

Durham Region Long-term Waste Management Plan

DRAFT Five-Year Action Plan – 2022-2026



Glossary and Abbreviations

Glossary Term	Definition
5Rs	Rethink, Reduce, Reuse, Recycle, Recover.
BIA	Business Improvement Area – downtown business areas as designated by the Region.
DYEC	Durham York Energy Centre - An energy-from-waste facility located in the Municipality of Clarington, Durham Region that produces energy from the combustion/ burning of garbage that remains after all diversion programs.
EEE	Electrical and Electronic Equipment - As defined by the Resource Productivity and Recovery Authority (RPRA), consists of information technology, telecommunications, audio-visual equipment such as computers, printers, telephones, cell phones, speakers, cameras, etc.
EPR	Extended Producer Responsibility - The regulated responsibility producers, importers and brand owners have to reduce the environmental impact of their products and packaging. It extends across the product lifecycle and depending on the product, can be cradle-to-grave or cradle to cradle management.
FSO	Facility Separated Organics - Organic material that has been separated out from the garbage through mechanical means (i.e., at the Region’s Mixed Waste Pre-sort and Anaerobic Digestion Facility).
GHG	Greenhouse Gas - Gases in the Earth’s atmosphere that trap heat; typically refers to carbon dioxide (CO ₂), methane (CH ₄) and nitrous oxide (N ₂ O).
HSP	Hazardous and Special Products - Consumer products that are hazardous to the environment if not disposed of properly; includes items like paints, solvent, pesticides, and compressed gas cylinders.
LTWMP	Long-term Waste Management Plan (or Waste Plan).
MRF	Material Recovery Facility - A facility that sorts Blue Box recycling into different material streams (e.g., aluminum, steel, glass) for marketing.
SSO	Source Separated Organics - Organic materials placed into the Green Bin by residents for collection by the Region.
WMF	Waste Management Facility - A facility that accepts materials from public drop-off such as appliances, recyclable materials, carpet, drywall, garbage, scrap metal, wood for a fee. There are five waste management facilities in Durham Region.

1 Introduction

Durham Region (Region) developed its initial Long-Term Waste Management Strategy Plan (LTWMSP) in 1999 to cover the 20 years to 2020. The Region has developed the next Long-term Waste Management Plan (Waste Plan) for the planning period of the next 20 years (2021 to 2040). As part of this Waste Plan, the Region is focusing on maximizing the diversion of materials from waste and recovering waste as resources to optimize its existing and planned disposal and processing infrastructure and minimize the need for disposal.

This Action Plan outlines the Council-approved objectives and focuses on the short-term targets and actions for the first five years of the plan (2022 to 2026) following approval of the Waste Plan and Action Plan by Council. The Action Plan will be reviewed in five-year intervals to monitor progress toward meeting the targets.

Each objective has targets with measurements intended to show progress toward achieving the target. Progress updates on achievable targets, associated measurements and the key actions taken in the reporting year will be provided. The Region will report on the full Action Plan targets, measures and actions during the five-year Action Plan review and update.

2 Guiding Principles, Vision and Objectives

As part of the development of the Waste Plan, the Region undertook consultation with stakeholders to get input on the guiding principles, vision and objectives. Feedback from these consultation activities were considered in the development of the following guiding principles, vision statement and objectives that will guide the Region’s waste management programs and services over the planning period. Durham Region Council approved the guiding principles, vision and objectives at the January 27, 2021 meeting. The approved guiding principles, vision and objectives will remain consistent throughout the life of the Waste Plan without further review and updating.

2.1 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.

2.2 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.

2.3 Objectives



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.



2. Reduce the quantity of waste we create.



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



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



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

3 Timeline for Targets

The following Table 1 presents the 20-year targets developed to meet the objectives, and the timelines for implementation. It should be noted that some of the targets, for example, Target 1A, will have actions that will continue to be implemented throughout the life of the Waste Plan. Implementation of later targets and actions may be built upon as the short-term actions are implemented. The Region has prioritized actions to start in the short-term, and others to be implemented later, in the mid to long-term. Feedback received through phase one and phase two of the Waste Plan development about the targets and actions has been considered for the timing of implementation of the targets and actions.

