

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON JULY 17, 2018</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>60% WASTE DIVERSION ACTION PLAN</b>

<b>RECOMMENDATION</b>
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That on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following actions be taken:

- a) The Report **BE RECEIVED** for information;
- b) The action plan containing programs and initiatives to be phased in between 2019 and 2022 to achieve 60% waste diversion **BE APPROVED IN PRINCIPLE**;
- c) The 60% Waste Diversion Action Plan **BE RELEASED** for review and comment by the general public and stakeholders from July 25, 2017 to September 10, 2018 noting that minor changes/revisions to the report may be made prior to release to improve readability and/or layout of the report;
- d) The Civic Administration **BE DIRECTED** to consider the feedback from the consultation noted in part c), above, and submit a report to the Civic Works Committee on September 27, 2018; and,
- e) That a public participation meeting on the 60% Waste Diversion Action Plan **BE HELD** at the September 27, 2018 meeting of the Civic Works Committee.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
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Relevant reports that can be found at [www.london.ca](http://www.london.ca) under City Hall (Meetings) include:

- Update and Next Steps – Resource Recovery Strategy and Residual Waste Disposal Strategy as part of the Environmental Assessment Process (February 7, 2017 meeting of the Civic Works Committee (CWC), Item #10)

Relevant reports that can be found at [www.london.ca](http://www.london.ca) under City Hall (Meetings – Advisory and other Committees) include:

- Background Report #3 - Development of 60% Waste Diversion Action Plan (March 8, 2018 meeting of the Waste Management Working Group (WMWG), Item #3.3)
- Update Report #8 - Programs, Projects and Provincial Activities that will Inform and/or Influence Strategies (January 18, 2018 meeting of the WMWG, Item #8)
- Update Report #5 - Programs, Projects and Provincial Activities that will Inform and/or Influence Strategies (September 28, 2017 meeting of the WMWG, Item #7)
- Update Report #2 - Programs, Projects and Provincial Activities that will Inform and/or Influence Strategies (June 14, 2017 meeting of the WMWG, Item #8)
- Update Report #1 - Resource Recovery Update (January 19, 2017 meeting of the WMWG, Item #7)

## COUNCIL'S 2015-2019 STRATEGIC PLAN

Municipal Council has recognized the importance of solid waste management in its 2015-2019 - Strategic Plan for the City of London ([2015 – 2019 Strategic Plan](#)) as follows:

### **Building a Sustainable City**

- Strong and healthy environment
- Robust infrastructure

### **Growing our Economy**

- Local, regional, and global innovation
- Strategic, collaborative partnerships

### **Leading in Public Service**

- Proactive financial management
- Innovative & supportive organizational practices
- Collaborative, engaged leadership
- Excellent service delivery

## BACKGROUND

### **PURPOSE**

This report provides the Waste Management Working Group with an overview of the 60% Waste Diversion Action Plan (Action Plan) and seeks support for releasing the report for review and comment by the general public and other stakeholders.

### **CONTEXT**

In London, more than one tonne of waste is produced annually per person. This includes waste generated at home as well as waste generated by the industrial, commercial and institutional (IC&I) sectors. About a third of this waste is diverted through numerous waste reduction, reuse, recycling and composting programs. The overall waste diversion rate for London is between 30% and 35%. The residential (household) diversion rate is 45%.

To plan for the future, the City is developing a long term Resource Recovery Strategy. The Resource Recovery Strategy involves the development of a plan to maximize waste reduction, reuse, recycling and resource recovery in an economically viable and environmentally responsible manner. The Resource Recovery Strategy includes a commitment by City council to increase the residential waste diversion rate to 60% by 2022. This commitment was made at the October 30, 2017 City Council meeting by passing the following resolution:

*“The W12A Landfill expansion be sized assuming the residential waste diversion rate is 60% by 2022 noting this does not prevent increasing London’s residential waste diversion rate above 60% between 2022 and 2050.”*

This 60% waste diversion goal will be included in the environmental assessment as part of the commitments made by the City. It will be a key consideration in the Ministry of the Environment, Conservation and Parks (MOECP formerly called the Ministry of the Environment and Climate Change - MOECC) approval of the environmental assessment for expansion of the W12A Landfill.

