement process completed and work begins with consultant - HDR, Inc.
- Regional Council approves plans for Anaerobic Digestion and Pre-sort Transfer Station

## Spring/ Summer 2020



### Phase 1 Consultation - Virtual Meetings

- Regional Staff Workshop
- Local Area Municipalities Workshop
- Regional Advisory Committees
- Public Consultation Online

## Fall 2020/ Winter 2021



- Developed an outline for the Waste Plan and first Five-Year Action Plan for Council review and approval
- Turned the outline into a draft Waste Plan and Five-Year Action Plan



## Spring/Summer/ Fall 2021



### Phase 2 Consultation - Virtual Meetings

- Regional Staff
- Local Area Municipalities
- Regional Advisory Committees
- Public Consultation Online

## Fall 2021



Finalize drafts  
of Waste Plan  
and Five-Year  
Action Plan

## 2022



Present the Waste  
Plan and Five-Year  
Action Plan to  
Council for approval

Start Implementing  
Waste Plan and  
Public Education

# About Durham Region

Since 1999, the Regional Municipality of Durham has heavily invested in waste management systems and strategies. The Region has successfully met the committed diversion goals from the Long-term Waste Management Strategy Plan: 2000 to 2020 (LTWMSP 2000-2020 or Waste Strategy Plan) in various ways. The Region continues to demonstrate leadership in innovative waste management strategies.

As an upper tier municipal government, Durham Region provided programs and services to approximately 678,985 residents in 2020 within eight local area municipalities (LAM).

