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The Regional Municipality of Durham Report

To: Works Committee
From: Commissioner of Works
Report: #2023-WR-3
Date: February 8, 2023

Subject:

Organics Management Plan – Next Steps

Recommendation:

That the Works Committee recommends to Regional Council:

- A) That Regional Council approve the following requirements to implement the proposed organics management program:
- i) Launch an Enhanced Green Bin that adds diapers, personal sanitary products, adult incontinence products, pet waste, pet litter, and any other material deemed processible by the Regional Municipality of Durham to the list of acceptable materials in the Regional Municipality of Durham's Green Bin program;
 - ii) With the reduction in garbage generation associated with Recommendation i), reduce the curbside garbage limit for the set out of garbage bags/cans from four (4) bags/cans every two weeks to three (3) bags/cans every two weeks with a communication and compliance plan providing appropriate resident education and support; and
 - iii) To accommodate the requirements of the Food and Organic Waste Policy Statement, Regional Council approve, in principle, the development of a Green Bin program for multi-residential buildings receiving Regional waste collection services.
- B) That Regional Council direct staff to amend By-Law #46-2011, A By-Law to Regulate the Provision of Waste Management Services Under the Jurisdiction of

the Regional Municipality of Durham, effective July 1, 2024 to reflect the above program changes; and

- C) That a copy of this report be distributed to Local Area Municipalities and the Ontario Ministry of the Environment, Conservation and Parks York-Durham District Office for their information.
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Report:

1. Purpose

- 1.1 This report outlines the proposed short-term and long-term solution to the Regional Municipality of Durham's (Region) organic waste management needs following the cancelation of Negotiated Request for Proposal (NRFP)-1080-2021 and requests authority for staff to make necessary improvements to the Region's current waste management programs to meet the Region's immediate organics management objectives, while the implementation strategies for the long-term plan are reviewed.

2. Background

- 2.1 At its meeting of June 29, 2022, Regional Council approved the recommendation in Report [#2022-COW-22](#) to cancel the Region's Mixed Waste Pre-sort and Anaerobic Digestion Facility (AD Project) procurement process for NRFP-1080-2021 due to its significant capital costs and future operating costs associated with uncertainties due to global inflation and supply chain risks.
- 2.2 This cancelation does not negate the Region's need for a sustainable organics management plan. The Region's short- and long-term needs for ongoing organics processing using Anaerobic Digestion (AD) and meeting the following waste management plan objectives continue to include:
- a. Compliance with legislative organics diversion requirements.
 - b. Addressing the service requirements of the Region's growing population.
 - c. Managing the capacity limitations of the Region's existing waste disposal infrastructure.
 - d. Increasing environmental sustainability and climate change impacts through an increase in overall diversion.

3. Previous Reports and Decisions

- 3.1 Report [#2019-COW-17](#) titled, 'Organics Management Next Steps and Updated Preliminary Business Case' adopted wet AD as the preferred technology for the Region's long term organics management plan to maximize diversion, including green bin organics and the organic fraction of mixed garbage wastes.
- 3.2 Report [#2022-COW-22](#) titled, 'Negotiated Request for Proposal Results for the Design, Build, Operate and Maintain Contract for a Mixed Waste Pre-sort and Anaerobic Digestion Facility' provided the rationale for Regional Council to cancel the procurement process for the AD Project. Section 2 of the report provides a detailed summary of Regional Council direction between 2018 and 2022 at key decision points in the AD Project development process.

4. Ontario Food and Organic Waste Policy Statement

- 4.1 Ontario's Food and Organic Waste Policy Statement (Policy Statement) requires municipalities to achieve:
 - a. 70 per cent waste reduction and resource recovery of food and organic waste generated by single-family dwellings in urban settlement areas by 2023; and
 - b. 50 per cent waste reduction and resource recovery of food and organic waste generated at multi-residential properties by 2025.
- 4.2 It also encourages the diversion of the following materials through organics separation programs:
 - a. Personal hygiene wastes;
 - b. Sanitary products;
 - c. Shredded paper (already accepted in Durham's green bin);
 - d. Additional paper fibre products (already accepted in Durham's green bin);
 - e. Compostable products and packaging;
 - f. Pet food (already accepted in Durham's green bin); and
 - g. Pet wastes.

