

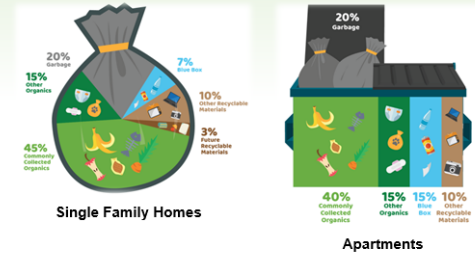
Presentation to Waste Management Working Group

July 13, 2018

Environmental & Engineering Services

60% Waste Diversion Action Plan

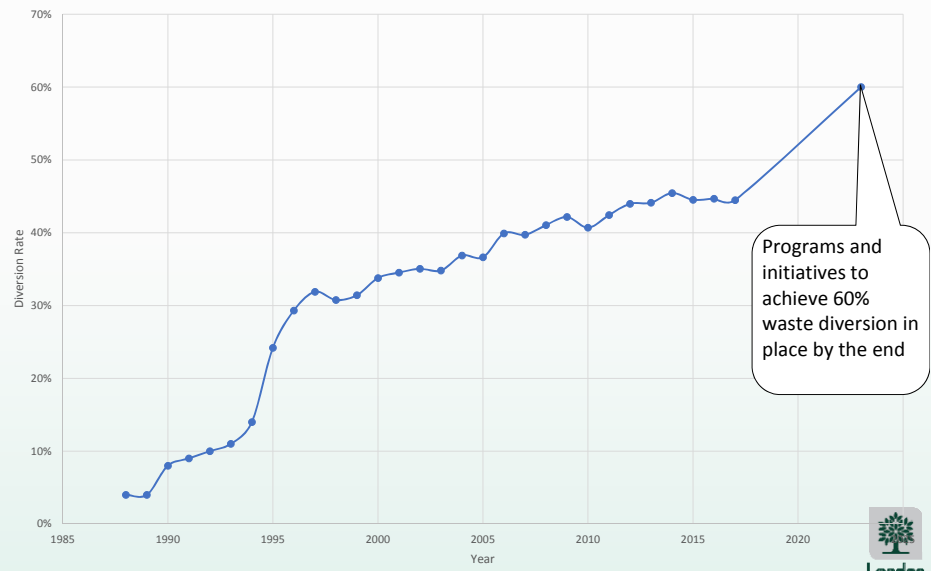
What's in the garbage?



Waste Management Working Group: July 13, 2018
 Civic Works Committee: July 17, 2018
 Municipal Council: July 24, 2018
 Community Engagement: July 25 – September 27, 2018



The Road to 60% Diversion



Why Waste?

How much waste and resources?