## The Region provides service to over:



**237,081**  
households

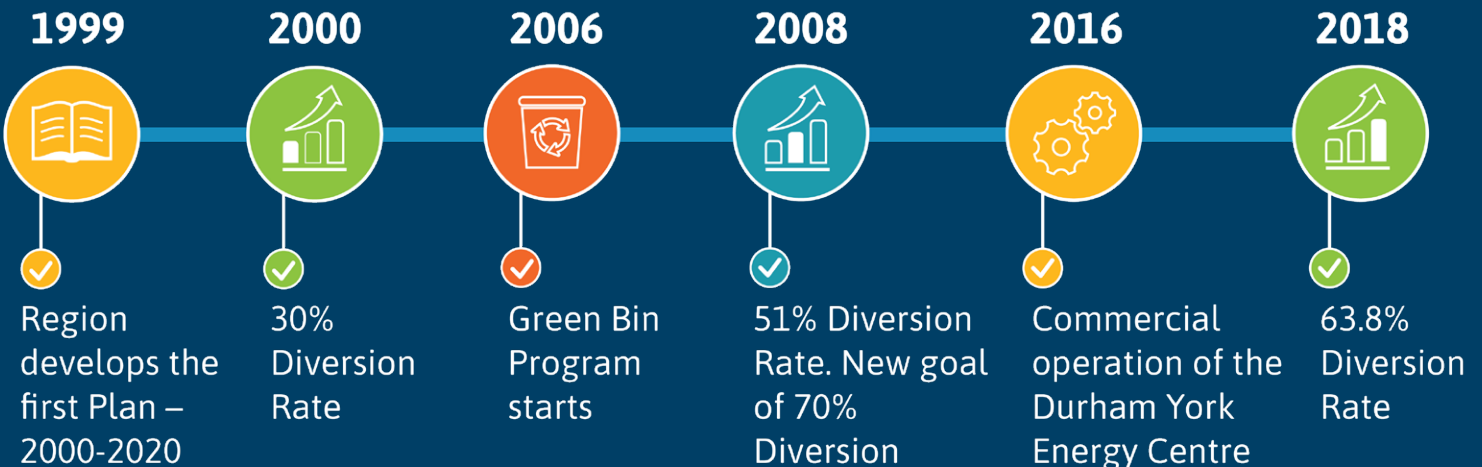


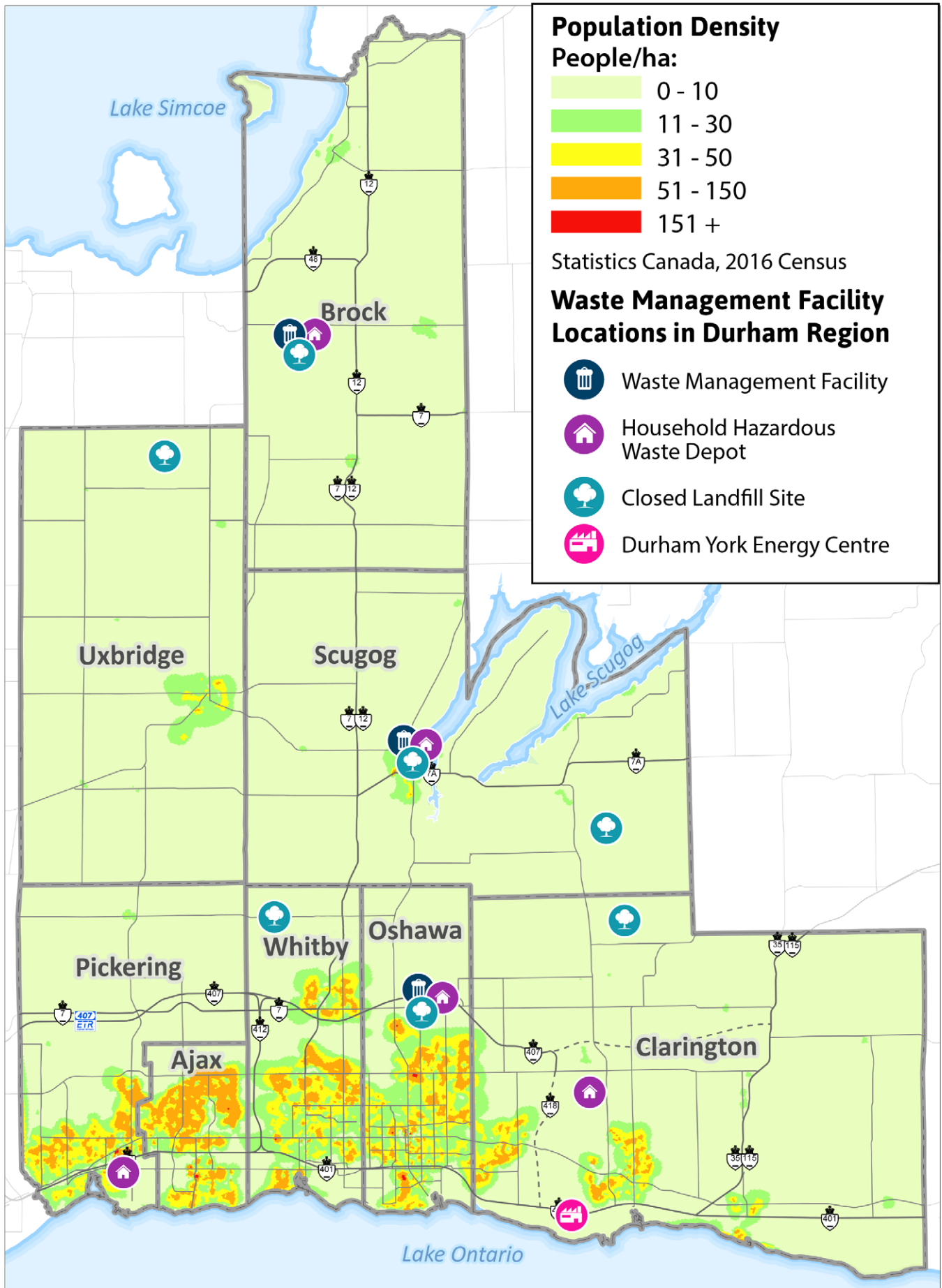
**211,935**  
single-family households



**25,146**  
multi-residential households

## Past Accomplishments





## Durham York Energy Centre

The Durham York Energy Centre (DYEC) is an energy from waste facility that produces energy from the combustion/ burning of garbage that remains after all diversion programs. The facility was developed in partnership with York Region, permitted to process 140,000 tonnes per year of residential garbage. This facility is the primary disposal facility for Durham Region, processing 110,000 tonnes annually of post-diversion residential garbage. York Region sends 30,000 tonnes annually of post-diversion residential garbage to DYEC.

