

# Industrial, Commercial and Institutional Sector Waste Management Update

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## Recommendation

That the February 5, 2021, City Operations report CO00231, be received for information.

## Executive Summary

Source separation and three-stream waste collection have been identified as key actions to achieve the 90 percent diversion goals outlined in the City's 25-year Comprehensive Waste Management Strategy. Work is underway to introduce these transformational changes to the single unit sector through the cart rollout, and the City is leading by example through the implementation of the City Corporation Waste Transformation program. In order to achieve consistency of behaviour and expectations, source separation must be implemented in the Industrial, Commercial and Institutional sector.

Administration has been working to balance the need to reduce Industrial, Commercial and Institutional sector waste with sensitivity to the ability of this sector to bear the potential burden of regulation. Multiple phases of engagement with the Industrial, Commercial and Institutional sector and key stakeholders, beginning in the fourth quarter of 2021 and continuing into 2022, will help to ensure that Industrial, Commercial and Institutional generators have meaningful input, sufficient lead time and appropriate support to implement three-stream separation. This timeline allows Administration to incorporate learnings from residential three-stream waste separation programs and anticipated developments regarding a provincial framework for Extended Producer Responsibility.

Administration will recommend provisions for a Three-Stream Mandatory Recycling and Organics Diversion Bylaw, informed by previous Waste Strategy engagement and upcoming sector specific engagement, in the second quarter of 2022 for approval in the fourth quarter of 2022 and enforcement no earlier than the end of 2023, with consideration for staged implementation to ensure that private sector investments in new processing capacity are aligned to accommodate newly diverted recyclable and organic waste.

### Report

Edmonton's 25-year Comprehensive Waste Management Strategy (25-year Waste Strategy), approved by City Council in September 2019, established several transformative strategic directions to chart Edmonton's path to a zero waste future. This includes an objective to reach 90 percent waste diversion across all sectors. These targets will be achieved, in part, through the implementation of three-stream source separation beginning with City facilities and extending first to the single unit and multi-unit residential sectors followed by the Industrial, Commercial and Institutional sector.

Research shows that municipalities achieve the most success in increasing waste diversion through source separation when expectations are clear and consistently enforced across all sectors. Consistent expectations for sorting organic and recyclable materials at work, home, school and in the community help to reinforce concepts communicated through educational programs and encourage the formation of responsible waste habits in all spheres of life.

In leading by example through the City Corporation Waste Transformation project, the City has accepted responsibility for ensuring that all Edmontonians have an introduction to three-stream waste sorting through a rollout to more than 240 City-owned and operated buildings, facilities, attractions and open spaces that will be completed this year. Source separation in the single unit residential sector will be implemented from March to August 2021. A multi-unit residential sector source separation business case will be presented for consideration in June 2021, with proposed implementation in spring 2023. These programs will serve as a helpful foundation for source separation in the Industrial, Commercial and Institutional sector. A bylaw to mandate source separation in this sector is expected to reinforce residential habits and contribute to the success of source separation programs citywide.

In addition to the significant environmental benefits achieved through regulated source separation, regulations to mandate source-separated disposal of organic and recyclable materials are expected to contribute to the long-term prosperity of the Edmonton Metropolitan Region. A briefing by the Conference Board of Canada (Economic Impacts of Waste Diversion in North America, May 2014) confirmed that increased waste diversion results in job creation and GDP growth, with particular economic benefit when processing and manufacturing activities are retained locally. The Government of Alberta's commitment to establish the province as the Western North America centre of excellence for plastics diversion and recycling by 2030 (Alberta's Natural Gas Vision and Strategy, October 2020) with source separation across all sectors may also influence the extent to which source separation in the

Industrial, Commercial and Institutional sector contributes to job creation and GDP growth for the Edmonton region.

### **Strategic Alignment**

Edmonton's 25-year Waste Strategy established a 90 percent waste diversion target for all sectors and made a commitment to implement regulations to require source separation of organics in the Industrial, Commercial and Institutional sector.

This commitment aligns with the ConnectEdmonton strategic goals of Climate Resilience and Regional Prosperity. Citywide programming and regulations for source separation also support the Big City Move to be Greener as We Grow outlined in the City Plan and measured, in part, by increased recycling of solid waste and reduced greenhouse gas emissions.

### **Industrial, Commercial and Institutional (ICI) Sector Waste in Edmonton**

The Industrial, Commercial and Institutional sector in Edmonton includes a diverse range of more than 34,000 businesses as well as schools, hospitals, cultural venues and other not-for-profit institutions.

In approving Edmonton's 25-year Waste Strategy, City Council also affirmed the City's role in transitioning the Industrial, Commercial and Institutional sector to a zero waste framework. Residential waste collection, processing and disposal is a regulated mandate of the City's Waste Services Utility. The Industrial, Commercial and Institutional sector is not regulated by the City. Waste diversion in the sector, which is served by private waste haulers, will be driven mainly by City policy and support rather than direct market participation.