- 4.3 The Policy Statement recognizes AD as a resource recovery system for sending recovered organics for further processing.
- 4.4 In 2021, the Region diverted 43 per cent of the available organics including leaf and yard waste materials in the overall single-family home waste stream. An Enhanced Green Bin and multi-residential program will help the Region achieve compliance with the Policy Statement requirements.

5. Process for Durham's Organics Management Plan

- 5.1 The next steps to move the Region's organics management plan forward comprise of short- and long-term processes. The short-term process provides operational continuity by securing third party organics processing capacity at a suitable AD facility beyond the end date of the current organics processing contract of June 30, 2024. The long-term process focuses on the future viability of the Region's AD Project. Regional staff will monitor the performance of the short-term organics management plan and adjust the long-term organics management plan requirements as appropriate.
- 5.2 Procurement for the short-term process includes a Request for Prequalification (RFPQ) followed by a Request for Tender (Tender) for wet AD processing of the Region's food and organic waste for a ten-year term. This term allows for the time to refine and implement a long-term organics management plan while meeting interim organics management requirements. A contract of such length will help to ensure competitive market pricing, cost certainty and service stability.
- 5.3 As part of the RFPQ the Region will explore the opportunities to retain, where feasible, the related environmental benefits from the diversion and/or processing of organics through the AD process, including any associated renewable natural gas (RNG) production which has been derived. The opportunity to retain title and ownership of such related RNG and/or other environmental attributes may provide additional benefits towards meeting the Region's corporate sustainability objectives and greenhouse gas (GHG) emission reduction targets (i.e., net zero GHG emissions for corporate operations by 2045). Assuming such opportunities are available (e.g., utilization of RNG in Regional operations through natural gas procurement program), they will be carefully assessed to ensure that they provide a reasonable, cost-effective means for achieving corporate sustainability objectives, while ensuring that the organics processing contract itself achieves the best value to taxpayers.

5.4 To further inform the Region on potential opportunities for obtaining RNG for use within the Region's natural gas procurement program, the Region has undertaken a parallel, non-binding Request for Information (RFI) process to collect information on various supplier contract options including possible terms and conditions (e.g. contract duration, minimum volume amounts), pricing and potential carbon reduction (RFI open until February 10, 2023). Any market information collected will assist staff in the assessment of any related vendor feedback as obtained through the RFPQ process noted above regarding the potential sharing of RNG and/or any related environmental benefits.

5.5 The Notice of Planned Procurement was issued on December 15, 2022. The RFPQ will be issued in 2023 followed by the tender to ensure a new processing contract is in place for July 1, 2024.

6. Enhanced Green Bin Program

6.1 Wet AD continues to be the Region's preferred organics management technology.

6.2 Wet AD will allow additional materials to be included in an Enhanced Green Bin program including diapers, personal sanitary products, incontinence products, pet waste, pet litter and, in some cases, compostable packaging.

6.3 Although wet AD technology is efficient at the separation of plastic film during processing and an enhanced Green Bin program will include materials with plastic film that can be separated by wet AD, staff recommend maintaining the requirement for 100 per cent compostable green bin liner bags, kraft paper bags or paper wrapping for organics. Maintaining compostable bag requirements will help reduce AD residue requiring disposal as waste, maximize the quality of digestate for further beneficial use, and is consistent with the federal Single-use Plastics Prohibition Regulations (SOR/2022-138). This requirement supports the environmental goals of Durham Region's Strategic Plan and Long-term Waste Management Plan.

6.4 The additional materials in an Enhanced Green Bin program represent the potential for approximately 10,000 annual tonnes being removed from the waste in garbage bags and diverted from the Durham York Energy Centre (DYEC). The additional diversion will preserve disposal capacity at the DYEC and assist the Region in meeting its Long-term Waste Management Plan target of diverting an additional 10 per cent organics from disposal by 2026.

