

INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL (ICI) WASTE DIVERSION STRATEGY

EXECUTIVE SUMMARY

The development of comprehensive sector strategies is a vital element of continued progress toward the 80/20 by 2020 target. Increased diversion from the Industrial, Commercial and Institutional (ICI) sector will contribute significantly to the target.

Extensive engagement with broad representation from the ICI industry included associations, generators, haulers and processors. It resulted in overall support for increased diversion from City landfills with an emphasis on mandatory source separation, differential tipping fees and education.

A comprehensive use of diversion tools will increase the potential for success in achieving the 80/20 target. The Strategy focuses on the most common materials in the waste stream (i.e. paper and cardboard, organics) and largest generators of waste to maximize the impact on diversion. The strategy emphasizes on four key areas of success as recommended by the Federation of Canadian Municipalities - partnerships and collaboration, infrastructure and programs, policy and legislation; and education and promotion. The City of Calgary will provide education, communication, facilitation, data management, reporting, and stakeholder engagement; and will ensure compliance with proposed amendments to the Waste and Recycling Bylaw (20M2001).

ADMINISTRATION RECOMMENDATION(S)

That the Standing Policy Committee on Utilities and Corporate Services recommends that Council direct Administration to:

1. Implement the ICI Waste Diversion Strategy, as outlined in Attachment 1;
2. Return to Council with amendments to the Waste & Recycling Bylaw (20M2001) no later than 2015 September; and
3. Return to Council with an ICI Organics Specific Diversion Strategy based on the timelines presented in Attachment 1, no later than 2015 September.

PREVIOUS COUNCIL DIRECTION / POLICY

On 2011 May 25 SPC on Utilities and Environment meeting (UE2011-11), Administration was directed to:

- a) Report back to Council no later than 2013 March, in conjunction with the residential organics diversion report on the progress of ICI organics diversion including possible synergies with the proposed City compost facility for processing food and yard waste from both residential and non-residential sources;
- b) Report back to SPC on Utilities and Environment no later than 2013 December with an ICI Waste Diversion Strategy.

On 2013 April 15 Special Meeting of Council (C2013-0246) WRS updated Council on the progress of the Organics Diversion Program including the possible inclusion of ICI sector organics. It was communicated that, once the organics processing facility is fully operational and producing quality compost, they will consider the addition of specific ICI customers.

On 2013 May 1 SPC on Utilities and Environment Meeting (UCS2013-0035) WRS reported on the progress of the ICI Waste Diversion Strategy and associated engagement.

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On 2013 December 11 SPC on Utilities and Corporate Services (UCS2013-0756) WRS recommended that Council approve the deferral of the Industrial, Commercial and Institutional Waste Diversion Strategy to no later than 2014 April.

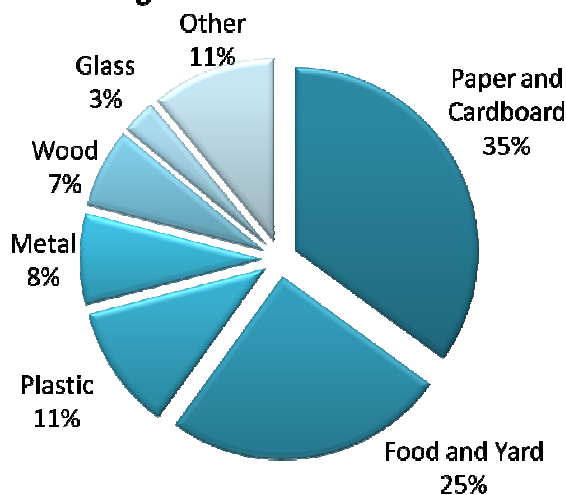
BACKGROUND

In 2007, Council approved the 80/20 by 2020 Strategy (UE2007-35). The goal is to divert waste going to City landfills by 80 per cent by 2020 in all four waste sectors (Single Family, Multi-Family, Construction and Demolition, and ICI). The ICI waste sector is the most complex of the waste sectors due to the number and wide variety of stakeholders (generators, haulers, processors and industry associations), diversity of materials, variety of collection infrastructure and service provision.