## Mixed Waste Pre-sort/ Anaerobic Digestion

To plan for growth, the Region is building a Mixed Waste Pre-sort (MWP) and Anaerobic Digestion (AD) facility. When the garbage arrives at the facility, the mixed waste pre-sort will take out the organics, recyclables and non-combustibles from the garbage bag. The AD facility will convert organic waste into a renewable natural gas (RNG) and digestate (a compost-like product). RNG will be a valuable resource of renewable energy (including for heating homes) and the digestate will be used as a beneficial agricultural fertilizer.

## Tonnes Collected by the Region (2015-2020)

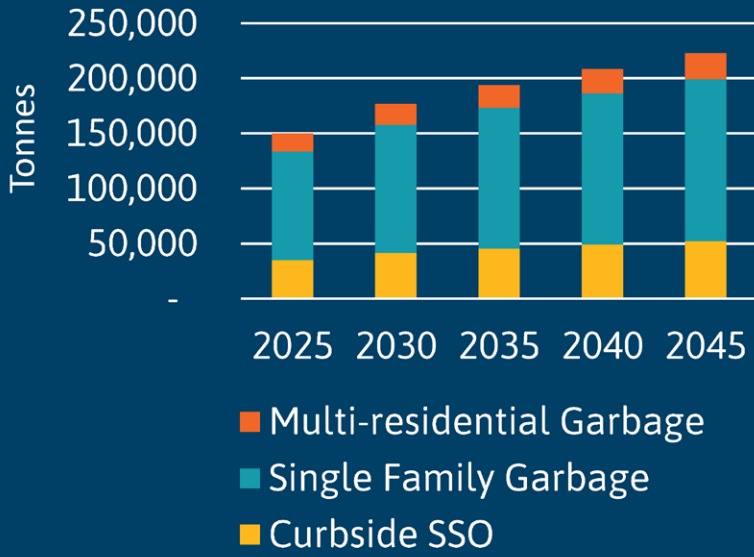
Material Type	2015	2016	2017	2018	2019	2020
Garbage	110,498	107,887	115,271	119,716	120,637	129,926
Organics	26,796	27,612	28,318	28,446	28,522	33,031
Blue Box	48,254	47,923	47,839	43,139	41,738	41,944
Leaf & Yard Waste	27,554	24,730	25,082	27,330	26,646	30,140
Other Materials	7,231	10,837	6,887	6,712	6,553	6,585
<b>Total</b>	<b>220,333</b>	<b>218,989</b>	<b>223,397</b>	<b>225,343</b>	<b>224,096</b>	<b>241,626</b>