Residential
160,000 tonnes
45% diverted



IC&I
~ 170,000 tonnes
~ 20% diverted



CR&D
~ 120,000 tonnes
~ 50% diverted

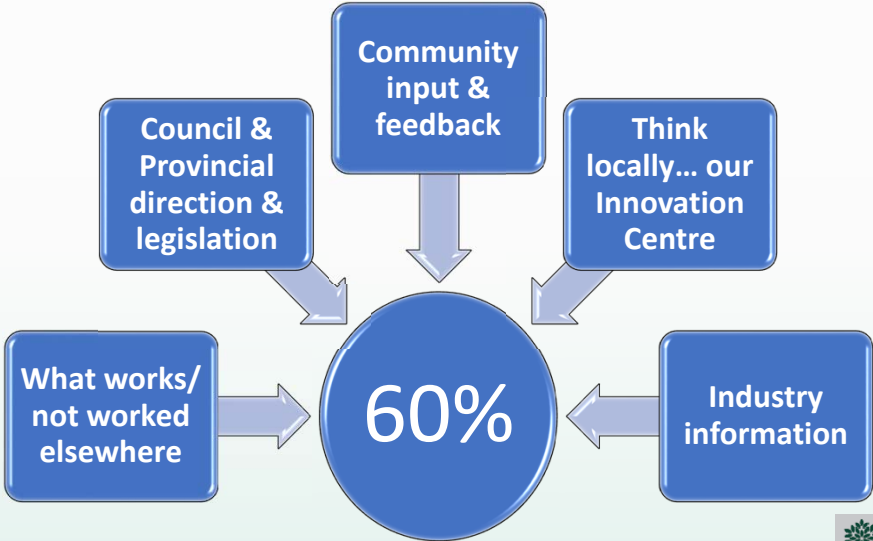


Between 425,000 and 450,000 tonnes per year




Why Waste?

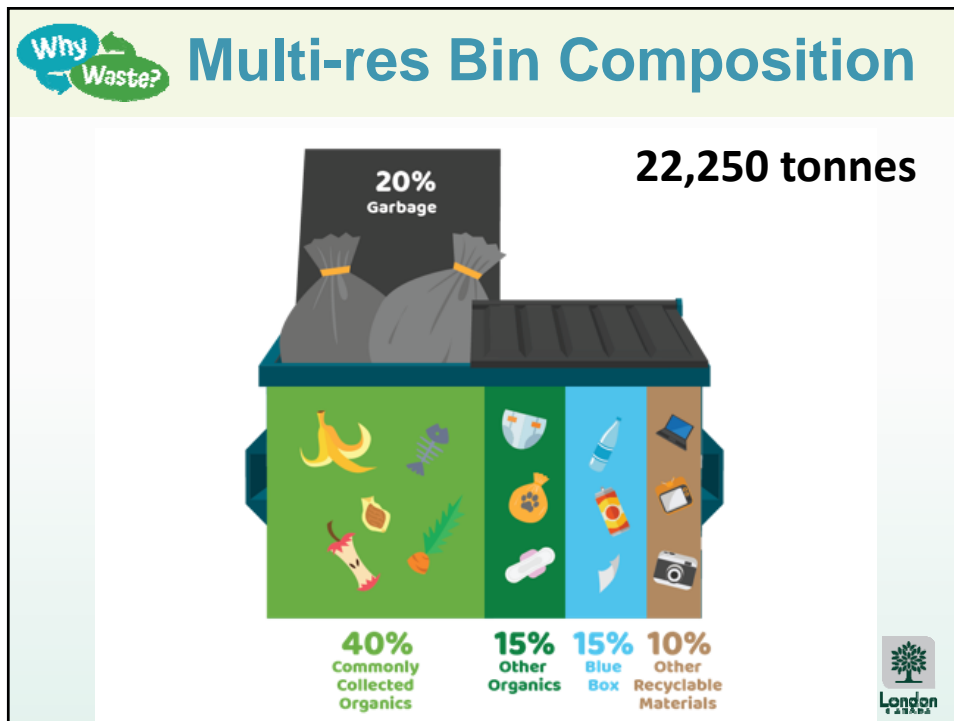
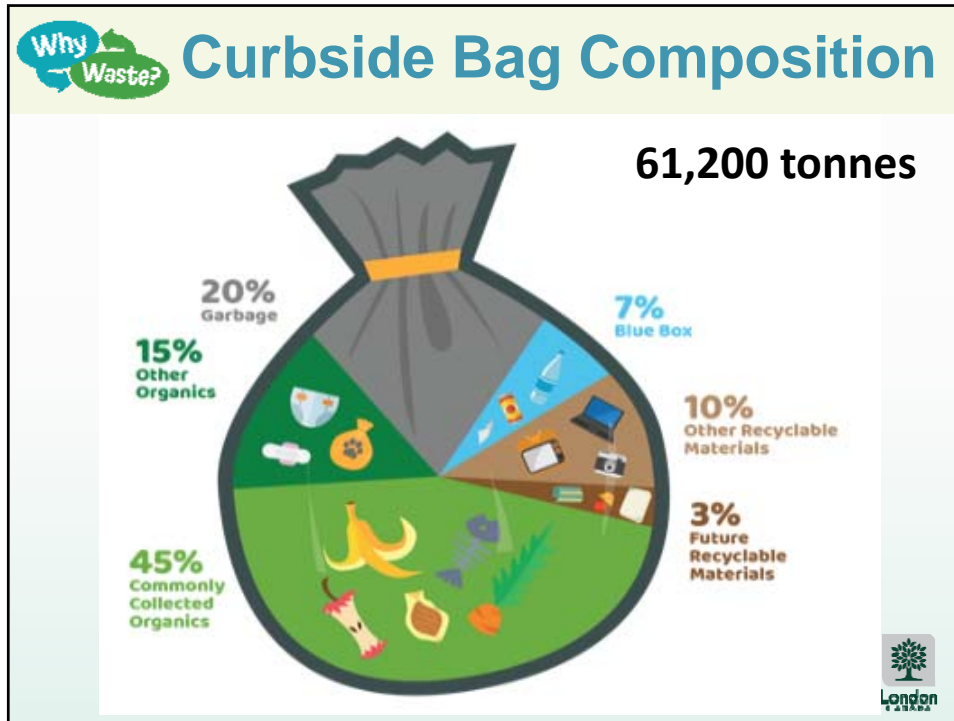
How this Report was Prepared