The City does not currently have a mechanism to monitor the amount of waste generated or disposed of by the Industrial, Commercial and Institutional sector. Administration has used provincial disposal data (2002 to 2018) from Statistics Canada and per-employee waste disposal rates by industry group to estimate the volume of Industrial, Commercial and Institutional sector waste in Edmonton at 770,000 tonnes per year (excluding demolition, land-clearing and construction waste).

Using waste composition data from other cities, it is estimated that approximately 37 percent of Edmonton's Industrial, Commercial and Institutional sector waste stream can potentially be diverted through organics processing options and 49 percent can potentially be diverted through recycling. Extrapolating from the composition of Edmonton's curbside residential waste and the expected diversion to be achieved by the Edmonton Cart Rollout, a fully implemented source separation program in the Industrial, Commercial and Institutional sector may divert 50 percent of the overall waste generated by this sector. Residual waste from the sector could potentially be captured through waste to energy or waste to biofuels opportunities.

These are preliminary estimates that will be refined through the ongoing work of Administration, and do not reflect the temporary reduction in waste generation rates related to the COVID-19 pandemic nor the rigorous business case development process of the Waste Services Utility. Still, they do indicate a significant opportunity for increased waste diversion and greenhouse gas mitigation from this sector, which is larger than the combined single unit and multi-unit waste sectors managed by the City.

### **Work To Date**

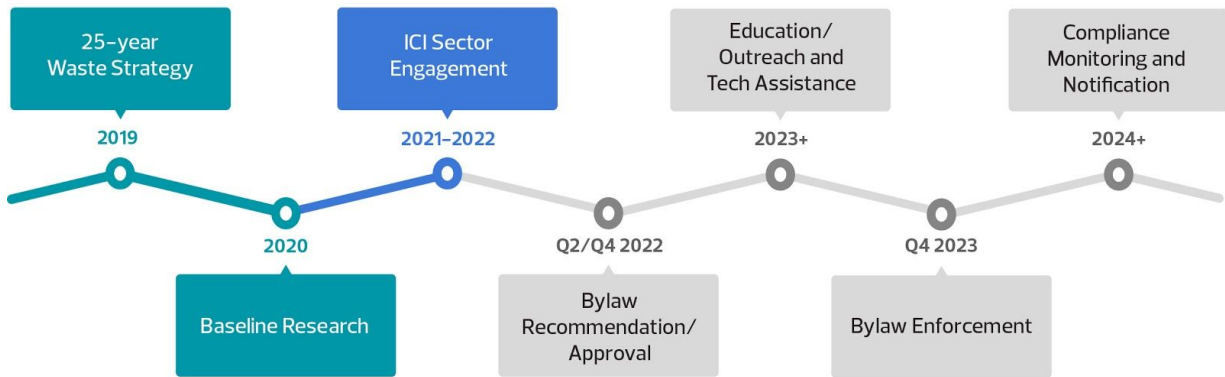
Administration began developing an updated implementation plan for the 25-year Waste Strategy in the spring of 2020 to address the impact of COVID-19 and to preserve the long-term outlook for waste transformation in Edmonton (April 27, 2020, City Operations report CR\_8258).

Given the expected slow recovery phase from COVID-19, as well as the potential decline in the private sector appetite for climate change investment, Waste Services has been working to balance the need to reduce Industrial, Commercial and Institutional sector waste with sensitivity to the ability of this sector to bear the potential burden of regulation, as noted in the Waste Services Business Plan presented in the October 2, 2020, City Operations report CR\_8446.

In 2020, Administration engaged a consultant to conduct a current state analysis and best practices review in support of future regulations for three-stream separation in the Industrial, Commercial and Institutional sector. This research, which included preliminary outreach to a small sampling of impacted stakeholders, was used to develop a suggested approach to implement three-stream separation in the sector. Updated timelines would respect the sector's need to be adequately notified of and engaged in the development of a three-stream system, including a determination of collection and processing options and an assessment of required investments in private sector processing capacity for an increased volume of organic and recycling waste to be diverted from landfill.

### **Path to ICI Three-Stream Waste Separation**

The following timeline aligns with best practices to phase in changes to a three-stream system so that key stakeholders are engaged and prepared to help achieve waste diversion goals.



*\*Milestones in 2022 and beyond will be confirmed as work advances.*

Edmonton’s 25-year Waste Strategy and its 90 percent waste diversion target already serve as a critical policy driver for waste diversion and associated three-stream regulations for this sector. However, there are several private waste disposal options for the Industrial, Commercial and Institutional sector, so recycling and organics processing will likely cost more than the current cost of disposal. Unlike other jurisdictions that benefit from contextual levers for Industrial, Commercial and Institutional waste diversion (such as policy-driven differential tipping fees or provincial landfill bans) Edmonton will require a strong and resilient regulatory approach to community transformation, leveraging the City’s authority under the Municipal Government Act, to meet the City’s strategic objectives.