Source: Durham Region, 2019 Annual Report, 2020 Waste Tonnage Summary

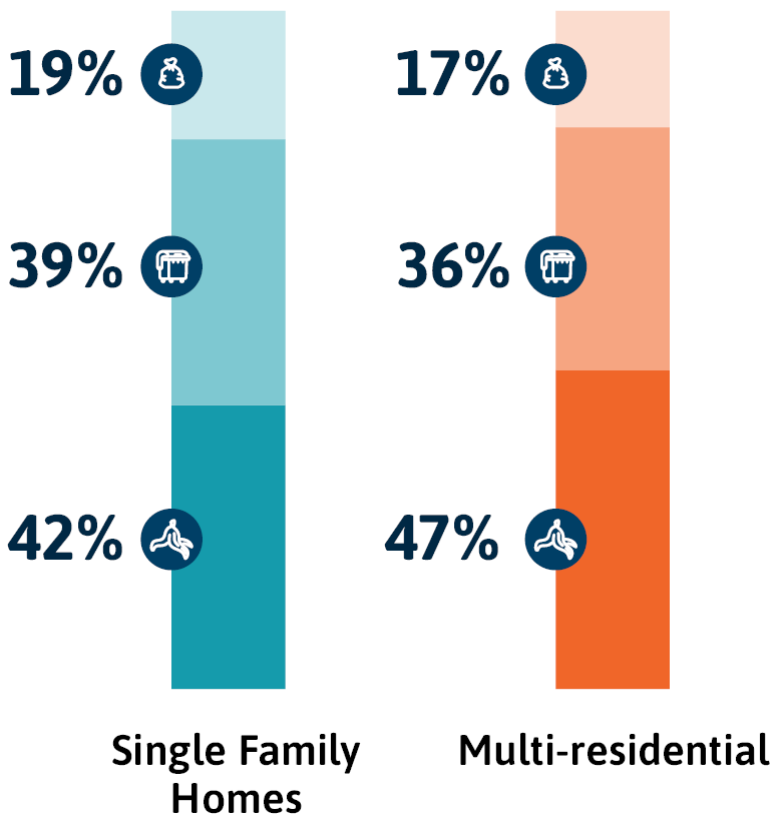
Other materials includes household hazardous waste, electronics, textiles etc.



# What Will the Region be Managing in the Future?



## What's in Your Garbage?



- Sanitary/pet waste and textiles that could be diverted with future programs
- Materials that cannot be diverted in current programs (e.g. Non-Blue Box materials, construction/demolition materials, bulky items etc.)
- Materials in the garbage stream that could be diverted through existing program/ service offered by the Region (e.g. food waste, Blue Box program, hazardous waste, electronics etc.)



## What Else Does the Waste Plan Have to Consider?

The Waste Plan needs to consider future growth in the Region, Regional policies and strategies as well as Federal and Provincial regulations.

### What will be changing?



#### **Increasing population**

Durham Region's population is anticipated to almost double by 2041



#### **Shrinking household size**

The average household size has decreased from 3.5 persons in 1976 to 2.8 people per household in 2016



#### **Increased densification**

More townhomes and apartment units are being constructed which can accommodate smaller households



#### **Employment growth**

Anticipated to continue to increase over time, along with average household income. Employment and income are tied to waste generation

In Durham's Climate Change Action Plan, key objectives have been identified related to corporate GHG reductions in waste management operations over the next 20 years:

- Increase diversion of organic waste from single-family homes, apartments and condos
- Construct and operate a Mixed Waste Pre-sort and Anaerobic Digestion facility to manage organic waste
- Continue to manage GHG emissions from legacy closed landfills through innovative approaches
- Explore ways to mitigate corporate GHG increases associated with the planned increase in the Durham York Energy Centre (DYEC) capacity and population growth over the coming decade
- Explore opportunities to reduce emissions through procurement and contract management, which could include zero emissions vehicles and/or hybrid vehicles where operationally feasible

## Alignment with Corporate Strategies

The Waste Plan will be aligned with Durham Region's:

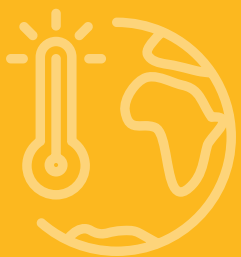
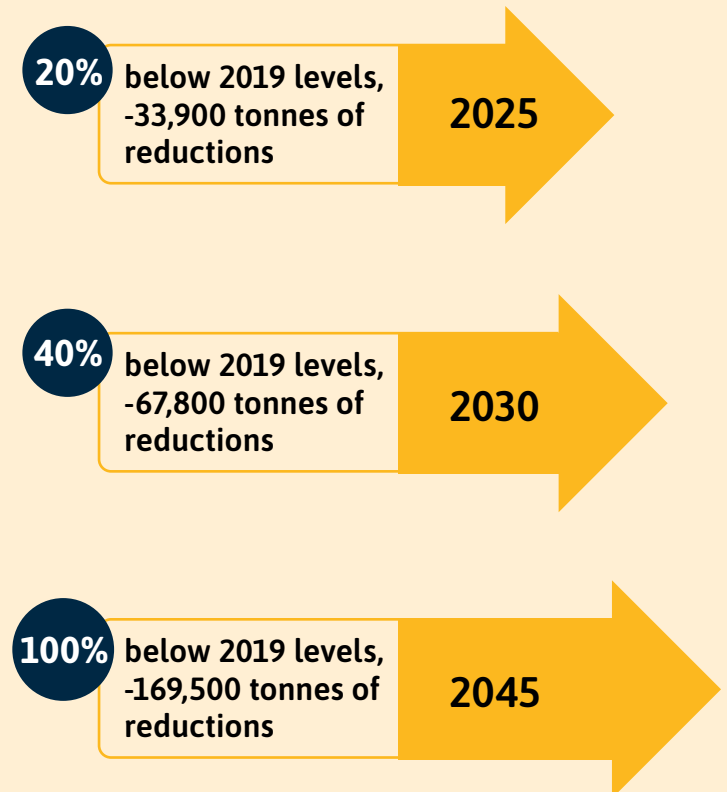
### [Strategic Plan](#)

