Zero Waste Target Analysis

Recommendation

That Utility Committee recommend to the February 5, 2019, City Council:

1. That Phase 2 engagement be conducted to further articulate and inform a Zero Waste framework as an overarching strategic goal for Waste Services.
2. That a final analysis and recommendation for a Zero Waste framework be included as part of the 25-Year Strategy Report to Utility Committee in June 2019.

Previous Council/Committee Action

At the June 8, 2018, Utility Committee meeting, the following motion was passed:

> That Administration, as part of the Waste Management Strategy Update, provide an analysis of a Zero Waste target and associated calculations and strategy implications for residential, multi-family and non residential waste and that consideration of a zero waste target be included in engagement exercises that will be done to support the waste management strategy update.

Executive Summary

This report provides an overview of Phase 1 engagement results on the question of Edmonton adopting a Zero Waste target as part of its strategic repositioning. In addition, it provides a high-level overview of the implications for the broader Waste Strategy if a Zero Waste goal is adopted. A summary report of Phase 1 public engagement is included in report CR_5827: Citizen feedback on Additional Residential Waste Diversion Programs as Attachment 1.

Phase 1 engagement provided moderately positive support (close to 50 percent in both residential and non-residential sectors) for reorienting the City's waste management goals around a Zero Waste goal. The results should be interpreted cautiously because the questions at the engagement sessions represented a small portion of the overall engagement topics and provided limited opportunity for contextualization.

At the same time, based on the engagement and overall sentiment in favour of seeing the City take on a larger focus on waste prevention activities overall, there are

potential benefits to adopting a Zero Waste goal as part of Waste Services overall strategic positioning. Potential benefits include:

- Increased focus on activities of the waste hierarchy (rethink/redesign, reduce, reuse).
- Greater emphasis on circular economy innovations that consider waste as a resource/feedstock in the creation of beneficial projects.
- More broad-based focus on measurements beyond diversion, including successful waste reduction, for example achieving reductions in per capita waste generation.
- Emphasizes continuous improvement within the waste system consistent with overall refinements to Waste Services' robust key performance indicators, which measure more than diversion rate.
- With the corporation's renewed focus on performance management and the governance structure of the waste utility, there is a clear means through which to evaluate the impact of Zero Waste strategic positioning.

Further engagement is required to validate this recommended positioning, and the final strategy document will assess the Phase 2 engagement and confirm public and stakeholder support for positioning Edmonton as a Zero Waste City. In addition, the strategy document will consider implications for Waste Services overall performance management and how a Zero Waste framework aligns with the overall strategic approach proposed by the 25-Year Strategy which will be presented in June 2019.

Report

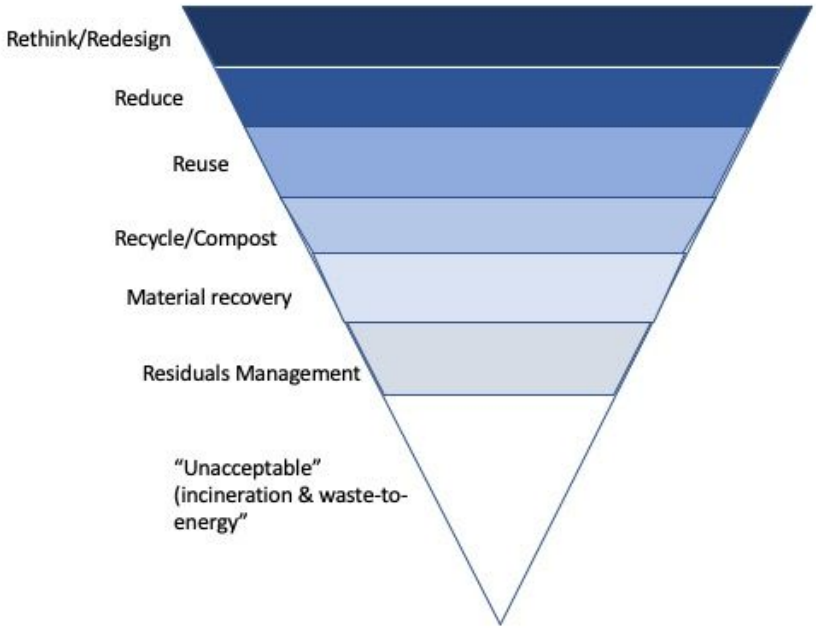
Zero Waste is defined by the Zero Waste International Alliance as:

> [...] a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use. Zero Waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them. Implementing Zero Waste will eliminate all discharges to land, water or air that are a threat to planetary, human, animal or plant health.