Other key documents (Appendix A) that highlight waste diversion and resource recovery and provide further context for the 60% Waste Diversion Action Plan include:

- Strategic Plan for the City of London (2015-2019)
- The London Plan (December 28, 2016)
- Provincial Government A Strategy for Waste-Free Ontario – Building a Circular Economy (February 2017)
- Provincial Government Food and Organic Waste Framework (April 2018)

Key considerations in the development of the 60% waste diversion goal were:

- A 60% diversion rate being a practical limit in Ontario at this time based on the following: many municipalities with a Green Bin program divert between 50% and

55%; about three municipalities have diversion rates around 60% (Simcoe County, Dufferin County, City of Kingston); and only the Region of York (including the City of Markham) have pushed to higher levels;

- Feedback received from residents; and
- Increasing from the current 45% diversion to 60% diversion represents a 33% improvement which is a significant undertaking.

The overall Resource Recovery Strategy will look at the longer term steps the City could take to move beyond 60% waste diversion.

## DISCUSSION

### 60% Waste Diversion Action Plan – Proposed Actions

The 60% Waste Diversion Action Plan proposes a set of actions to achieve 60% diversion of residential waste in 2022. These actions are summarized in Table 1.

**Table 1 - Proposed Actions to Achieve 60% Residential Waste Diversion**

<b>Blue Box (Blue Cart) Programs</b>
1. Increase capture of recyclables from 63% to 75% (less placed in garbage)
<b>New (or Expanded) Recycling Programs and Initiatives</b>
2. Bulky Plastics <ul style="list-style-type: none"> <li>a) Continue with existing pilot project</li> <li>b) Consider implementation of an expanded program once long-term, stable markets have developed</li> </ul>
3. Carpets <ul style="list-style-type: none"> <li>a) Wait to see if the Province develops a provincial program for carpets under the Waste-Free Ontario Act as there are limited markets for recycling carpets in the province</li> <li>b) If no provincial program exists by 2021, implement a pilot project</li> </ul>
4. Ceramics <ul style="list-style-type: none"> <li>a) Provide a drop-off location for ceramics at no cost at the City's EnviroDepots</li> <li>b) Ban collection of toilets at the curb</li> </ul>
5. Clothing and Textiles <ul style="list-style-type: none"> <li>a) Develop a textile awareness strategy to promote existing reuse opportunities for all Londoners</li> <li>b) Pilot depot collection at select multi-residential buildings</li> </ul>
6. Small Metal (Small Appliances/Electrical Tools/Scrap Metal) <ul style="list-style-type: none"> <li>a) Implement semi-annual curbside collection of small metal items</li> <li>b) Pilot depot collection at select multi-residential buildings</li> </ul>
7. Furniture <ul style="list-style-type: none"> <li>a) Begin semi-annual collection of wooden furniture</li> <li>b) Provide a drop-off location at W12A EnviroDepot for wooden furniture</li> <li>c) Ban wooden furniture from curbside garbage collection</li> </ul>
8. Mattresses <ul style="list-style-type: none"> <li>a) Wait to see if the Province develops a provincial program for mattresses under the Waste-Free Ontario Act as there are limited markets for recycling mattresses in the province</li> <li>b) If no provincial program exists by 2021, implement a pilot project</li> </ul>
<i>(table continued)</i>

**Table 1 - Proposed Actions to Achieve 60% Residential Waste Diversion**

<b>Curbside Organics Management Program</b>
9. Implement a curbside (residential) Green Bin program 10. Implement bi-weekly (same day) garbage collection
<b>Multi-Residential Organics Management Program</b>
11. Implement a mixed waste processing pilot (to recover organics and other materials) on a portion of the waste from multi-residential homes
<b>Other Organics Management Programs</b>
12. Develop and implement a food waste avoidance strategy 13. Reduce the cost of composters at the EnviroDepots and undertake additional sale events at select community locations 14. Provide financial support to community groups or environmental organizations that want to set up a community composting program
<b>Waste Reduction and Reuse Initiatives and Policies</b>
15. Create a Waste Reduction and Reuse Coordinator position within the Solid Waste Management Division 16. Provide financial support for community waste reduction and reuse initiatives 17. Reduce the container limit to two or three containers per collection when the Green Bin program with bi-weekly garbage collection is operational 18. Further explore the use of clear bags for garbage collection if London does not move to a roll-out cart based garbage collection system 19. Further explore a full user pay garbage system if London moves to a roll-out cart based garbage collection system 20. Further examine other incentive and disincentive initiatives (best practices) from other municipalities (e.g., mandatory recycling by-law, reward systems, user fees, etc.) 21. Provide additional feedback approaches to residents (including how waste reduction and waste diversion are calculated when providing waste management progress reports)