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Table 1: Timeline for Targets

Targets	Timeline for Targets		
	Short-term 2022-2026	Mid-term 2027-2033	Long-term 2034-2040
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.			
Target 1A: Increase public engagement on the 5Rs through partnerships, increased accessibility, and different media.	X	X	X
Objective 2: Reduce the quantity of waste we create			
Target 2A: Support residents in making behavioural changes to reduce food waste.	X	X	X
Target 2B: Support residents in making behavioural changes to reduce the amount of waste generated.	X	X	X
Objective 3: Increase diversion of waste from disposal and support the circular economy.			
Target 3A: Increase diversion of organics from disposal.	X	X	X
Target 3B: Revise Waste Management By-law 46-2011 to reflect changes to Regional collection and processing programs and services.	X		
Target 3C: Develop a transition plan that supports EPR programs.	X		
Target 3D: Advocate for the expansion of existing EPR programs and for additional EPR programs to manage more materials.	X	X	X
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.	X	X	X
Objective 5: Protect or improve water, land, and air quality in Durham Region.			
Target 5A: Optimize the operation and utilization of Waste Management Facilities.	X	X	X
Target 5B: Increase accessibility of waste management programs and services.	X	X	X
Target 5C: Explore options to reduce environmental impacts of closed landfills and potential for future community use and/or naturalization.	X	X	X

4 Establishing Measurement Baseline Data

To measure progress towards achieving the targets, it is important to establish a baseline. Baselines were established as follows:

- For those actions related to waste composition, 2018 was chosen as the baseline year for all measurements based on the year in which the most recent waste audit was completed. The 2018 audit provides the waste composition and generation rate data used to establish the quantities of materials such as organics, textiles and other divertible materials in the garbage stream. Some of the target materials (such as single use plastics or durable goods) do not have baseline audit data as these materials have generally not been categorized separately during waste audits. Baseline quantities for these additional target materials will be established in a future auditing program and will be updated with the five-year review of the Action Plans.
- Target 4A (reducing GHG emissions) is aligned with the Region's Corporate Climate Change Action Plan which uses 2019 as the baseline for GHG reduction targets.
- Some of the targets represent annual improvements to programs and services. Their baseline will be the status quo program or service (for example, operating hours at the Waste Management Facilities).
- Some of the actions are new initiatives and there is no baseline data (e.g. transitioning to the EPR program).

5 First Five-Year Action Plan

This document presents the targets developed to meet the objectives, the measurement of how the target will be achieved, and the actions developed to meet the targets.

Actions have been developed for the short-term (2022 to 2026), mid-term (2027 to 2033) and long-term (2034 to 2040) (see Appendix A and B for a list of the actions). This Five-Year Action Plan is intended to cover the short-term targets and actions. The Five-Year Action Plan is intended to be a living document. Every five years, these actions, along with the measurable targets, will be reviewed and updated (as required) to ensure alignment with corporate direction and associated legislation and other factors that can impact the Region's waste management system (for example, a global pandemic).

5.1 Annual Reporting on Targets

The Region will report annually on the progress of achieving the targets against the stated baseline as part of the Five-Year Action Plan. Specifically, progress updates on achievable targets, associated measurements and the key actions taken in the reporting year will be provided. Some targets have annual actions that will be reported on regularly, and others have a specific timeframe to achieve the target and will be reported on within that timeframe.

Table 2 presents the expected timing of reporting on the targets. It should be noted that there could be external/ policy/ technology/ etc. factors that alter this reporting timeline.

At the end of the five-year term of this Action Plan, the progress of achieving the targets will be reviewed. During the Action Plan review, the metrics used to measure achievement of targets may be updated.

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Table 2: Timeframes for Reporting on Targets

Target	2022	2023	2024	2025	2026
Target 1A - Education	X	X	X	X	X
Target 2A - Reduce Food Waste	X	X	X	X	X
Target 2B - Reduce Waste		X	X	X	X
Target 3A - Increase Organics Diversion				X	X
Target 3B - By-Law Update		X			
Target 3C - EPR Transition			X		
Target 3D - EPR Advocacy	X	X	X	X	X
Target 4A - Reduce GHG Emissions			X	X	X
Target 5A - Optimize WMFs	X	X			
Target 5B - Increase Accessibility	X	X			
Target 5C - Closed Landfill Options	X	X	X	X	X

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The following Table 3 provides an example of how the Region will report on progress towards achieving the targets developed to meet the Waste Plan objectives.

A system such as the following will be used to denote progress.