- 6.5 An Enhanced Green Bin program will provide a significant service level improvement for residents, allowing the odorous items in the garbage to be collected weekly in the Green Bin instead of bi-weekly in the garbage.
- 6.6 A Promotion and Education campaign will be planned to e-launch the Enhanced Green Bin program to include details and the enhanced list of acceptable materials. Distribution of additional green bins may be a part of this program to support residents in accommodating larger volumes of material.
- 6.7 While Durham processes all green bin program materials collected in the Region, the City of Oshawa and the Town of Whitby collect the green bin materials in their respective municipalities. Regional staff will work with the City of Oshawa and the Town of Whitby to ensure the implementation of a coordinated Enhanced Green Bin program.

7. Multi-residential Enhanced Green Bin Program

- 7.1 The Region provides Blue Box and garbage collection to multi-residential buildings that meet the Region's requirements outlined in Schedule P of Waste Management By-law #46-2011. Multi-residential buildings that do not meet the requirements manage their waste with private contractors.
- 7.2 Durham does not have a multi-residential Green Bin program. Multi-residential organics represent the Region's largest opportunity for additional waste diversion beyond expanding the curbside Green Bin program. Currently, 415 multi-residential properties (25,961 units) receive municipal waste collection services as noted in Table 1 below. This housing stock is the Region's fastest growing housing sector.

Table 1: Multi-residential properties serviced by the Region (July 2022)

Municipality	# Multi-residential Properties Serviced	Total # of Individual Units Serviced
Oshawa	219	13,131
Whitby	76	4,207
Pickering	35	3,660
Ajax	34	3,124
Clarington	26	945
Uxbridge	15	511
Scugog	4	138
Brock	6	245
TOTAL	415	25,961

- 7.3 In 2021, food waste, diapers, personal hygiene products, incontinence products, pet waste and pet litter represented approximately 40 per cent of total waste generated by Durham's multi-residential sector.
- 7.4 A multi-residential Green Bin program will require a multi-year implementation plan for logistics including significant participation from property managers, particularly those in buildings that have limited storage capacity.
- 7.5 Multi-residential buildings currently under development will be informed of the upcoming changes with a request for appropriate accommodations. Organics management will be included in the future multi-residential development review process.
- 7.6 A communications plan will be developed to implement an enhanced Green Bin program including multi-residential customers.

8. Reducing the Curbside Garbage Bag Limit

- 8.1 The Enhanced Green Bin program will reduce the quantity of garbage requiring processing at the DYEC allowing a reduction in the current garbage bag limit for residential garbage set outs from four bags/cans every other week to three.
- 8.2 Curbside studies (surveys) conducted in the fall of 2022 determined that approximately 80 per cent of Durham residents set out three bags/cans or less.
- 8.3 Allowing for more materials to go in the Green Bin will provide residents with a convenient method to get rid of odorous waste weekly rather than every other week in the garbage. The reduction of the garbage bag/can limit from four to three will also encourage residents to put more organics in the Green Bin rather than in the garbage stream.
- 8.4 The Region will continue to offer additional, free garbage bag tags to residents that request and qualify for an exemption based on medical conditions and/or family size. Residents will still be able to purchase garbage bag tags.
- 8.5 Compliance with the three garbage bag limit will start with an education period and compliance efforts will be phased in to allow residents to adjust to the new set out limit. Staff will monitor the bag limit reduction to determine if accommodations for spring and fall clean-ups are required.
- 8.6 Prior to implementing the new limit, a communication campaign will be implemented to inform residents of the change and enhanced options to divert garbage will be undertaken.

9. Preserving Capacity at DYEC

- 9.1 The launch of an Enhanced Green Bin and multi-residential green bin program coupled with a reduction in the garbage bag/can limit is anticipated to decrease the waste tonnage being processed at the DYEC or requiring disposal at landfill. The Region continues to seek additional opportunities to optimize diversion programs thereby delaying future expansion requirements, including those involving managing organics. New and planned regulations at the Federal and Provincial level will also reduce garbage being sent to the DYEC. Part of these plans also include optimizing the design and operations at the Region's Waste Management Facilities, starting with the Oshawa Waste Management Facility.
- 9.2 It remains the Region's objective to delay expansion of the DYEC beyond 2030.