[durham.ca/StratPlan](http://durham.ca/StratPlan)

### [Climate Change Action Plan](#)

[durham.ca/CorporateClimatePlan](http://durham.ca/CorporateClimatePlan)

The Council-approved Corporate Greenhouse Gas (GHG) emissions reductions targets are:



### Climate Crisis

In 2020, Durham Region Council declared a climate emergency.

Aspects of waste management can generate significant GHGs. The Waste Plan, going forward, will strive to continually reduce GHG impacts from waste management activities.

## Other Regulations Considered

Additionally, the Waste Plan needs to consider the Extended Producer Responsibility (EPR) regulations implemented by the Government of Ontario for Used Tires, Batteries, Electrical and Electronic Equipment, Hazardous and Special Products and Blue Box Recycling. As well, the Waste Plan needs to consider future regulations for organic and plastics.



### Blue Box EPR Program

- Durham's program transitions to full producer responsibility in 2024
- Durham will no longer be involved with collection, processing or marketing Blue Box material
- Producers of Blue Box paper and packaging take over collection, processing and recycling activities
- Producers are getting organized so it is unknown what the new Blue Box program will look like at this time



### Food and Organic Waste Framework

- Two parts
  1. An action plan for the Province
  2. The Policy Statement for municipalities
- Potential organics ban from landfill is being considered by province
- MWP/AD facility will enable the Region to meet targets and divert more organics for beneficial use



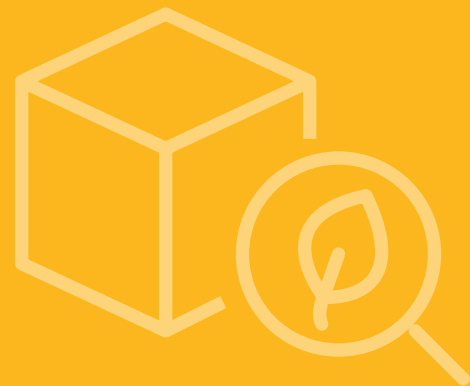
### Plastics Ban

- Federal ban on six items
- May result in reductions in plastic packaging that has been designated as problematic or unnecessary. It may result in packaging being designed to be reusable, recyclable or compostable



## Extended Producer Responsibility

The objective of the EPR regulations is to shift the responsibility of designated recyclable materials (this includes financial, operational and regulatory responsibilities) from municipalities to producers of the materials and encourage producers to invest towards improving their products and packaging through product design.



# Council Approved Guiding Principles, Vision and Objectives



## Guiding Principles



- 1 Emphasize rethink, reduce and reuse principles as the first steps 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.