In addition, it is the largest of the four waste sectors in Calgary. In 2012, it was comprised of over 160,000 businesses and organizations with approximately 780,000 employees that produced 214,000 tonnes of waste (34 per cent). Hence, effective strategies toward increased diversion of ICI materials will have a substantial impact in meeting the 80/20 by 2020 target.

Up to 86 per cent of the materials in the ICI waste stream could be diverted from landfills. (Figure 1). A 2010 waste composition study showed that, 54 per cent of ICI materials are considered recyclable (paper, cardboard, metals and plastics); 32 per cent are organic materials (wood, food and yard waste) that can be composted, and 14 per cent is unrecyclable (eg. textiles, mattresses) or have limited markets (glass) at this point in time .

Figure 1: Percentage of materials in the ICI waste stream



Over half of the waste in the ICI sector comes from 4 of the 17 different industries in Calgary:

- 1) Accommodation and Food Services (17 per cent);
- 2) Retail Trade (15 per cent);
- 3) Health Care & Social Assistance (11 per cent); and
- 4) Manufacturing (8 per cent).

INVESTIGATION: ALTERNATIVES AND ANALYSIS

The strategy development process reviewed 20 potential tools (Attachment 2) for implementation. These were derived from research conducted by CH2MHill on North American best practices and a review of the waste composition for the sector. Tools were chosen for

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implementation based on stakeholder input, learnings from other municipalities, potential success in diverting materials, and jurisdictional authority to implement.

Stakeholder input Stakeholders supported increased diversion and used the tools to prioritize and sequence actions. The stakeholders recommended:

- The use of voluntary measures (education and promotion) in conjunction with regulatory and economic measures such as mandatory recycling and differential fees, with an eventual move to bans for all materials.
- The need to divert ICI materials and a reporting structure to properly track diversion progress, processing infrastructure capacity, market scans and regular policy reviews.

Learnings from other municipalities - The ICI programs with the highest success rates required source separation, robust education and advisory support to organizations in overcoming barriers commonly associated with waste diversion.

Diversion potential - A significant impact on ICI diversion could be made through diverting: paper and cardboard (35 per cent) and food and yard waste (25 per cent). Targeting specific materials and specific industries will maximize the impact on diversion from the sector.

Jurisdictional Authority - Jurisdictions that implemented regulatory measures earlier experienced higher rates of diversion and those that implemented a comprehensive program for the sector experienced higher rates of success as well. The Waste and Recycling Services Bylaw (20M2001) and the Land Use Bylaw (1P2007) will require similar changes to those in the multi-family recycling strategy. They will include mandating on-site source separation, additions to the designated materials list and require ICI land uses to provide recycling facilities.

Strategic elements were organized around the Federation of Canadian Municipalities four key success areas:

- Policy and legislation - Mandatory source separation for all materials; differential tipping fees and landfill bans.
- Partnership and collaboration - Stakeholder working group; lobby Federal/Provincial governments and; collaborative data management and reporting.
- Infrastructure and programs - Zero waste events; food redirection and; monitoring infrastructure development and materials markets.
- Education and promotion - Waste diversion assistance; waste diversion promotion/certification standards and; promoting green procurement.

An ICI waste diversion strategy that includes a comprehensive set of tools and targets the most common materials is recommended as outlined in Attachment 1. The City of Calgary action items include:

- Add paper and cardboard to the designated materials list by 2015 January with other materials to follow and to motivate industry for source separation.
- A Waste & Recycling Services Bylaw amendment will ensure on-site recycling and adequate storage capacity. Lead time of two years to prepare the sector is recommended. Draft bylaw amendments will be prepared no later than 2015 September for program implementation in Q4 2016. This includes facilitating revisions to

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development standards within the Land Use Bylaw to accommodate ICI sector diversion efforts.