-  Projected to meet or surpass target
-  Projected to be near target
-  Projected to be at risk of not meeting target

Table 3: Example of Reporting on Progress of Target Achievement towards Meeting Objectives

Target	Measurement	Baseline	Progress Status	2022 Action Summary
Target 1A	Progress of actions comprising this target	Status quo for existing programs, others will be new initiatives with no baseline.	Projected to meet or surpass target 	<ul style="list-style-type: none"> • 45 schools engaged • 90,000 app subscribers • Transition to Durham 311 pending

The following Table 4 presents the format for reporting on progress of achieving targets which will include information similar to what is presented in the example above for those targets which will be reported on.

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Table 4: Reporting on Progress of Target Achievement towards Meeting Objectives

Target	Measurement	Baseline	Progress Status	202X Action Summary
Target 1A - Education	Progress of actions comprising this target	2018: 50,000 app subscribers; 41 schools, others will be new initiatives with no baseline		
Target 2A - Reduce Food Waste	Reduce quantities of avoidable food waste in the Green Bin program. Reduction targets to be determined with implementation of regular waste audits.	No baseline, will be a new initiative		
Target 2B - Reduce Waste	Measure annual generation rates of garbage (kg per capita) to track progress in reducing garbage	2018: 173.1 kg garbage disposed per capita		
Target 3A - Increase Organics Diversion	Increase Green Bin organics diversion from disposal up to 10% by 2026	2018: 41 kg Green Bin organics collected per capita, 50 kg of food waste in garbage per capita		
Target 3B - By-Law Update	Revise By-law by 2026	Existing By-law		

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Target	Measurement	Baseline	Progress Status	202X Action Summary
Target 3C - EPR Transition	Successful transition to EPR in 2024	Existing EPR programs for tires, single-use batteries, EEE, and HSP. Blue Box still to be transitioned in 2024		
Target 3D - EPR Advocacy	Number of advocacy efforts undertaken	Existing advocacy efforts		
Target 4A - Reduce GHG Emissions	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)	2019 Reported Corporate Emissions (tonnes CO ₂ e)		
Target 5A - Optimize WMFs	Annual actions to optimize operations at WMFs	Existing WMF operations		
Target 5B - Increase Accessibility	Changes to operating hours and physical accessibility of WMFs	Existing WMF hours and signage		
Target 5C - Closed Landfill Options	Annual progress towards implementing alternative landfill cover systems at closed landfills and conversion for community use and/or naturalization	Existing closed landfill perpetual care program		

6 Future Five-Year Plans

Following the end of the first five-year term, the Region will review the Action Plan and make any required adjustments to the targets and actions. As part of the review, the Region will assess the implementation of the short-term actions, whether any will need to be carried forward and develop a plan to start implementing the mid to long term actions. Action Plans will be reviewed every five years until 2040 when it is anticipated the Long-term Waste Management Plan will be updated.

7 Inclusion in Regional Budgets

The Region's Business Plans and Budgets are a critical component of the Region's annual business planning cycle which also includes strategic planning, economic and financial forecasting, and performance measurement. The Waste Management budget is funded by property taxes, which presents both operating and capital funding requirements.

The actions presented in Figure 1 will be included in the Region's Waste Management business plans and budget forecasts, where appropriate, as estimates during the planning stages noted below. Implementation details will be included in the annual approved Region Budget which is publicly available.

