



The Regional Municipality of Durham Report

To: Committee of the Whole
From: Commissioners of Works and Finance
Report: #2020-COW-2
Date: January 15, 2020

Subject:

Solid Waste Management: 2020 Strategic Issues and Financial Forecast

Recommendation:

That the Committee of the Whole recommends to Regional Council that this 2020 Solid Waste Management Strategic Issues and Financial Forecast be received and forwarded to the 2020 Business Planning and Budget deliberations.

Report:

1. Introduction

- 1.1 The Region's vision for sustainable solid waste management is integral to achieving the goals of the Durham Region Strategic Plan Goals and Priorities. This report updates solid waste management strategic issues, approaches, as well as the financial and risk implications.
- 1.2 The 2020 Solid Waste Management Strategic Issues and Financial Forecast provides an overview of key solid waste management servicing needs during this transition period for the Region and the industry as a whole, namely;
 - a. Extended Producer Responsibility (EPR) which is intended to move the financial, operational and regulatory responsibility of the Municipal Hazardous and Special Waste (MHSW), Waste Electrical and Electronic Equipment (WEEE), Used Tires, and Blue Box programs from municipalities to producers.
 - b. The Food and Organic Waste Policy Statement which sets targets and timelines for municipalities to comply with the Province's goals to reduce food waste and increase resource recovery from food and organic waste.

2. Extended Producer Responsibility

- 2.1 The Region will continue to provide collection services for Used Tires, Batteries, WEEE and MHSW under the new full EPR programs because there are limited alternate collection options for these materials available to residents.
- 2.2 The MHSW, WEEE, Used Tires and Blue Box programs have been identified for transition to full EPR over the next three years under the timelines outlined in Table 1 below.
- 2.3 Used batteries are being separated from the MHSW program and will be designated as their own Program to transition to full EPR in July 2020.

Table 1: EPR Transition Timing

EPR Program	Existing Program End Date	New Program Start Date
Used Tires	December 31, 2018	January 1, 2019
Used Batteries	June 30, 2020	July 1, 2020
Waste Electronics and Electrical Equipment	December 31, 2020	January 1, 2021
Municipal Hazardous and Special Waste	June 30, 2021 (Stewardship Ontario program only)	July 1, 2021
Blue Box	December 31, 2022 with three-year transition period	January 1, 2023 – December 31, 2025, depending on municipal transition status

- 2.4 On August 15, 2019, Minister of Environment, Conservation and Parks, announced that the Blue Box program will transition to full Extended Producer Responsibility (EPR). On November 22, 2019, the Minister announced consultation on developing a Regulation under the RRCEA to be completed by the end of 2020. The aim is to transition the Blue Box program as early as January 1, 2023, with one third of Ontario municipalities transitioning annually until all municipalities are transitioned by December 31, 2025.
- 2.5 The consultation focuses on developing EPR regulations for the Blue Box program to maintain a convenient and accessible collection system, identify a standardized list of materials to be collected and set performance targets.

- 2.6 Initial stakeholder meetings have been held, including a recent workshop on November 25, 2019 for municipalities and producers. The stakeholder consultations are being facilitated by the Province and a draft regulation is anticipated for public comment in May 2020.
- 2.7 The timelines require the transitioning municipalities to pass supporting Council resolutions no later than six months prior the start of their transition. To that end, staff will provide an update to Council in late 2021 and recommend a subsequent transition plan for Durham's Blue Box program to full EPR. Durham's Blue Box program and its associated logistics and contracts are aligned for the Region to transition on January 1, 2023. Until that time the Region will continue to receive funding from industry stewards totalling approximately 50 per cent of net Blue Box program costs.
- 2.8 The goal of EPR is to encourage producers to reduce packaging and waste by making them responsible for disposal and therefore motivated to reduce waste.