### **List of Benefits and Costs of 60% Waste Diversion**

By taking the steps outlined in this Action Plan, a number of environmental, social and financial benefits will be achieved including:

- increased waste diversion (33% more diversion),
- creation of jobs (between 125 and 170 direct and indirect; within and outside London),
- reduced greenhouse gas (GHG) emissions (about 17,000 to 27,000 tonnes per year, equivalent of removing 4,200 to 6,800 cars from the road),
- reduced landfill impacts (less odourous materials being landfilled, less traffic, etc.),
- better use of materials and resources,
- residents will feel satisfaction/pride living in an environmentally progressive community, and
- short-term landfill cost savings.

It is expected that approval of any expansion of the landfill by the MOECP would be unlikely unless the City has programs in place to achieve 60% waste diversion. If the City does not receive approval to expand the landfill, the increase in disposal costs will be significant as the City would have to export its waste to a private landfill elsewhere in Ontario. The increase in disposal costs for the City to export its waste is estimated to be approximately \$5 to \$7 million per year.

### **Waste Diversion Rates, Estimated Operating Costs and Schedule**

The approximate cost, expected diversion rate and timeline for implementation for the proposed actions are summarized on Table 2.

**Table 2 - Summary of Diversion, Estimated Operating Costs and Schedule**

Program Category	Diversion Rate		Annual Estimated Operating Cost			Schedule
	Range	Likely	Range	Likely	\$/Hhld <sup>a</sup>	
Blue Box Recycling Improvements	1% - 3%	2%	\$0	\$0	\$0	Likely not under City control <sup>b</sup> in the future
New Recycling Programs and Initiatives	0.4% - 0.8%	0.6%	\$350,000 - \$550,000	\$450,000	\$2.00 - \$3.00	2019 <sup>c</sup> – 2021
Curbside Organics Management Program	8% - 12%	10%	\$3,900,000 - \$5,500,000	\$5,000,000	\$21.75 - \$30.50	2020 – 2022
Multi-Residential Organics Management Pilot Program	0.5% - 0.7%	0.6%	\$400,000 - \$700,000	\$500,000	\$2.25 – 4.00	2020
Other Organic Management Programs	0.3%-0.6%	0.4%	\$250,000 - \$350,000	\$300,000	\$1.50 – \$2.00	2019 <sup>c</sup> – 2021
Waste Reduction, Reuse Initiatives and Policies	1% – 4%	1.4%	\$150,000 - \$350,000	\$250,000	\$1.00 - \$2.00	2019 <sup>c</sup> – 2021
<b>Total<sup>d</sup></b>	<b>11% - 21%</b>	<b>15%</b>	<b>\$5,050,000 - \$7,450,000</b>	<b>\$6,500,000 (\$36.00)</b>	<b>\$28.00 - \$41.50</b>	<b>2019<sup>c</sup> – 2022</b>

## Notes:

a) Based on 180,000 households.

b) The provincial Waste-Free Ontario Strategy calls for a transition from the current Blue Box program, which is municipally managed and co-funded by industry and municipalities, toward a full extended producer responsibility (EPR) and/or individual responsibility (IPR) program by 2023. The EPR program will require producers to take full financial and operational responsibility for all Ontario municipal Blue Box programs.

c) 2019 Multi-year budget has \$140,000 assigned to new waste diversion initiatives.

d) Totals may not add due to rounding.

**Green Bin Collection & Processing versus Mixed Waste Collection & Processing**

A comparison of a Green Bin program versus a mixed waste processing program for managing curbside organics is presented in Table 3.