## Objectives



### 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



### Objective 2

Reduce the quantity of waste we create



### Objective 3

Increase diversion of waste from disposal and support the circular economy



### Objective 4

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






### Objective 5




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

# Targets and Actions

## The Waste Plan consists of:

-  **Targets:**  
Developed to meet the objectives
-  **Measurements:**  
To assess the progress of meeting the targets
-  **Actions:**  
What the Region will do, with our community, to meet the targets

## Timelines for actions:

-  **Short-term:**  
First five years of Waste Plan (2022-2026)
-  **Mid-term:**  
(2027-2033)
-  **Long-term:**  
(2034-2040)







## Objective 1

Engage with residents to build an understanding and awareness of the 5Rs and the Region's waste management programs and services



### Target 1A:

Increase public engagement on the 5Rs through partnerships, increased accessibility, and different media



### Measurement:

Year over year increase (from 2018 or action start date)

## Actions throughout life of Waste Plan

**1A1:** Collaborate with Eco-Schools program to increase rethink and reduce activities in schools. Work with schools and school boards to provide educational content

**1A2:** Transition to the Region's central access point for residents to obtain waste management information (e.g., myDurham311). Evaluate opportunities to integrate waste management information sources into the myDurham311 platform

**1A3:** Undertake a promotion and education campaign to increase Waste app subscribers

**1A4:** Add a dedicated section to the Region's webpage on Reduction and Reuse

**1A5:** Investigate the feasibility of enhancing the Waste app to include locations of donation centres

**1A6:** Create and deliver content for digital and/or in-person engagement, including live online meetings for residents, how-to videos, tours of waste management facilities. Investigate collaborations with community groups to share information

**1A7:** Work with the Region's Diversity, Equity and Inclusion Department to determine additional languages for publications, promotion and education materials and outreach events such as multi-cultural groups and clubs

## Proposed Measurement

**1A1:** # of classrooms using Region content (41 schools in 2018)

**1A2:** # of contacts regarding waste management handled by myDurham311

**1A3:** # of subscribers (50,000 in 2018)

**1A4:** # of visits to webpages

**1A5:** Evaluation of technical feasibility of enhancements

**1A6:** # of views, # of meetings and/or tours, # of people attending meetings and/or tours

**1A7:** Increased # of languages available



## Objective 2

Reduce the quantity of waste we create



### Target 2A:

Support residents in making behavioural changes to reduce food waste



### Measurement:

Reduce quantities of avoidable food waste in the Green Bin program. Reduction targets to be determined with implementation of regular waste audits



### Short-term Actions:

**2A1:** Continue with the Region’s “Buy it, Eat it” food waste reduction campaign and develop additional themes for next iteration of the campaign



### Target 2B:

Support residents in making behavioural changes to reduce the amount of waste generated



### Measurement:

Measure annual generation rates of garbage (kg per capita) to track progress in reducing garbage. (2018: 173.1 kg garbage disposed per capita)



### Short-term Actions:

**2B1:** Reduce quantities of materials generated such as durable goods, textiles and single-use plastics. Reduce textiles in garbage by up to 5% in next five years (as a percentage of garbage stream). Establish reduction targets for other materials with implementation of regular waste audits

**2B2:** Develop a monitoring program to audit waste setouts and composition on a regular basis to determine quantities of food waste, durable goods, textiles, single-use plastics, etc. through audits of garbage, curbside SSO and FSO



### Mid-term Actions:

**2B3:** Evaluate partnerships with local charities on common messaging, sharing platforms and other circular economy opportunities

**2B4:** Partner with local area municipalities on a common message and approach to textile diversion and single-use item reduction in support of federal action to ban some single-use plastics





## Objective 3

Increase diversion of waste from disposal and support the circular economy



### Target 3A:

Increase diversion of organics from disposal



### Measurement:

Increase Green Bin organics diversion from disposal up to 10% by 2026



### Short-term Actions:

**3A1:** Develop, commission, and operate the Mixed Waste Pre-sort and Anaerobic Digestion Facility to divert organics from garbage, from multi-residential buildings and also from single-family residences

**3A2:** Launch an enhanced Green Bin program for single-family residences

**3A3:** Encourage backyard composting by providing information about successful composting practices and promoting the Region's sale of subsidized composters

**3A4:** Expand collection services to Regional facilities and consider service for local area municipal facilities and other institutional users (e.g. school boards)



### Mid-term Actions:

**3A5:** Increase the number of multi-residential buildings being serviced by the Region to divert more material



### Target 3B:

Revise Waste Management By-law 46-2011 to reflect changes to Regional collection and processing programs and services



### Measurement:

Revise By-law by 2026



### Short-term Actions:

**3B1:** Revise By-law to reflect transition of EPR programs and changes to the Region's responsibilities regarding collection of materials such as recycling, electronics, hazardous waste, batteries, use/operation of the Recycling Facility, schedules, etc.