3. Food and Organic Waste Policy Statement

- 3.1 Ontario's Food and Organic Waste Policy Statement was issued on April 30, 2018 under section 11 of the RRCEA and approved through Order in Council No. 397/2018. It provides direction to provincial ministries, municipalities, industrial, commercial and institutional establishments and the waste management sector to reduce food waste and increase resource recovery from food and organic waste.
- 3.2 The Food and Organic Waste Policy Statement requires Durham to meet a performance target of 70 per cent waste reduction and resource recovery of food and organic waste generated by its single-family dwellings by 2023.
- 3.3 Multi-unit residential building owners, to which section 10 of O. Reg. 103/94 under the *Environmental Protection Act* applies (i.e. owners of buildings with six or more dwelling units), must also achieve 50 per cent waste reduction and resource recovery of food and organic waste generated within their buildings by 2025. Where the Region accepts collection responsibility at these multi-residential buildings under its Regional Waste Bylaw, the 50 per cent waste reduction and resource recovery of food and organic waste requirement will become a Regional requirement.
- 3.4 Durham's recently approved Anaerobic Digestion with Mixed Waste Pre-Sorting initiative satisfies the Policy Statement. Section 4.1.i of the Policy Statement states, "In addition to curbside collection of source separated food and organic waste, other collection methods, such as directing disposal streams to mixed waste processing, may be used to support collection of additional food and organic waste." (Policy Statement, page 16).

4. Long Term Waste Management Plan

- 4.1 For the past 20 years, the Region's waste management priorities have been guided by its 2000 to 2020 Long-Term Waste Management Strategy Plan and the goal to divert 50 per cent of waste from disposal.
- 4.2 The 2021 to 2040 Long-Term Waste Management Plan will be guided by the following principles, as identified and consistent with the 2019 Solid Waste Management Servicing and Financing Study (2019-COW-03):
- a) Working with rapid and diverse population growth to ensure community vitality and innovate how the Region delivers cost effective waste management services to its communities.
 - b) Working in collaboration with producers and importers of designated products and packaging under "Extended Producer Responsibility" regulations and strategies to transition the full costs for managing these materials from municipalities to producers and importers.
 - c) Applying innovative approaches to repurposing the Region's waste streams and managing them as resources in a circular economy and developing local opportunities that contribute toward ensuring the Region's economic prosperity.
 - d) Demonstrating leadership in sustainability to address the climate crisis by adopting new or adjusting existing waste management programs and technologies and green energy solutions to reduce greenhouse gas emissions.
- 4.3 Consultation for the Long-Term Waste Management Plan will commence in Spring 2020 with stakeholders including Regional inter-departmental staff, local municipalities, advisory committees and other interested groups, and residents.

5. Technology and Innovation

- 5.1 Durham York Energy Centre (DYEC)
- 5.1.1 The process to amend the DYEC's permitted processing capacity under the Environmental Compliance Approval (ECA) from the current 140,000 tonnes per year to 160,000 tonnes per year using existing facility equipment, is anticipated to be completed in 2020. This change will increase operating efficiency and provide an immediate increase to interim capacity which will reduce the amount of waste that must by-pass the facility and be sent directly to landfill.
- 5.1.2 The MECP has confirmed that it will consider Durham's request to amend the DYEC's permitted annual capacity to 160,000 tonnes per year if the Region also identifies its longer-term capacity needs. Following Council approval in 2019, staff has initiated the process to draft a Terms of Reference document for a future Environmental Assessment process to support an eventual physical expansion of the DYEC to 250,000 tonnes per year.

5.2 Closed Landfills

5.2.1 The Region's closed landfill sites contribute to greenhouse gas emissions due to methane gas generation. Solutions such as landfill mining and aerobic stabilization projects continue to be evaluated. Lessons learned from the 2019 Blackstock landfill mining project are being used for investigative work on a landfill mining project at the Region's Scott landfill in the Township of Uxbridge.

5.3 Organics Management Solution

5.3.1 Staff continues to work toward anaerobic digestion (AD) and waste pre-sort facilities as per the Council approved direction for the Region's long-term organics management solution. The pre-sort facility will accept all the residual garbage from Durham's single-family residences and multi residential properties and then separate out the recyclables and organics from the garbage. The recyclables will be sent to market while the sorted organics will be processed by the AD facility along with Green Bin organics and converted into energy and fertilizer. The remaining residue waste will be processed at the DYEC.