A curbside Green Bin program is recommended because more evidence is required on mixed waste processing in Ontario before the uncertainty around the technical and regulatory risks can be removed. For all the recent progress made in the field of mixed waste processing, there are as many if not more examples that highlight the challenges of this approach. For these reasons, City staff is recommending to proceed with a pilot project in the multi-residential sector and continued monitoring of mixed waste processing work undertaken in a few Ontario municipalities (e.g., Region of Peel, City of Toronto, Region of Durham, County of Oxford).

**Table 3 – Comparison of Green Bin and Mixed Waste Processing Programs**

Factor	Comment
Environmental	<ul style="list-style-type: none"> <li>A mixed waste processing program potentially captures 25% to 80% more organics, reduces greenhouse gases (GHG) by a corresponding amount and opens up the possibility of producing solid recovered fuel.</li> </ul>
Financial	<ul style="list-style-type: none"> <li>A Green Bin program costs approximately \$30 to \$45 per year to service a curbside household (about 125,000 households; not all 180,000 households as in Table 2) compared to \$70 to \$115 per year to undertake mixed waste processing for the same households.</li> </ul>
Social	<ul style="list-style-type: none"> <li>Mixed waste processing program offers more convenience to residents (no change to how they manage waste).</li> </ul>
Technical	<ul style="list-style-type: none"> <li>The rules and regulations around mixed waste processing are evolving as current regulations do not explicitly address mixed waste processing.</li> <li>There is limited experience with mixed waste processing in Canada. Past experience has not been positive in Canada and parts of North America. Facilities have either been closed (e.g., Three County (Total Recycling) System, Aylmer, Ontario; Plasco Energy Group, Ottawa, Ontario; SUBBOR, Guelph, Ontario; Dongara Pellet Plant, Vaughan, Ontario; Conporec Integrated Waste Management &amp; Composting, Sorel-Tracy, Quebec; and several facilities in the United States) or retooled away from partially mixed waste processing or similar systems to source separated systems (e.g., City of Guelph wet/dry recycling; City of Moncton wet/dry recycling). This includes a recent decision in the City of Edmonton (March 2018) not to re-open its mixed waste processing facility in favour of progressing with a source separated organics collection program.</li> <li>Modern mixed waste processing systems in Europe appear to have addressed many of the earlier challenges; however, the track record in North America is very limited at this time. This is expected to change in the next two to five years.</li> <li>Green Bin is the preferred method in the provincial Food and Organic Waste Framework and Policy Statement.</li> </ul>

The current estimated capital cost of a Green Bin program is \$12 million with an estimated annual operating cost range from \$3.5 to \$5.0 million depending on type of Green Bin program implemented (e.g., how will pet waste, diapers, be handled, etc.) and processing costs. Previous cost estimates for a Green Bin program include: initial capital of \$12,000,000 and on-going annual operating costs of \$3,900,000. These estimates were based on a weekly collection of organics comprised of food waste and tissues/paper toweling (diapers/sanitary products would not be included) and a bi-weekly collection of garbage.

It is expected that the cost of mixed waste processing may decrease in the future because of improved technology and potential revenues from producing renewable natural gas from the organics.

In the future, a mixed waste processing program may be preferred if the technical and regulatory risks are addressed. For this reason, it is recommended that the City's Green Bin program be designed to offer the flexibility to transition to a mixed waste processing program in the future. Flexibility can be achieved by the City:

- Not building its own processing facility for the organics from the Green Bin Program or entering into a long term contract (e.g., eight or more years) for processing capacity; and,

- Having the processing contract(s) match the expected service life of the trucks (about seven years).

## Financial Considerations – Funding 60% Waste Diversion

### Partially Offsetting Operating Costs

As shown in Table 2, annual operating costs for the 60% Waste Diversion Action Plan will range from \$5.05 million to \$7.45 million and will depend on final program design, market competition, etc. The most likely annual operating cost is estimated to be \$6.5 million.