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graph TD; A[Council & Provincial direction & legislation] --> C((60%)); B[Community input & feedback] --> C; D[Think locally... our Innovation Centre] --> C; E[Industry information] --> C; F[What works/ not worked elsewhere] --> C;
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60%






Why Waste? **Composition – Did You Know!!**

Top 5 Diversion Opportunities	Estimated tonnes	% of Waste	Kg/hhld/year
1. Avoidable food waste	19,300	24%	107
2. Unavoidable food waste	10,100	12%	56
3. Pet waste	8,500	10%	47
4. Items for Blue Box/Cart	8,300	10%	46
5. Construction/Reno/Demo	4,700	6%	26
Total	50,900	62%	282



 Blue Box – Blue Carts	
Why is this important?	<ul style="list-style-type: none"> • Provincial law - shifting to EPR is key • Industry will be funding
How many actions?	<ul style="list-style-type: none"> • None • Industry will be responsible • Council/City staff to continue to push
How much will it divert?	<ul style="list-style-type: none"> • 1% to 3% • 1,600 to 4,800 tonnes
What is the cost/hhld estimate?	<ul style="list-style-type: none"> • SAVINGS estimated at \$1.5 to \$1.8 million by 2023 • SAVINGS \$8.00 to \$10.00 per year

 New (or Expanded) Recycling	
Why is this important?	<ul style="list-style-type: none"> • Items are easy to identify/describe • Identified in provincial direction
How many actions?	<ul style="list-style-type: none"> • 7; some pilot projects • Support local jobs; potential for more • New business opportunities
How much will it divert?	<ul style="list-style-type: none"> • 0.4% to 0.8% • 640 to 1,280 tonnes
What is the cost/hhld estimate?	<ul style="list-style-type: none"> • Range \$2.00 to \$3.00 per year • Likely \$2.50


 <h2 style="display: inline;">Curbside Organics</h2>	
Why is this important?	<ul style="list-style-type: none"> • Largest portion of the waste stream • Proven programs (that have improved) • Legislated
How many actions?	<ul style="list-style-type: none"> • 2 • Weekly Green Bin, recycling • Biweekly, same day garbage pickup
How much will it divert?	<ul style="list-style-type: none"> • 8% to 12% • 13,000 to 20,000 tonnes
What is the cost/hhld estimate?	<ul style="list-style-type: none"> • Range \$21.75 to \$30.50 per year • Likely \$28 • Likely curbside home only \$40









Mixed Waste Processing and Mechanical/Biological Treatment (MBT)