As part of its 25-Year Waste Strategic Review, Waste Services is focusing on opportunities to recover, reduce and reuse materials from the waste stream. The intent of the review is to refocus Edmonton's overall effort in a manner that considers source separation of waste, beneficial processing of all waste collected, and opportunities to reduce waste created overall.

This aligns with work that considers options such as restrictions on single-use plastics, pilot programs on food waste prevention and current research into how the City can

best impact the area of extended producer responsibility. Adopting a Zero Waste goal also aligns with setting an overall goal of achieving seven to 10 percent of the City's waste diversion through a more coordinated and active waste reduction strategy. This means increased effort and attention on activities at the top of the waste hierarchy as outlined in the graphic below (source: zerowastecanada.ca, 2018).



Highlighting the hierarchy from Zero Waste Canada shows how the City's overall waste management efforts would be framed. The City's efforts would not solely focus on diversion or processing, but also on policies and strategies. These policies and strategies aim to challenge current consumption patterns and aim to support a broader range of programs aimed at reduction and reuse of materials, rather than having the materials processed as waste.

In addition, Zero Waste orientation is seen as well aligned with a circular economy approach which aims to adapt the linear *take-make-dispose* economy of production and consumption and focus on keeping products, components and materials at their highest utility and value, or:

- preventing waste through new and innovative business models or through improved design – either for disassembly or for longevity;
- maximizing the continuation of a product's life through enhanced reuse, repair or remanufacture; and
- improving end-of-life processing and resource recovery (National Zero Waste Council, 2019).

The need to move in this direction was established in the January 2018 Waste Services Audit report CR_5555, which noted the City can do more to support waste

reduction efforts at the top of the waste hierarchy, and more can be done to encourage households and businesses to reduce the amount of waste they create. Recent public engagement efforts have shown Edmontonians are generally receptive to learning more about opportunities to reduce their overall waste footprint. Phase 2 of the public engagement process will further examine these needs.

In addition, the recommendations in the Organics Management report CR_6669, which are not at the top of the targeted waste hierarchy, emphasize the potential to improve the City's overall organics processing and the potential to result in the production of renewable natural gas as a targeted output of the process. This approach aligns with the circular economy orientation of the Zero Waste framework.

Municipal Scan - Canada

A growing number of Canadian cities are endorsing a Zero Waste goal as a means of framing their waste management goals. A review of Canadian cities who have adopted a Zero Waste target and their strategic positioning within the framework is included in Attachment 1. For the purposes of this report, only Canadian cities were examined.

Public Engagement

Phase 1 public engagement asked respondents for initial reaction to the idea of setting a Zero Waste target, and this idea received moderate support. These results are highly preliminary and derived from a limited discussion scope wherein little context around the meaning or implications of Zero Waste were provided.

As such, given the constraint of the engagement, the results are seen as moderate. The results indicate a more contextualized discussion of Zero Waste should be included in Phase 2 public engagement to confirm the level of citizen and stakeholder support. This feedback will be incorporated into the final strategy recommendations in June 2019 at Utility Committee.

Corporate Outcomes and Performance Management

Corporate Outcome(s): Edmonton is an environmentally sustainable and resilient city			
Outcome(s)	**Measure(s)**	**2017 Result(s)**	**2019 Target(s)**
Edmonton is an environmentally sustainable and resilient city	Single Unit Residential Diversion Rate	39%	50%
The City of Edmonton's operations are environmentally sustainable	Kilograms of Waste Collected per Capita	262 kg	260 kg

Risk Assessment

Risk Element	Risk Description	Likelihood	Impact	Risk Score (with current mitigations)	Current Mitigations	Potential Future Mitigations
Public Perception	Zero Waste goal is not well understood. Expectations may be raised about its implications and the achievability of being a literal Zero Waste city. It is possible that progress in the system will be framed as less positive depending on expectations implied by Zero Waste goals.	3 - possible	1 - minor	3 - low	The strategy will need to be clear about how the city's overall Zero Waste goals are framed and how they will be realized. A Zero Waste goal must be clearly articulated within the broad range of performance measures that are used to assess Waste Services Progress.	Ongoing citizen feedback can help to ensure that public perceptions of progress towards a Zero Waste target are well understood and can provide clarifications as required.

Attachment

1. Zero Waste Approach in Other Municipalities

Others Reviewing this Report

- T. Burge, Chief Financial Officer and Deputy City Manager, Financial and Corporate Services
- C. Owen, Deputy City Manager, Communications and Engagement
- P. Ross, Acting Deputy City Manager, Urban Form and Corporate Strategic Development