# Interoffice Memorandum

**Date:** July 10, 2020

**To:** Regional Chair Henry and All Members of Regional Council

**From:** Susan Siopis, P.Eng., Commissioner of Works

**Copy:** Elaine Baxter-Trahair, Chief Administrative Officer
Gioseph Anello, Director, Waste Management Services

**Subject:** Current Waste Tonnage Projections: Organics and Mixed Waste

**The Regional Municipality of Durham**
Works Department

This is the third in a series of memos to be issued over the coming weeks. The intent is to provide information and resources to Regional Council and the public on specific topics related to the Mixed Waste Pre-sort and Anaerobic Digestion (AD) Project. Each informational memo will be posted to the Project website durham.ca/ADProject.

This memo focuses on the projected waste tonnage increases and the impacts to the capacity requirements for organics processing and waste disposal.

The Regional Municipality of Durham (Region) is anticipated to experience significant growth over the next 20 years with the population expected to reach 1.2 million persons by 2041, compared to approximately 700,000 estimated at the end of 2019. The projected Regional waste management requirements will exceed the Region's current waste infrastructure capacities. Waste tonnage projections are a key driver for existing and new waste management programs.

Waste projections are based on 2019 actual tonnages and projected to 2043 based on official planning household growth rates. As actual household and population growth occurs over time, waste volumes will increase. Regulatory changes including those related to climate change, extended producer responsibility and organics management, will impact waste volumes and composition.

**Figure 1: Mixed Waste Projections and Durham York Energy Centre Capacity Utilization (Durham volumes and capacity only)**

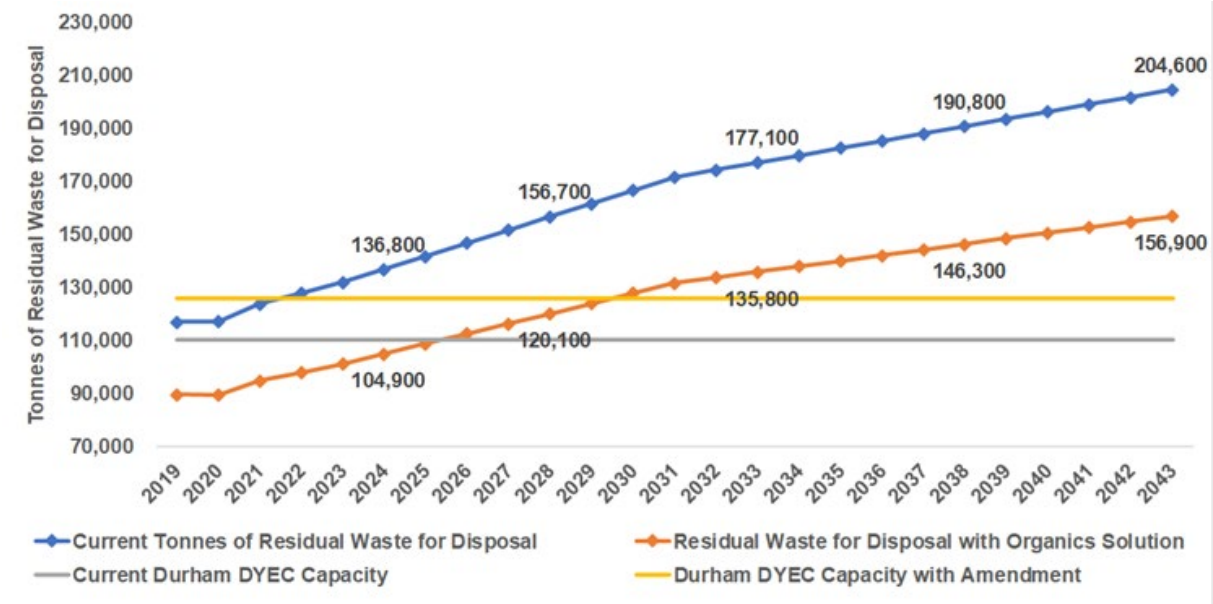


Figure 1 illustrates quantities of residual waste tonnage for disposal under current conditions (blue line) and with an organics management solution in place (orange line). With the mixed waste pre-sort and AD system in place, capacity issues at the Durham York Energy Centre (DYEC) can be deferred.

It should be noted that landfill capacity within Ontario is diminishing and based on an Ontario Waste Management Association report, is anticipated to be depleted or committed by 2030. This is expected to limit future disposal options and increase disposal costs.

In addition, the current aerobic processing of Durham's organics will not meet future needs for increased organics processing capacity due to growth; will not facilitate the requirement to increase diversion; will not extend the DYEC processing capacity; and will not support the Region's climate change goals.

Currently, over 400,000 black bags are collected at the curbside annually. This amounts to about 125,000 tonnes of waste per year for disposal. Just over half the weight of the average black bag is organics or recyclable items that should not be in the garbage. The mixed waste pre-sort process will capture a significant portion of these components that would otherwise go to the DYEC.

Based on the growth and tonnage projections, organics volumes for AD processing are estimated at approximately 107,600 tonnes by 2043, as detailed in the following table.

**Current Estimated Organics Projections**

| Tonnes | 2019 | 2024 | 2029 | 2034 | 2039 | 2043 |
|---|---|---|---|---|---|---|
| Facility-Separated Organics (FSO) from Mixed Waste Pre-sort | - | 37,800 | 44,600 | 49,600 | 53,400 | 56,400 |
| Collected Green Bin Source Separated Organics (SSO) | 28,500 | 33,800 | 40,300 | 45,000 | 48,400 | 51,200 |
| **Recoverable Organics to AD** | **28,500** | **71,600** | **84,900** | **94,600** | **101,800** | **107,600** |

The AD initial capacity requirement will be 71,600 tonnes and would grow in accordance with the table above. The proposed facility will be designed and constructed to meet the Region's organics process requirements over time.

The projected organics and waste processing and disposal requirements in the next 25 years cannot be met with the existing infrastructure. Mixed waste pre-sort and AD will provide a significant improvement in diverting waste from disposal.

The Long-Term Waste Management Strategy update is ongoing. Waste projection data is an important input that will drive waste management initiatives for the future.

**End of Memo**