City staff continue to examine a number of financing approaches. The change in government in Ontario has created additional uncertainty as a number of potential revenue sources for waste diversion are on hold. Besides taxes, potential sources of revenue currently include:

- Additional recycling program costs paid by industry - potential cost savings from expected transition from the current Blue Box program, which is municipally managed and co-funded by industry and municipalities, toward a full EPR program paid 100% by industry by 2023. This is expected to reduce the City's current waste diversion program costs by \$1.5 to \$1.8 million. In addition there is the potential of one time capital funding for recycling infrastructure. It is not clear when full funding would be paid to the City.
- Other extended producer responsibility revenues - for items such as branded organics (e.g., diapers, soiled paper, tissues/toweling) carpets, textiles, furniture and other consumer goods. These sources could range between \$50,000 and \$150,000 per year.
- W12A Landfill levy to support diversion - a specific amount charged per tonne of garbage disposed of at the landfill that is placed in a dedicated fund for waste reduction and diversion. The amount that could be collected is based on many factors (e.g., which garbage is it applied to, what fee, etc.). Levies between \$2 and \$20 per tonne are in place in some jurisdictions. Revenue from this source could range between \$250,000 and \$1 million per year.
- Greenhouse gas offset credits associated with organics diversion – the Government of Ontario was working on introducing an emissions offset protocol for aerobic composting into Ontario's Cap & Trade program, based on an existing protocol used in Alberta (e.g., five composting projects currently listed on the Alberta Emissions Offset Registry). The value of these offsets would have been between \$100,000 and \$500,000 per year based on an assumed value of around \$20 per tonne of GHG emissions offset (and increasing over time). It is unclear at this time how/if this funding opportunity will be replaced by the current provincial government.

A summary of estimated operating costs and potential annual funding is identified on Table 4.

**Table 4 – Summary of Estimated Costs and Potential Funding**

	Low	High	Likely (Anticipated)
Costs (Table 2)	\$5,050,000	\$7,450,000	\$6,500,000
Revenues	\$1,800,000	\$2,950,000	\$2,000,000
Total Estimated Costs			\$4,500,000

### Capital

Capital costs for the 60% Waste Diversion Action Plan will depend on program design, technology considerations, etc. The largest capital expenditure will be for the Green Bin Program. A capital cost of \$12 million for the Green Bin program had previously been estimated (January 2016, Multi-year Budget deliberations). Other waste diversion initiatives listed in the Action Plan may require new investment in the order of \$500,000 to \$3 million for a total of \$12.5 to \$15 million in capital expenditures.

It is expected that capital costs for the 60% Waste Diversion Action Plan will be funded from the existing capital budget. The current ten-year capital program includes \$35 million in 2020 for new solid waste diversion technologies to increase diversion. The funding sources for the \$35 million include Federal Gas Tax (\$16.8 million), Sanitary Landfill Reserve Fund (\$12.2 million) and debenture, if required (\$6 million). City staff will seek additional funding opportunities for capital items at the provincial and federal government level (e.g., Federation of Canadian Municipalities Green Municipal Fund).

After allocating up to \$15 million for the Action Plan, there would be \$20 million left for advanced waste diversion and/or resource recovery technologies.

### Community Feedback – To the end of June 2018

The approaches used to engage the public and other stakeholders in the development of the 60% Waste Diversion Action Plan included open houses, booths at community events, interactions with City of London Advisory Committees, the WhyWaste Resource Recovery Strategy website, creation of the Waste Management Community Liaison Committee and newspaper and social media advertisements. The engagement started in April 2017.

One of the most recent engagement items was a waste diversion survey undertaken by Ipsos Public Affairs. In total, 301 London residents participated in this survey between May 31 and June 4, 2018. The precision of Ipsos online surveys is calculated via a credibility interval. In this case, the sample is considered accurate within +/- 6.4 percentage points, 19 times out of 20, had all London residents been surveyed.

Under Key Findings, Ipsos notes that “Overall, residents are supportive of the City of London’s efforts to increase its waste diversion from 45 percent to 60 percent, and are willing to pay for it and change their behaviour to assist in these efforts.” Other key findings are found in Appendix B with the complete report included in the separate 60% Waste Diversion Action Plan.

### Community Engagement – An Approach for Final Feedback

The following community engagement activities are proposed for the 60% Waste Diversion Action Plan (Table 5).