**3B2:** Revise By-law to include a new section for the Mixed Waste Pre-sort and Anaerobic Digestion Facility and its operation/use

**3B3:** Review options to service mid to high density developments (e.g., smaller trucks, alternative collection containers, collection on one side of street, central collection areas etc.) to better service the multi-residential sector and make any necessary amendments to By-law and collection contracts as required





## Objective 3

Increase diversion of waste from disposal and support the circular economy



### Target 3C:

Develop a transition plan that supports EPR programs



### Measurement:

Successful transition to EPR in 2024



### Short-term Actions:

**3C1:** Work with producers to understand how programs will be rolled out and the impact on the Region

**3C2:** Develop promotion and education campaigns, in collaboration with the producers, to inform residents of the programs' transitions and educate them on changes to the programs

**3C3:** Transition the program(s) to producers and make any required modifications to areas remaining under the Region's responsibilities

**3C4:** Explore opportunities to reuse or recycle materials not covered under the regulations for Hazardous and Special Products (aka HHW) (e.g., refillable propane cylinders, or fertilizer)

**3C5:** Assess options for the Region's recycling facility and equipment

**3C6:** Evaluate if changes to accepted materials or handling practices are required at Waste Management Facilities to adapt to EPR regulations

**3C7:** Pursue options for the Region to continue to provide recycling collection service to ineligible sources (e.g., small businesses in BIAs and other small businesses currently serviced in the curbside collection program)





## Objective 3

Increase diversion of waste from disposal and support the circular economy



### Target 3D:

Advocate for the expansion of existing EPR programs and for additional EPR programs to manage more materials



### Measurement:

Number of advocacy efforts (e.g., letters, conversations, participation in related webinars/feedback sessions) towards new or expanded EPR programs for materials such as compostable packaging, mattresses, carpets, furniture, appliances, textiles, hard plastics, fertilizers, appliances, etc.



### Short-term Actions:

**3D1:** Continue to participate in the solid waste management committees of municipal advocacy organizations including Association of Municipalities in Ontario, the Regional Public Works Commissioners of Ontario, Municipal Waste Association, Circular Innovation Council, Canadian Biogas Association and Ontario Waste Management Association

**3D2:** Continue to participate in consultation opportunities for proposed federal and provincial waste management changes



### Mid to Long-term Actions:

**3D3:** Advocate to the Federal and Provincial governments for implementation of new producer responsibility programs to divert more materials from disposal

**3D4:** Advocate for existing programs to be expanded (e.g., recycling, hazardous waste, electronics)

**3D5:** Provide comments on any proposed producer responsibility programs to ensure Durham Region's considerations are included in the development of regulations





## Objective 4

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



### Target 4A:

Develop initiatives to offset or reduce GHG emissions from solid waste that contribute to Corporate GHG emissions



### Measurement:

Annual actions to implement initiatives to reduce GHG emissions to contribute to the Corporate GHG emissions reduction target of 40 per cent below 2019 levels by 2030 (and 100 per cent below 2019 levels by 2045)



### Short-term Actions:

**4A1:** Explore opportunities for a pilot program to convert contracted collection fleet vehicles to alternative fuels in advance of contract expiry

**4A2:** Identify opportunities for conversion of biogas to RNG at Region-owned facilities (e.g., Mixed Waste Pre-sort and Anaerobic Digestion Facility, Water Pollution Control Plant)

**4A3:** Identify additional methodologies which could be used to determine GHG emission reductions and avoidance associated with waste reduction, reuse, recycling and recovery that are not currently reflected in the Corporate GHG inventory