 FOCUS - Green Bin vs Mixed Waste Processing	
<p>MWP Advantages</p> <p>Environmental</p> <ul style="list-style-type: none"> • 25% to 80% more organics captured • 25% to 80% more GHG reduction 	<p>MWP Disadvantages</p> <p>Financial (Curbside Homes)</p> <ul style="list-style-type: none"> • Costs \$70 to \$115/hhld compared to \$30 to \$45/hhld for Green Bin
<p>Social</p> <ul style="list-style-type: none"> • More convenience • No “Yuk” factor 	<p>Technical</p> <ul style="list-style-type: none"> • Rules are evolving • Uncertainty for product quality




 Multi-res Organics	
Why is this important?	<ul style="list-style-type: none"> • Largest portion of the waste stream • Legislated
How many actions?	<ul style="list-style-type: none"> • 1 • Pilot project (15%) – mixed waste processing and composting/digestion • Follow progress of other communities
How much will it divert?	<ul style="list-style-type: none"> • 0.5% to 0.7% • 800 to 1,120 tonnes
What is the cost/hhld estimate?	<ul style="list-style-type: none"> • Range \$2.25 to \$4.00 per year • Likely \$2.75 • Likely Multi-res unit only \$62.50

 Other Organics Programs	
Why is this important?	<ul style="list-style-type: none"> • Food waste avoidance should be a priority • Lowers costs; community oriented
How many actions?	<ul style="list-style-type: none"> • 3 • Builds on 2 existing actions, BYC and community composting
How much will it divert?	<ul style="list-style-type: none"> • 0.3% to 0.6% • 480 to 960 tonnes
What is the cost/hhld estimate?	<ul style="list-style-type: none"> • Range \$1.50 to \$2.00 per year • Likely \$1.75

 FOCUS – Food Waste Avoidance	
	<p>Local Research (Western University), local Pilot Projects and experience in Canada, USA and Europe</p>
<ul style="list-style-type: none"> • Audits – confirmed up to 2/3rds avoidable food waste • \$450 to \$600 per household (\$80 to \$100 million/year) in avoidable food • 10% reduced = \$8 to 10 million saved locally 	
	

 <h2>Reduction & Reuse</h2>	
Why is this important?	<ul style="list-style-type: none"> • Lowers costs; community oriented • Council policies, directions and by-laws set stage
How many actions?	<ul style="list-style-type: none"> • 7, includes community investment • People are the driving force behind reduction and reuse
How much will it divert?	<ul style="list-style-type: none"> • 1% to 4% • 1,600 to 6,400 tonnes
What is the cost/hhld estimate?	<ul style="list-style-type: none"> • Range \$0.50 to \$2.00 per year • Likely \$1.50


 <h2>FOCUS – Working with the Community</h2>	
<p>Build Collaborations Explore options to build community collaborations</p>	 <p>What Is A Tool Lending Library?</p>
	<p>More (Fun) Reporting and Feedback . . . celebrating community success</p> 



Ipsos Survey June 2018


Parameters


- 301 respondents; Single family and apartments
- +/- 6.4%, 19 times out of 20



Findings

- waste diversion is important (90%)
- support food waste avoidance program (90%)
- support curbside/multi organics program (75%)
- prepared to deliver more to depots (65%)





Ipsos Survey June 2018

Willingness to pay more for increased waste diversion

\$0 per household per year	<div style="width: 24%; height: 15px; background-color: #008080; display: inline-block;"></div>	24%
\$1 to \$25 per household per year	<div style="width: 47%; height: 15px; background-color: #008080; display: inline-block;"></div>	47%
\$26 to \$50 per household per year	<div style="width: 18%; height: 15px; background-color: #008080; display: inline-block;"></div>	18%
\$51 to \$75 per household per year	<div style="width: 4%; height: 15px; background-color: #008080; display: inline-block;"></div>	4%
\$76 to \$100 per household per year	<div style="width: 7%; height: 15px; background-color: #008080; display: inline-block;"></div>	7%


76% willing to pay more

Why Waste?