**Table 5 – Community Engagement for Draft 60% Waste Diversion Action Plan**

Date	Event	Comments
July 17	CWC Meeting	<ul style="list-style-type: none"> <li>Approve in Principle Draft Action Plan to achieve 60% waste diversion by 2022</li> <li>Approve to circulate and receive feedback on the 60% Waste Diversion Action Plan</li> </ul>
July 24	Council	
July 25 to September 10	Provide feedback opportunities on WhyWaste Resource Recovery Strategy website	<ul style="list-style-type: none"> <li>Advertise in the London Free Press, The Londoner and on social media</li> </ul>
	Circulate to Community Stakeholder Groups	<ul style="list-style-type: none"> <li>Circulate and ask for feedback from Waste Management Community Liaison, Committee (WMCLC), W12A Landfill Public Liaison Committee, Urban League and Advisory Committee on the Environment (ACE)</li> </ul>
	Circulate to Waste Management/ Recycling Companies	<ul style="list-style-type: none"> <li>Circulate and ask for feedback from local companies including Emterra, Green Valley Recycling, Miller Waste, Orgaworld, StormFisher, Try Recycling, Waste Connections and Waste Management</li> </ul>

*(table continued)*

**Table 5 – Community Engagement for Draft 60% Waste Diversion Action Plan**

<b>Date</b>	<b>Event</b>	<b>Comments</b>
	Festival	<ul style="list-style-type: none"> <li>Attend Gathering on the Green II, Sunday August 19, 2018</li> </ul>
	Presentations	<ul style="list-style-type: none"> <li>Present to WMCLC in early August (TBD)</li> <li>Present to ACE on September 5, 2018</li> </ul>
September 27	Public Participation Meeting	<ul style="list-style-type: none"> <li>CWC receives comments from the public and other stakeholders</li> </ul>
January/ February 2019	CWC Meeting	<ul style="list-style-type: none"> <li>Approval of 60% Waste Diversion Action Plan</li> <li>Implementation details and final cost estimates to be provided at this time</li> </ul>
	Council	

## ACKNOWLEDGEMENTS

This report was prepared with assistance from Anne Boyd, Manager, Waste Diversion Programs; Jane Kittmer, Solid Waste Planning Coordinator; and Jessica Favalaro, Water Demand Technologist.

<b>PREPARED BY:</b>	<b>PREPARED BY:</b>
<b>WESLEY ABBOTT, P. ENG. PROJECT MANAGER SOLID WASTE MANAGEMENT</b>	<b>MICHAEL LOSEE, B.SC. DIVISION MANAGER SOLID WASTE MANAGEMENT</b>
<b>PREPARED AND SUBMITTED BY:</b>	<b>RECOMMENDED BY:</b>
<b>JAY STANFORD, M.A., M.P.A. DIRECTOR, ENVIRONMENT, FLEET &amp; SOLID WASTE</b>	<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>

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Appendix A Key Documents that Provide Context for the 60% Waste Diversion Action Plan

Appendix B Ipsos Public Affairs - Summary - City of London Waste Diversion survey