10. More Homes Built Faster Act (Bill 23)

- 10.1 Bill 23 sets housing targets for several lower tier municipalities in Ontario including the eight local area municipalities of Durham Region. In most cases, the Bill 23 targets are higher than targets currently in the Durham Growth Management Study.
- 10.2 The increased housing targets for Durham Region will result in higher demand for waste management services including waste diversion and disposal. The Region will need to ensure planning for future programs and infrastructure is adequate to accommodate higher population estimates.
- 10.3 In general, Bill 23 will reduce the Region's ability to predict local growth and the resulting impacts on Regional infrastructure. This uncertainty must be considered when planning the long-term organics management solution.

11. Long-term Organics Management Solution

- 11.1 The AD Project is the preferred long-term organics management solution for the Region. Council approved the AD Project as a necessary measure to address the Region's projected waste management needs in an environmentally responsible manner. The benefits of the AD Project remain:
 - a. **Renewable Natural Gas (RNG) and GHG Reduction:** Durham Region declared a climate emergency in 2020 and developed a Corporate Climate Action Plan (CCAP) to guide efforts to reduce greenhouse gas (GHG) emissions from Region operations. The AD Project would potentially provide significant GHG emission reductions for the Region, assuming produced RNG is utilized in Regional facilities displacing conventional natural gas requirements and not sold. Furthermore, internal utilization of RNG would displace conventional natural gas purchases and avoid related costs where the market for natural gas has become increasingly volatile in recent years. There is also the potential to avoid the federal carbon fuel surcharge tax with the blending of RNG for internal use.
 - b. **Legislative Compliance:** The AD Project will ensure the Region is compliant with anticipated regulations for banning organics from landfills and for recovering food waste and other organics.

- c. **Increased Waste Diversion:** The AD Project will help the Region divert over 70 per cent of its organic waste from curbside collection program to AD and at least 50 per cent from its multi-residential collection program.
- d. **Delay DYEC Expansion:** The AD Project will allow the Region to preserve capacity at the DYEC and delay the need for expansion.

12. Financial Implications

- 12.1 Staff estimates at this time that an enhanced Green Bin program will result in a net operating cost increase between \$0.4 million and \$1 million annually. Program costs will be finalized upon the date of implementation.
- 12.2 Staff is investigating costs for a multi-residential green bin program and will submit a further report that details the logistical and financial implications in 2023.

13. Relationship to Strategic Plan

- 13.1 This report aligns with/addresses the following strategic goals and priorities in the Durham Region Strategic Plan:
 - a. Goal 1.1 Accelerate the adoption of green technologies and clean energy solutions through strategic partnerships and investment
 - b. Goal 1.2 Increase waste diversion and resource recovery
 - c. Goal 1.4 Demonstrate leadership in sustainability and addressing climate change
 - d. Goal 5.1 Optimize resources and partnerships to deliver exceptional quality services and value

14. Conclusion

- 14.1 In the short-term, a 10-year term service contract for organic processing capacity is being planned to manage an Enhanced Green Bin program. To support this program, staff propose revising Waste Management By-law # 46-2011 to permit a wider range of material in the Green Bin program such as diapers and pet waste.
- 14.2 In addition, it is recommended to implement a source separated organics program for multi-residential properties serviced by the Regional Municipality of Durham for meeting Provincial multi-residential food and organic waste reduction requirements.

14.3 This report has been reviewed by the Legal Services Division of the Corporate Services Department and the Finance Department.

14.4 For additional information, contact: Gioseph Anello, Director, Waste Management Services, at 905-668-7711, extension 3445.

Respectfully submitted,

Original signed by:

John Presta, P.Eng. MPA
Commissioner of Works

Recommended for Presentation to Committee

Original signed by:

Elaine C. Baxter-Trahair
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