**4A4:** Undertake additional analyses such as heat balance between Anaerobic Digestion Facility, Water Pollution Control Plant and DYEC and a review of better or higher uses of materials such as wood waste received at the Waste Management Facilities (WMFs)



### Mid to Long-term Actions:

**4A5:** Develop a carbon emissions management plan in partnership with the Region's Sustainability group

**4A6:** Work with other Divisions (e.g., Purchasing, Facilities, Legal, Sustainability Office) to leverage the Region's buying power to develop in-house circular economy Initiatives

**4A7:** Explore options to reduce GHGs at Waste Management Facilities (WMF) through wind/solar installations, carbon capture technologies and other methods to offset emissions

**4A8:** Explore opportunities to reduce emissions from some/all fleet vehicles through alternative fuels or technologies

**4A9:** Assess material management from WMFs to evaluate operational practices (e.g., compaction, transfer) at WMFs that would reduce emissions from transportation

**4A10:** In anticipation of a capacity expansion at the DYEC, undertake a technology review to evaluate available technologies to capture and utilize or to offset generated CO<sub>2</sub>



Recycle

Emission

Sustainable  
development

CO<sub>2</sub>

Climate  
change

Business

Government

Industry

Energy  
saving



## Objective 5

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



### Target 5A:

Optimize the operation and utilization of Waste Management Facilities (WMFs)



### Measurement:

Annual actions to optimize operations at WMFs



### Short-term Actions:

**5A1:** Explore options to optimize the Oshawa WMF (e.g., traffic, new indoor/outdoor facility)

**5A2:** Develop actions to improve the diversion services at WMFs (e.g., fertilizer reuse, bulky plastics recycling, separation of renovation/construction materials)



### Mid to Long-term Actions:

**5A3:** Explore options to optimize Brock and Scugog WMFs

**5A4:** Evaluate business case to develop a new facility or smaller drop-off depots with consideration to under-serviced areas



### Target 5B:

Increase accessibility of waste management programs and services



### Measurement:

Changes to operating hours and physical accessibility of WMFs



### Short-term Actions:

**5B1:** Investigate extending hours of operation (e.g., open later in the evening, different/more days, seasonal hours) to make access to the WMFs more convenient for users, especially those who work more traditional hours (e.g., 9-5)

**5B2:** Assess accessibility of WMFs (e.g., signage, access to containers, stairs, ramps etc.) to ensure they are physically accessible



### Mid-term Actions:

**5B3:** Explore options for waste collection with accessibility considerations







## Objective 5

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



### Target 5C:

Explore options to reduce environmental impacts of closed landfills and potential for future community use and/or naturalization



### Measurement:

Annual progress towards implementing alternative landfill cover systems at closed landfills and conversion for community use and/or naturalization



### Short-term Actions:

**5C1:** Evaluate outcome of pilot project at Oshawa Landfill for an alternative landfill biocover system



### Mid to Long-term Actions:

**5C2:** Maintain current landfill monitoring and perpetual care program while evaluating additional options to minimize landfill GHG generation and other environmental impacts

**5C3:** Based on outcomes of Oshawa Landfill pilot project, evaluate potential to implement biocover at other Region-owned closed landfills

**5C4:** Explore options to install solar covers at closed landfills

**5C5:** Evaluate potential to rehabilitate closed landfills for community use

**5C6:** Explore options to naturalize closed landfills by improving/ establishing natural habitats for wildlife, encouraging pollinator species, providing food sources and shelter, improving fish habitat in adjacent waterbodies/wetlands etc.





## Stay Connected



**The Regional Municipality of Durham**

[durham.ca](http://durham.ca)

**Durham Region Waste Management**

[durham.ca/waste](http://durham.ca/waste)



Download the Durham Region Waste App



The Apple logo and App Store logo are trademarks of Apple Inc.  
Google Play and the Google Play logo are trademarks of Google LLC.



@RegionofDurham



Subscribe online to receive email updates in the **Contact Us** section at [durham.ca/waste](http://durham.ca/waste)