- Develop an Organics specific strategy that will consider industry organics processing capacity and potential as well as, anaerobic digestion opportunities. Mandate on-site organics source separation by Q4 2016 effective Q4 2019. Add ICI organics to the designated materials list by Q1 2017 and ban ICI organics by Q4 2019. This will provide generators, haulers and processors three years to prepare for the change for program implementation in 2020.
- Develop an education and communication plan to promote awareness of diversion, build capacity in sector and reach wider audiences through partnerships.
- Facilitate an industry working group to develop innovative and collaborative solutions to waste issues and promote waste diversion goals and targets among industry members.
- Implement material bans at City landfills. Provide sufficient lead time (minimum two years) for industry to adapt and provide necessary programs and infrastructure.
- Design and develop material-specific programs to target materials in each industry.
- Design and develop a data management system with industry that will allow WRS to report an accurate diversion rate and recycling rate for Calgary.
- Continuous monitoring of local and end markets for source separated materials, processing capacities and regulations to ensure the success of programs implemented.

Stakeholder Engagement, Research and Communication

Stakeholder engagement played an integral part of the development of the strategy. Sessions with internal and industry stakeholders were held from April 2012 to January 2014. The complexity of the ICI sector with respect to different industry types, private business/institutions, service providers, varied infrastructure and service needs, required an extensive stakeholder engagement plan. WRS, the engage! Resource Unit and third-party consultants designed 11 industry-wide sessions along with a number of one-on-one interviews and focus groups to understand barriers to diversion, determine roles and responsibilities of The City and industry members, and establish tools and timelines.

Strategic Alignment

Diversion of ICI waste materials from City landfills is imperative to achieving Council's Fiscal Plan in developing and implementing comprehensive waste diversion strategies, and a capital plan, to continue progress towards 80/20 by 2020.

Social, Environmental, Economic (External)

Social

Diverting materials from landfill requires changes in behaviour by Calgarians. Implementation of waste diversion programs will make Calgary a more attractive place to live and increase Calgary's reputation as an environmentally-friendly city.

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Environmental

Diverting waste from landfill is a critical component of reducing Calgary's impact on land, air and water. Diverting waste redirects natural resources back into the economy and reduces future contamination and environmental liability.

Economic

Diversion programs create jobs and business opportunities in the transportation and processing of materials.

Financial Capacity

Current and Future Operating Budget:

Program initiatives to achieve the 80/20 by 2020 Strategy are incorporated in the 2012-2014 WRS budget. Remaining budget requirements for program delivery and implementation will be incorporated into the 2015-2018 Business Plan.

Current and Future Capital Budget:

An Anaerobic Digestion facility is identified in the WRS Infrastructure Investment Plan (WRIIP) in the 2019-2022 budget cycle at an estimated cost of approximately \$60 million (UCS2014-0023). This facility will be included in the WRS 2019-2022 Business Plan and Budget request should the private sector be unable to manage the diversion of ICI organic material.

Risk Assessment

Risks were assessed throughout the project through stakeholder engagement and the various analyses completed over the development of the Strategy. Program tools were researched and assessed for direct and indirect impacts on each different stakeholder group. In addition, the process looked at operational, market, financial and legal risks. The Strategy was developed to mitigate risks through increased participation from industry members to encourage market stabilization and an enhanced regulatory framework to target materials for diversion.

REASON(S) FOR RECOMMENDATION(S):

Maximizing the diversion of materials from the ICI sector is an important element of achieving Council's 80/20 by 2020 objective. The recommendation is based on detailed stakeholder engagement in combination with material, legislative, best practice and processing capacity research. This Strategy effectively utilizes City resources in providing industry with education and regulatory instruments while allowing industry the opportunity to fill gaps in infrastructure and programming for the sector.

ATTACHMENT(S)

1. The Institutional, Commercial and Industrial Waste Diversion Strategy
2. The Institutional, Commercial and Industrial Waste Diversion Strategy Analysis