6. Waste Management Facilities (WMFs)

6.1 Growth will continue to drive the number of residents using the Region's waste management facilities and define their service levels. Legislative changes related to EPR programs will need to be considered. Good planning will ensure existing and proposed facilities remain adequate and efficient at managing the projected demand, as well as ensuring the available programs match users' needs.

6.2 The Oshawa WMF remains the Region's busiest of the Region's three WMFs with up to 1,600 visits daily during peak times. This number is anticipated to increase because of continued development, particularly in Oshawa and Whitby. The facility was not designed to handle this high usage which often results in substantial challenges to traffic queuing and onsite traffic management during peak periods. Regional staff are evaluating the site to determine if it can continue to provide the level of service needed to meet user requirements.

6.3 Residents continue seeking enhanced convenient opportunities to reduce waste as environmental awareness and concern for waste management grows. To this end, staff continues to investigate opportunities for eco-station facilities (i.e. recycling drop-off, reuse programs, repair centre, etc. without garbage drop-off) throughout the Region to improve service delivery and increase opportunities for residents to drop off materials that are not collected curbside.

7. Strategic Issues and Forecast

7.1 Regional Growth

7.1.1 Durham Region is one of the fastest growing municipalities in North America with its population expected to grow to 1.2 million by 2041 from an estimated 691,585 people at year-end 2018. Rapid, diverse population growth and urban

intensification will impact the Region's future service delivery models and the amount of waste the Region will manage.

7.2 Changing Collections to Enhance Diversion

7.2.1 The increase in multi-residential and high-density developments in Durham has resulted in the need for staff to consider specialized services to address municipal waste collection. The recently approved mixed waste pre-sorting system will allow for the diversion of organic materials generated by the Region's multi-residential sector, which is not captured by the Green Bin program.

7.2.2 Staff is building on direction from report #2018-COW-144 "Service Delivery Options for New Developments Accessed by Private Roads that Do Not Meet Design Standards for Municipal Waste Management Services" to consult with area municipalities, developers and service providers to investigate alternate waste collection methods in new residential developments and will report back to Council with an update in 2020.

7.3 Modernizing Promotion and Education

7.3.1 Modernizing the way promotion and education is delivered will ensure messaging is effective, accessible and multi-lingual. Tools will include the development of themed videos, an online resource library and a waste fair to engage the community and encourage innovation to solve local waste management issues.

7.3.2 School education programming will use modern technologies to deliver waste management messaging. Recent engagement with school boards strongly supports utilizing technology platforms for 'live' interactive sessions (e.g. Skype, Zoom or social media) and online video lessons. Over 90 per cent of secondary schools have expressed an interest in educational tours of the DYEC.

7.3.3 Public engagement will support the development of the Long-Term Waste Management Plan. It will also help staff determine how best to address future waste management needs through traditional methods and non-traditional methods such as 'pop-up' community displays, online surveys and videos.

8. Financial and Risk Implications

8.1 The Solid Waste Management Budget represents approximately seven per cent of the Region's \$1.2 billion gross property tax supported budget at approximately \$82 million. The 2019 costs for solid waste management services were funded by approximately \$49 million in property taxes and through other non-property tax funding sources, which included:

- a) Service and user fees, including waste management facility (WMF) fees at Brock, Scugog and Oshawa, curbside garbage bag tag fees, and local municipal waste service recoveries;
- b) Industry Steward cost sharing payments (e.g. fund approximately 50 per

- cent of net Blue Box program costs);
 - c) Revenues from the marketing of recycling materials; and,
 - d) DYEC revenues and recoveries, including federal gas tax financing of debt service costs, recoveries from York Region and power revenues and metals recoveries generated through waste processing.
- 8.2 The property tax funded portion of solid waste management services were delivered in 2019 at a Regional average property tax cost of approximately \$16 per month based on an average single detached home in Durham Region (assumes a current value assessment of \$454,000 and an annual Regional tax bill of \$2,731).
- 8.3 Solid waste management faces substantial capital and related operational expenditure pressures to 2029 related to growth, urban intensification and the Region's response to a significantly altered regulatory/funding framework and food and organic waste policy, as noted in previous sections.