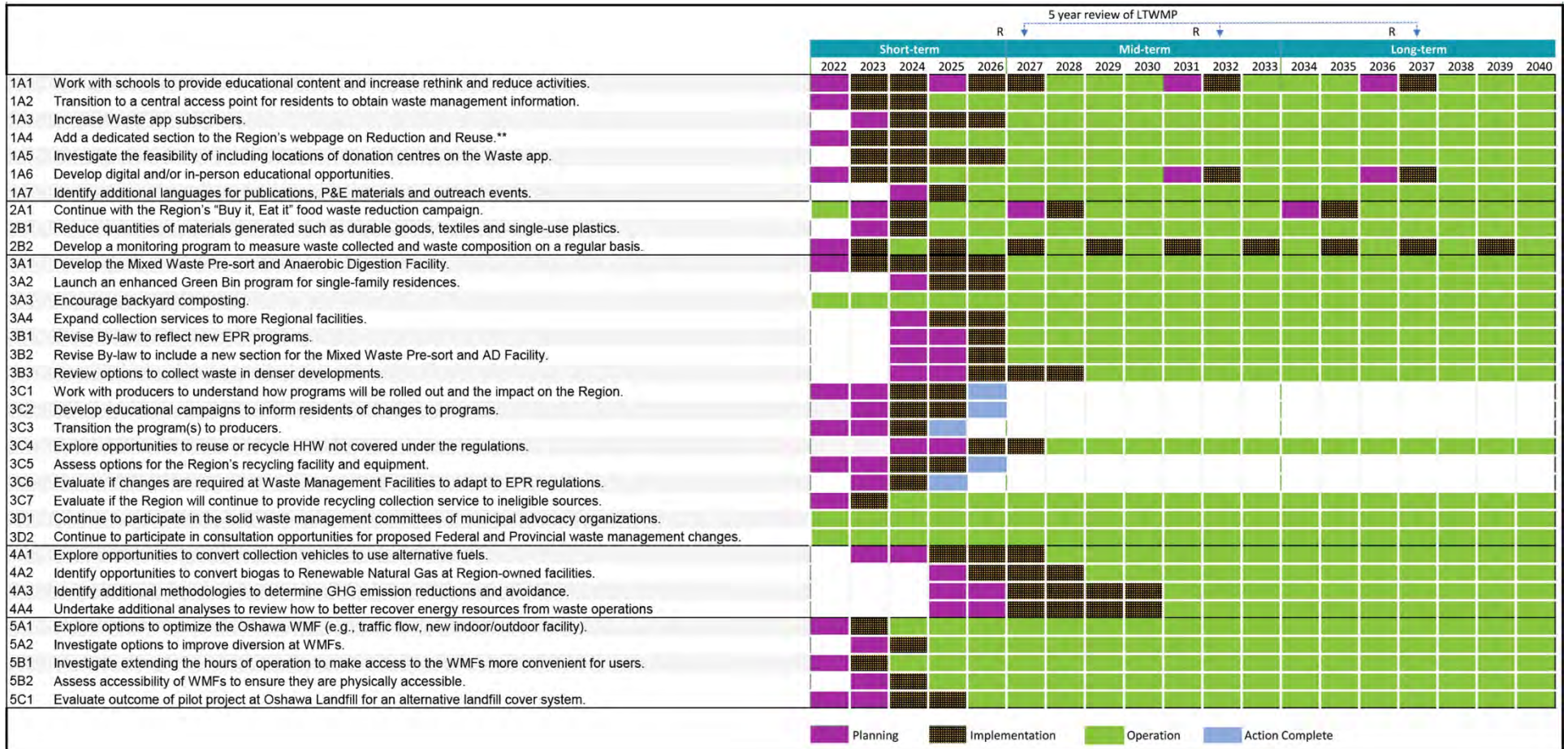
8 Proposed Implementation Timeline

Figure 1 presents the proposed implementation timeline for the short-term actions, indicating the planning, implementation and operations phases for each action. Some ongoing actions will be updated and carried forward into future planning phases. As part of the five-year update of the Action Plan, this timeline will be reviewed and updated as necessary. It should be noted that there may be factors, both within and outside the Region's control, that may alter this schedule.

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Figure 1: Implementation Timeline for Short-term Actions



Appendix A

Short-term Actions

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Objectives, Targets and Short-term Actions (2022 to 2026)

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.

Target 1A: Increase public engagement on the 5Rs through partnerships, increased accessibility, and different media.

1A1	Work with schools to provide educational content and increase rethink and reduce activities.
1A2	Transition to a central access point for residents to obtain waste management information.
1A3	Increase Waste app subscribers.
1A4	Add a dedicated section to the Region’s webpage on Reduction and Reuse.
1A5	Investigate the feasibility of including locations of donation centres on the Waste app.
1A6	Develop digital and/or in-person educational opportunities.
1A7	Identify additional languages for publications, P&E materials and outreach events.

Objective 2: Reduce the quantity of waste we create.

Target 2A: Support residents in making behavioural changes to reduce food waste.

2A1	Continue with the Region’s “Buy it, Eat it” food waste reduction campaign.
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Target 2B: Support residents in making behavioural changes to reduce the amount of waste generated.

2B1	Reduce quantities of materials generated such as durable goods, textiles and single-use plastics.
2B2	Develop a monitoring program to audit waste setouts and composition on a regular basis.

Objective 3: Increase diversion of waste from disposal and support the circular economy.

Target 3A: Increase diversion of organics from disposal.