Attachment (full report under separate cover) 60% Waste Diversion Action Plan

## APPENDIX A

### Key Documents that Provide Context for the 60% Waste Diversion Action Plan

Key Documents	Extract from Document (all details in italics are verbatim – word-for-word)
Strategic Plan for the City of London (2015-2019)	<p><b><i>Building a Sustainable City</i></b></p> <p><i>1. Robust Infrastructure</i></p> <p><i>What are we doing?</i></p> <p><i>Increase efforts on more resource recovery, long-term disposal capacity, and reducing community impacts of waste management.</i></p> <p><i>How are we doing it?</i></p> <p><i>Long-Term Waste Management Plan</i></p> <p><b><i>Growing our Economy</i></b></p> <p><i>3. Local, regional, and global innovation</i></p> <p><i>What are we doing?</i></p> <p><i>Lead the development of new ways to resource recovery, energy recovery, and utility and resource optimization with our local and regional partners to keep our operating costs low and assist businesses with commercialization to help grow London’s economy.</i></p> <p><i>How are we doing it?</i></p> <p><i>London Waste to Resources Innovation Centre</i></p>
The London Plan (December 28, 2016)	<p><b><i>London 2035: Exciting Exceptional, Connected</i></b></p> <p><b><i>Key Directions</i></b></p> <p><b><i>Direction #4</i></b> <i>Become one of the greenest cities in Canada</i></p> <p><b><i>#12</i></b> <i>Minimize waste generation, maximize resource recovery, and responsibly dispose of residual waste.</i></p> <p><b><i>Solid Waste Management</i></b></p> <p><i>479_ The following policies are separated into two primary areas: Diversion and Disposal.</i></p> <p><b><i>&gt;&gt;DIVERSION - REDUCING, REUSING, RECYCLING, COMPOSTING AND RECOVERY</i></b></p> <p><i>480_ The City will promote the reduction, re-use, recycling, composting, and recovery of materials from solid waste, wherever possible, through the use of innovative means, new technology, conservation measures, and public education and community engagement programs.</i></p> <p><i>481_ The City will support the reduction, re-use, recycling, composting and recovery of materials by:</i></p> <ol style="list-style-type: none"> <li><i>1. Initiating, participating and collaborating in public education, awareness, and community engagement programs with residents, Londoners, businesses and other agencies and organizations.</i></li> <li><i>2. Collaborating with other municipalities to develop long-term strategies to reduce, reuse, recycle, and recover materials from the waste stream.</i></li> <li><i>3. Encouraging development proposals to provide adequate recycling and composting facilities, and support innovative waste collection and diversion programs.</i></li> <li><i>4. Increasing waste diversion through existing technologies and new, emerging and next-generation technologies as they become available, practical, and financially feasible for London.</i></li> <li><i>5. Exploring energy from waste opportunities.</i></li> </ol>

Key Documents	Extract from Document (all details in italics are verbatim – word-for-word)										
	<p>482_ <i>In addition to municipal waste management facilities within the Waste Management Resource Recovery Area Place Type, City Council will support the adequate provision of lands for solid waste diversion and resource recovery within the Heavy Industrial Place Type or on lands with specific policies.</i></p>										
<p>Provincial Government A Strategy for Waste-Free Ontario – Building a Circular Economy (February 2017)</p>	<p><b>Our strategy to achieve a circular economy</b> <i>For Ontario to thrive, it must take advantage of resource recovery and waste reduction as economic drivers and factors in environmental protection. Building on our new foundation, the following outlines Ontario’s strategy to achieve its transformation to a circular economy.</i></p> <p><b>Vision</b> <i>The vision for Ontario is one where waste is seen as a resource that can be recovered, reused and reintegrated to achieve a circular economy.</i></p> <p><b>Goals</b> <i>The goals are to achieve a zero waste Ontario and zero greenhouse gas emissions from the waste sector.</i></p> <p><i>Zero waste Ontario is a visionary goal that provides the guiding principles needed to work toward the elimination of waste. It is a new approach that focuses on preventing waste in the first place rather than relying on traditional end-of-life waste management solutions.</i></p> <p><i>The visionary goal of eliminating greenhouse gases from the waste sector will guide our priorities for resource recovery and waste reduction. It will help the province meet its climate change commitments and build a low-carbon economy while protecting Ontario’s natural environment.</i></p> <p><b>Interim Diversion Goals [for combined residential, business and institutional waste streams]</b></p> <ul style="list-style-type: none"> <li>• <i>sets a vision and goals including interim waste diversion goals for 2020 (30%), 2030 (50%) and 2050 (80%);</i></li> </ul> <p><i>Municipalities will need to deliver at least 60% waste diversion.</i></p>										
<p>Provincial Government Food and Organic Waste Framework (April 2018)</p>	<p><b>Targets</b> - <i>Sector-specific waste reduction and resource recovery targets are included in the table below. The persons or entities set out in column 1 must meet the targets in column 2 by the dates set out in column 2.</i></p> <table border="1" data-bbox="440 1714 1433 2292"> <thead> <tr> <th data-bbox="440 1714 846 1755"><b>Person or entity</b></th> <th data-bbox="846 1714 1433 1755"><b>Target</b></th> </tr> </thead> <tbody> <tr> <td data-bbox="440 1755 846 1903"><i>b) Municipalities in Southern Ontario subject to policy 4.2i</i></td> <td data-bbox="846 1755 1433 1903"><i>70% waste reduction and resource recovery of food and organic waste generated by single-family dwellings by 2025</i></td> </tr> <tr> <td data-bbox="440 1903 846 2050"><i>e) Multi-unit residential buildings subject to policy 4.10</i></td> <td data-bbox="846 1903 1433 2050"><i>50% waste reduction and resource recovery of food and organic waste generated at the building by 2025</i></td> </tr> <tr> <td data-bbox="440 2050 846 2198"><i>f) Industrial and commercial facilities subject to policy 4.14</i></td> <td data-bbox="846 2050 1433 2198"><i>70% waste reduction and resource recovery of food and organic waste generated in the facility by 2025</i></td> </tr> <tr> <td data-bbox="440 2198 846 2292"><i>h) Educational institutions and hospitals subject to policy 4.18</i></td> <td data-bbox="846 2198 1433 2292"><i>70% waste reduction and resource recovery of food and organic waste generated in the facility by 2025</i></td> </tr> </tbody> </table> <p><b>Province to ban food and organic waste from ending up in disposal sites (starting in 2022)</b> - <i>The province will develop, consult on, and implement a food and organic waste disposal ban regulation under the Environmental Protection Act.</i></p>	<b>Person or entity</b>	<b>Target</b>	<i>b) Municipalities in Southern Ontario subject to policy 4.2i</i>	<i>70% waste reduction and resource recovery of food and organic waste generated by single-family dwellings by 2025</i>	<i>e) Multi-unit residential buildings subject to policy 4.10</i>	<i>50% waste reduction and resource recovery of food and organic waste generated at the building by 2025</i>	<i>f) Industrial and commercial facilities subject to policy 4.14</i>	<i>70% waste reduction and resource recovery of food and organic waste generated in the facility by 2025</i>	<i>h) Educational institutions and hospitals subject to policy 4.18</i>	<i>70% waste reduction and resource recovery of food and organic waste generated in the facility by 2025</i>
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## APPENDIX B