Solid Waste Preliminary Capital Programming and Preliminary Financing

8.4 Table 2 below provides the 2019 approved budget, 2020 recommended budget and 2021 to 2029 forecast capital and financing for solid waste management services. Both are subject to change based on ongoing studies, continuing project design and development processes and potential for additional efficiencies, enhancements and partnerships.

Table 2
Solid Waste Management Services
Preliminary Capital Program and Financing

	Approved 2019	Rec. 2020	Forecast					2020 to 2029 Total
			2021	2022	2023	2024	2025 to 2029	
Capital Requirements (\$ 000's)								
Landfill Remediation / Reclamation	253	60	4,225	1,845	1,360	220	4,350	12,060
Long-term Organics Management Plan	-	163,500	-	-	-	-	-	163,500
Durham / York Energy Centre	60	-	100	900	-	-	210,000	211,000
Modifications and / or New Waste Management Facilities	-	-	2,600	3,153	500	1,100	3,152	10,505
Seaton Waste Management Facility - Pickering	-	-	8,500	-	-	-	-	8,500
New Clarington MHSW Facility	160	-	-	-	-	-	-	-
Upgrades of Equipment at Material Recovery Facility (MRF)	1,130	-	660	260	-	-	-	920
Long Term Waste Management Plan	200	-	300	-	-	-	-	300
Total	1,803	163,560	16,385	6,158	1,860	1,320	217,502	406,785
Financing (\$ 000's)								
Solid Waste Reserve	-	31,883	9,202	3,863	-	-	41,565	86,512
Other	-	-	5,000	-	-	-	-	5,000
Grant Contribution	-	-	-	-	-	-	-	-
Debentures	-	129,800	-	-	-	-	161,000	290,800
Property Taxes	1,803	1,878	2,184	2,295	1,860	1,320	14,937	24,473
Total	1,803	163,560	16,385	6,158	1,860	1,320	217,502	406,785

Notes:

- i. Debenture financing and application of the reserve funds are subject to Council approval.
- ii. Other financing of \$5.0 million in 2021 is for the Seaton Waste Management Facility and consists of funds received under the Seaton Phase 1 Front-ending Agreement.
- iii. Subject to change in subsequent Strategic Issues and Financial Forecast Reports.

8.5 The current capital forecast requires approximately \$406.8 million in capital investments over the next 10 years. Including operations, maintenance and staffing, the capital program is associated with a potential increase in annual operations costs that by 2023 could surpass \$20 million, including new processing fees, additional facilities operations and maintenance, and enhanced programs/services staffing.

8.6 The preliminary capital projections are related primarily to a projected increase in required processing capacity at the Durham York Energy Centre (DYEC), currently estimated at \$210 million in 2029 (consistent timeframe as discussed with MECP), as well as construction of the Council-approved transfer, pre-sort and AD facility (total project estimated at \$163.5 million).

- 8.7 Other projected capital expenditures include landfill remediation and reclamation/mining projects (\$12.1 million); waste management facility expansions (e.g. Seaton \$8.5 million), facility optimizations (\$10.5 million) and major equipment replacements (e.g. \$0.9 million of equipment at the MRF).
- 8.8 Capital forecast refinements will continue as ongoing studies, decisions, processes and partnerships are developed and as the Region's new Long-Term Waste Plan (\$0.3 million in 2021) is completed in consultation with the community. The Long-Term Waste Management Plan will drive future waste management operating and capital budgets.
- 8.9 There are years where expenditures spike due to large expansion projects which will require debenture financing. Application of the solid waste reserve and other financing will be used to mitigate the debenture requirements over the capital forecast, avoiding interest costs. A review of the timing of these projects and use of reserve funds and debenture financing will be conducted on an annual basis as part of long-term financial planning and development of sustainable financing strategies.