Benefits

Environmental ✓

- increased waste diversion (33% more)
- reduced GHG gas emissions (equivalent of removing 4,200 to 6,800 cars)
- reduced landfill impacts (odour, traffic)
- better use of material and resources



Why Waste?


Benefits

Social ✓

- creation of jobs (between 125 and 170, direct & indirect)
- satisfaction/pride of community

Financial ✓

- short-term landfill cost savings
- avoid long term export costs (\$5 to \$7 million/year)




 **Estimated Annual Costs**


Program Category	Cost Range	Likely Cost
Blue Box Recycling Improvements	\$0	\$0
New Recycling Programs and Initiatives	\$350,000 - \$550,000	\$450,000
Curbside Organics Management Program	\$3,900,000 - \$5,500,000	\$5,000,000
Multi-Res Organics Pilot Program	\$400,000 - \$700,000	\$500,000
Other Organic Programs	\$250,000 - \$350,000	\$300,000
Waste Reduction, Reuse Initiatives and Policies	\$150,000 - \$350,000	\$250,000
Total	\$5,050,000 - \$7,450,000	\$6,500,000

 **Potential Funding Sources**


Source	Potential amount	Possible Date	Who Controls	Level of Risk
Full EPR for Blue Box	\$1.5 M to \$1.8 M	2022 to 2025	Province	Low
Full EPR for Other Programs	\$50,000 to \$150,000	2023/2025	Province	High
W12A Landfill Levy	\$250,000 to \$1 M	2020/2022	City	Low
Total	\$1,800,000 - \$2,950,000 (\$2,000,000 likely)			

 **Estimated Capital Costs**


Program Category	Items	Estimated Cost
New Recycling Programs and Initiatives	<ul style="list-style-type: none"> • EnviroDepot Improvements 	\$500,000 to \$2,700,000
Curbside Organics Management Program	<ul style="list-style-type: none"> • Green Bin Carts • Kitchen Catchers • Collection Vehicles 	\$12,000,000
Other Organic Management Programs	<ul style="list-style-type: none"> • Community composting 	\$100,000
Waste Reduction, Reuse Initiatives and Policies	<ul style="list-style-type: none"> • Reuse facilities 	\$200,000
Total	\$12.5 - \$15 million	

 **Annual Cost Summary**

	Low	High	Likely (Anticipated)
Cost	\$5,050,000	\$7,450,000	\$6,500,000
Cost/hhld	\$28.00	\$41.50	\$36.00
Revenue	\$1,800,000	\$2,950,000	\$2,000,000
Revenue/hhld	\$10.00	\$16.50	\$11.00
Total Estimated Cost			\$4,500,000
Total cost/hhld			\$25.00

 **MBNC Cost Comparisons**

2016 Municipality	Cost per Tonne		Cost per Household		
	Collection & Disposal	Diversion	Collection & Disposal	Diversion	Total
Hamilton (lowest Diversion & GB)	344	151	150	69	218
Niagara (Lowest with GB)	195	138	90	102	192
Average of 9 GB municipalities	264	234	127	100	227
London (60% - likely cost)	156	161	87	86	173
London (60% - high cost)	156	171	87	91	178

 **Next Steps – 60%**

Next Steps	Comments	Timeline
CWC and Council “Approval in Principle”	<ul style="list-style-type: none"> • CWC Meeting – July 17 • Council - July 24 	July 2018
Seek Community Feedback on Action Plan	<ul style="list-style-type: none"> • Interactive WhyWaste website • Circulate to Stakeholder Groups • Attend Gathering on the Green II • Presentations to WMCLC and ACE • Public Participation Meeting (Sept. 27) 	July to September, 2018
CWC and Council Approval	<ul style="list-style-type: none"> • Implementation details and final cost estimates to be provided 	January/February, 2019