### Ipsos Public Affairs - Summary - City of London Waste Diversion Survey

#### Methodology

- This report presents the findings from a survey of City of London residents about their attitudes and behaviours towards waste diversion.
- In total, n=301 London residents participated in this survey between May 31 and June 4, 2018. The precision of Ipsos online surveys is calculated via a credibility interval. In this case, the sample is considered accurate within +/- 6.4 percentage points, 19 times out of 20, had all London residents been surveyed.

#### Key Findings

**Overall, residents are supportive of the City of London's efforts to increase its waste diversion from 45 percent to 60 percent, and are willing to pay for it and change their behaviour to assist in these efforts.**

- There is an almost universal view (93%) among City of London residents that waste diversion is important to them, including more than half (53%) who say this is *very important*.
- When residents were informed that increasing the proportion of waste diversion will require additional financial investments, three-quarters (76%) say that they would be willing to pay more for increased waste diversion, with the highest proportion (47%) being prepared to pay between \$1 to \$25 per household per year.
- Residents were presented with different initiatives to help in waste diversion efforts:
  - About six in ten (57%) prefer investing significant resources on food waste avoidance initiatives, while three in ten (31%) choose a moderate program, and one in ten (12%) prefer no change.
  - When presented with options for a City-wide Organics Curbside Program, more than four in ten (43%) prefer a Curbside Green Bin Program, while one-third (32%) choose a Mixed Waste Program, and one-quarter (24%) prefer no change.
  - When presented with options for a City-wide Organics Multi-residential Program, opinion is divided with four in ten (40%) who prefer a Multi-residential Green Bin Program and a similar number (41%) choose a Mixed Waste Program. Two in ten (19%) do not want change to the current program.
  - When residents were informed that items such as electronics, scrap metal, Christmas trees and tires are no longer picked up curbside and have to be dropped off at a depot, two-thirds (65%) indicate that they are prepared to deliver more materials to drop-off depots.
  - Six in ten (60%) residents support banning additional materials from garbage pickup, such as old furniture, carpet, small appliances, mattresses, etc., if they could drop them off at a depot for recycling.