3A1	Develop the Mixed Waste Pre-sort and Anaerobic Digestion Facility.
3A2	Launch an enhanced Green Bin program for single-family residences.
3A3	Encourage backyard composting.
3A4	Expand collection services to Regional facilities and consider service for local area municipal facilities and other institutional users (e.g. school boards).

Target 3B: Revise Waste Management By-law 46-2011 to reflect changes to Regional collection and processing programs and services.

3B1	Revise By-law to reflect new EPR programs.
3B2	Revise By-law to include a new section for the Mixed Waste Pre-sort and AD Facility.
3B3	Review options to collect waste in mid-to high density developments

Target 3C: Develop a transition plan that supports EPR programs.

3C1	Work with producers to understand how programs will be rolled out and the impact on the Region.
3C2	Develop educational campaigns to inform residents of changes to programs.
3C3	Transition the program(s) to producers.
3C4	Explore opportunities to reuse or recycle HHW not covered under the regulations.
3C5	Assess options for the Region’s recycling facility and equipment.
3C6	Evaluate if changes 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.

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Target 3D: Advocate for the expansion of existing EPR programs and for additional EPR programs to manage more materials.

3D1	Continue to participate in the solid waste management committees of municipal advocacy organizations and related industry associations.
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3D2	Continue to participate in consultation opportunities for proposed Federal and Provincial waste management changes.
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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.

4A1	Explore opportunities to convert collection vehicles to use alternative fuels.
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4A2	Identify opportunities to convert biogas to Renewable Natural Gas at Region-owned facilities.
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4A3	Identify additional methodologies to determine GHG emission reductions and avoidance.
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4A4	Undertake additional analyses to review how to better recover energy resources from waste operations
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Objective 5: Protect or improve water, land, and air quality in Durham Region.

Target 5A: Optimize the operation and utilization of Waste Management Facilities.

5A1	Explore options to optimize the Oshawa WMF (e.g., traffic flow, new indoor/outdoor facility).
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5A2	Investigate options to improve waste diversion performance at WMFs.
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Target 5B: Increase accessibility of waste management programs and services.

5B1	Investigate extending the hours of operation to make access to the WMFs more convenient for users.
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5B2	Assess accessibility of WMFs to ensure they are physically accessible.
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Target 5C: Explore options to reduce environmental impacts of closed landfills and potential for future community use and/or naturalization.

5C1	Evaluate outcome of pilot project at Oshawa Landfill for an alternative landfill cover system.
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Appendix B

Mid to Long-term Actions

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Objectives, Targets and Mid to Long-term Actions (2027-2040)

Objective 2: Reduce the quantity of waste we create.	
Target 2B: Support residents in making behavioural changes to reduce the amount of waste generated.	
2B3	Evaluate partnerships with local charities.
2B4	Partner with local area municipalities on common messaging and approach to single use plastics and textiles.
Objective 3: Increase diversion of waste from disposal and support the circular economy.	
Target 3A: Increase diversion of organics from disposal.	
3A5	Expand collection services to more multi-residential buildings to divert more material.
Target 3D: Advocate for the expansion of existing EPR programs and for additional EPR programs to manage more materials.	
3D3	Advocate to the Federal and Provincial governments for new EPR 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 EPR regulations to ensure Durham Region's considerations are included.
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.	
4A5	Develop a carbon emissions management plan in partnership with the Region's Sustainability group.
4A6	Work with other Divisions 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 operational practices at WMFs that would reduce emissions from transportation.
4A10	Technology review of CO ₂ capture and utilization and/or offset options for expanded DYEC.
Objective 5: Protect or improve water, land, and air quality in Durham Region.	
Target 5A: Optimize the operation and utilization of Waste Management Facilities.	
5A3	Explore options to optimize Brock and Scugog WMFs.
5A4	Evaluate business case to develop a new WMF or smaller drop-off depots.
Target 5B: Increase accessibility of waste management programs and services.	
5B3	Explore options for assisted waste collection to help residents manage set out of materials.
Target 5C: Explore options to reduce environmental impacts of closed landfills and potential for future community use and/or naturalization.	
5C2	Evaluate additional options to minimize landfill GHG generation and other environmental impacts.
5C3	Evaluate potential to implement the alternative cover system at other Region-owned closed landfills.
5C4	Explore options to install solar covers at closed landfills.
5C5	Evaluate potential to utilize closed landfills for community use.
5C6	Explore options to naturalize closed landfills.