Solid Waste Development Charge for Waste Diversion/Growth

- 8.10 As approved by Regional Council in November 2019 (Report #2019-F-41), staff is proceeding with the implementation of a new Development Charge (DC) By-law for waste diversion services. Implementation of a DC for waste diversion services will provide DC funding for growth-related capital costs related only to waste diversion. It is anticipated that a share of the capital costs related to the long-term organics' management plan (e.g. the pre-sort/anaerobic digestion project) and waste diversion related collection operations will be eligible for DC funding. This source of financing will be identified in future reporting. It is important to note that funding for waste diversion services through DCs is capped through DC legislation at the ten-year historic service level. Funding is also limited to the portion related only to new growth. The costs of waste diversion eligible for DC funding will be determined through the DC background study being undertaken in 2020.

Asset Management Planning

- 8.11 The Region owns seven waste management facilities with an estimated replacement cost at year-end 2018 totaling approximately \$254 million. These facilities were given overall condition ratings of "Fair" to "Very Good" at year-end 2018, based on the most recent condition assessments of building structures.
- 8.12 However, processing equipment and rolling stock requirements are increasing due to normal replacement and maintenance requirements and have a shorter lifecycle compared to building structures. The MRF processing equipment, for example, is approaching its lifecycle of 15 years and deficiencies are identified. Based on staff investigations and considering the timing of the Blue Box transition

to EPR, the capital forecast includes investment in 2021, although it is anticipated that further investment may be required prior to transition of the Blue Box program (estimated at \$0.66 million in 2021 and \$0.26 in 2022). These investments are required to continue processing recyclable materials until the EPR transition occurs. In addition, ongoing smaller-scale tangible capital assets (TCA) are anticipated in 2020 to include equipment replacements (e.g. roll off bins), facility and site maintenance and repairs and will come forward within the 2020 Solid Waste Management Business Plan and Budget.

Long-term Financial Planning

8.13 Financial risks and uncertainties are monitored continuously to ensure effective risk mitigation planning and long-term financial sustainability as well as timely reporting to Regional Council. Risks and uncertainties in solid waste management services result from many factors, including many beyond the Region's control. Examples include:

- a) Household growth rates and related fluctuations in tonnages managed, collection stop counts;
- b) Contractual escalation which is based on changes in macro-economic indicators and Statistics Canada Benchmarks;
- c) Shifts in waste tonnages, volume and/or composition related to changing Regional programs and the private sector response to provincial EPR programs (e.g. light weighting of packaging, regulated waste reductions, impacts from private retail-return programs etc.);
- d) Revenues, including those from user fees; recyclable materials' commodity pricing; and EPR programs, including Blue Box, Tires, WEEE and MHSW;
- e) Potential for increased municipal capital, operating and contractual costs to comply with new recycling and organics frameworks;
- f) Currently unknown costs related to the EPR transition, including potential additional costs at the Region's Materials Recovery Facility should the process be delayed, or capital investments not be fully recoverable (i.e. stranded assets);
- g) DYEC emission compliance cost risks related to the potential for changing emission standards and facility biomass changes over time; and,
- h) Ongoing commodity market fluctuations for diverted products.

Problematic Commodity Markets

8.14 Municipalities, including the Region, continue to experience revenue impacts and, in the case of mixed paper and mixed glass materials, increasing net costs to continue to ensure the diversion and recycling of these materials. Solid waste management staff work closely with municipalities, contractors and other stakeholders to identify alternative markets and/or alternative uses for recycling materials and to minimize the negative impacts from the global economy. Total diversion materials' revenues in 2018 were \$4.6 million and will fall to an estimated \$3.7 million for full-year 2019.

9. Conclusion and Next Steps

- 9.1 This report provides context for more detailed Committee review of the pending 2020 Solid Waste Management Business Plan and Budget in mid-February, and Regional Council review and final approvals on February 26, 2020.

Respectfully submitted,

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