Multiple phases of engagement with the Industrial, Commercial and Institutional sector and key stakeholders, beginning in the fourth quarter of 2021 and continuing into 2022, will help to ensure that Industrial, Commercial and Institutional generators have meaningful input, sufficient lead time and appropriate support to implement three-stream separation. This timeline allows Administration to incorporate learnings from residential three-stream waste separation programs and anticipated developments regarding a provincial framework for Extended Producer Responsibility.

Administration will recommend provisions for a Three-Stream Mandatory Recycling and Organics Diversion Bylaw to City Council in the second quarter of 2022 for approval in the fourth quarter of 2022 and enforcement no earlier than the end of 2023, with consideration for staged implementation to ensure that private sector investments in new processing capacity are aligned to accommodate newly diverted recyclable and organic waste. Engagement with Industrial, Commercial and Institutional sector waste generators and key stakeholders will inform any necessary recommendations regarding the phased implementation of bylaw enforcement.

The City will provide ongoing education, outreach and technical assistance to the Industrial, Commercial and Institutional sector in alignment with bylaw enforcement,

leveraging the tools and best practices developed through the implementation of three-stream waste separation in City-owned and operated facilities and the single unit and multi-unit residential sector pending consideration of a business case to be presented to Council in June 2021. Following enforcement of the three-stream bylaw, Administration will also initiate efforts to monitor program compliance and provide notifications regarding program performance.

The ongoing implementation of an Industrial, Commercial and Institutional three-stream system will be evaluated for continuous improvement. Additional program elements to enhance success may include on-site technical assistance, on-site monitoring and enforcement, incentives and/or additional regulatory tools to reinforce the core program and address any gaps in collection or processing. Administration will provide updates to City Council on key program parameters as required.

### **Additional Work**

The introduction of a Three-Stream Mandatory Recycling and Organics Diversion Bylaw will not, by itself, position Edmonton to achieve 90 percent waste diversion from the Industrial, Commercial and Institutional sector.

The City's high targets for diversion from landfill are not possible without a waste to energy or waste to biofuels option, for both residential and Industrial, Commercial and Institutional sectors. As estimates of the volume and composition of Industrial, Commercial and Institutional sector waste and potential residuals become more clear, the City will explore the potential benefits of a Waste to Energy solution for Industrial, Commercial and Institutional residual waste in Edmonton and the surrounding metropolitan region.

Additional work is also required to understand and develop strategies to increase diversion of the construction and demolition waste component of Edmonton's municipal solid waste. Administration will continue to explore mechanisms to maximize waste diversion in this sector, including the potential to introduce additional regulations for the diversion of construction and demolition waste and waste to energy opportunities.

### **Public Engagement**

A comprehensive citywide public engagement initiative was launched in October 2018 to support the development of the 25-year Waste Strategy, with a second phase of public engagement in spring 2019. The public engagement was designed to seek input from residents, multi-unit stakeholders, non-residential stakeholders and internal City employees on proposed waste management program and service changes.

Businesses, associations, restaurants, grocery vendors, retail stores, industry, and not-for-profit organizations were engaged through workshops, meetings, presentations, employee engagement, online surveys, focus groups and telephone interviews.

The non-residential sector was generally supportive of additional sorting but noted that there are often financial barriers to implementing these changes. Large and small businesses said they want to divert more but also want a simple system for sorting and separating their waste. Businesses also talked about fees and lineups associated with drop-off locations and concerns about space restrictions for additional sorting.

Most participants in the non-residential sector wanted to be kept informed, participate in future conversations and work together with the City on waste management changes and strategies. A comprehensive What We Heard Report was provided as Attachment 6 to the 25-year Comprehensive Waste Management Strategy in the August 29, 2019, City Operations report CR\_5829.

Administration will conduct multiple phases of engagement with the Industrial, Commercial and Institutional sector beginning in the fourth quarter of 2021 to develop bylaw recommendations and a more detailed implementation plan for a three-stream Industrial, Commercial and Institutional waste program to be presented to Utility Committee and City Council in the second quarter of 2022. Engagement will inform recommendations regarding the design and enforcement of a three-stream mandatory organics and recycling bylaw, with bylaw enforcement expected to begin no earlier than the end of 2023.

**Corporate Outcomes and Performance Management**

<b>Corporate Outcome(s): Edmonton is an environmentally sustainable and resilient city</b>			
<b>Outcome(s)</b>	<b>Measures)</b>	<b>Result(s)</b>	<b>Target(s)</b>
Edmonton is an environmentally sustainable and resilient city	Non-residential Diversion Rate	TBD	90% (long term)

**Others Reviewing this Report**

- M. Persson, Chief Financial Officer and Deputy City Manager, Financial and Corporate Services
- C. Owen, Deputy City Manager, Communications and Engagement
- R. Smyth, Deputy City Manager, Citizen Services
- S. McCabe, Deputy City Manager, Urban Form and Corporate Strategic Development
- B. Andriachuk, City Solicitor