



# ORGANICS FIRST:

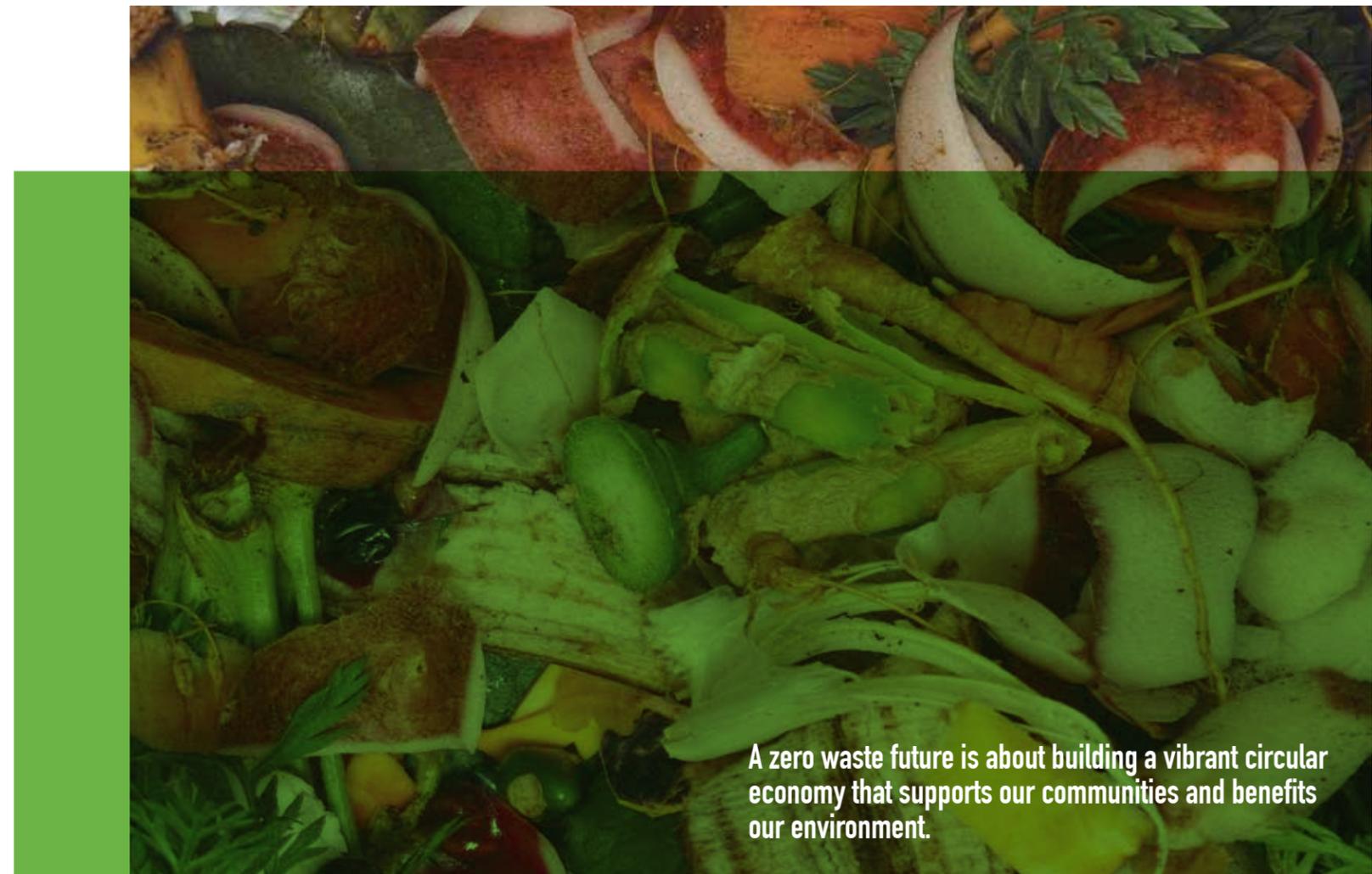
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## SETTING TORONTO ON THE ZERO WASTE PATH.



# ORGANICS FIRST: SETTING TORONTO ON THE ZERO WASTE PATH.

Our city is about to choose a path for how we deal with our waste for the next 50 years. This choice will affect our environment, our communities and our economy.



A zero waste future is about building a vibrant circular economy that supports our communities and benefits our environment.

To help set a vision for Toronto's waste strategy, TEA released a Zero Waste Toronto report earlier this year<sup>1</sup>. Now, our Organics First report outlines the first steps we need to take towards our vision of zero waste: we need to make sure that no compostable organics - mostly food and food scraps - end up in Toronto's garbage.

**We need to get all the organics out of our garbage. Here's why:**

- Almost 40% of the half a million tonnes of residential garbage sent to landfill by the city every year is organic material that could be composted in the Green Bin<sup>2</sup>.
- Businesses, retailers and industries send huge amounts of

organics to landfill.

- Food doesn't need to go to waste: There are great community programs that redistribute edible, surplus food.
- Toronto has a good system to collect and process organics.
- There are new ways to process organics to create renewable natural gas that can generate millions of dollars of revenue every year and dramatically cut greenhouse gas emissions<sup>3</sup>.
- Getting all organics out of the garbage means we can avoid sending our garbage to landfills in other communities who don't want Toronto's waste.

**40% of what is in the average Toronto garbage bags is organics. We can get this to zero.**



**The good news is that we have the tools right here in our city and great examples from around the world to divert valuable organics away from landfill.**

We can divert surplus, edible food to local food rescue programs, and divert organics to community composters or facilities that process compost while creating revenue-generating renewable natural gas.

**To get to zero, Toronto needs to:**

- Make education and effective communications a priority to help residents use their Green Bins properly and get organics out of the garbage bag.
- Ensure all residents have equal access to organics collection where they live.
- Require that all businesses and institutions in Toronto have organics collection to compost food waste and other organic materials.

**A zero waste vision for Toronto is about a future without waste, where resources are conserved, shared and unwanted materials become the raw materials for something new.**

# WHAT HAPPENS TO FOOD WASTE AND OTHER ORGANICS?

The City collects organics in the Green Bin from all houses and most multi-residential buildings in Toronto. City buildings, schools, and small businesses on major streets also have Green Bins to divert organics.

This is mostly food waste and includes other compostable organics such as tissues, soiled paper packaging, pet litter and diapers.

Green Bin organics are sent to two City-owned anaerobic digesters in Toronto. These digesters use bacteria to break down the organics, releasing methane in the process. At the end of the process, the digestate is sent to private

contractors to be finished as a nutrient-rich compost sold for use in Ontario gardens and farms. The methane can be converted into a natural gas substitute (Renewable Natural Gas), worth an estimated \$4 million from just one digester<sup>4</sup>.

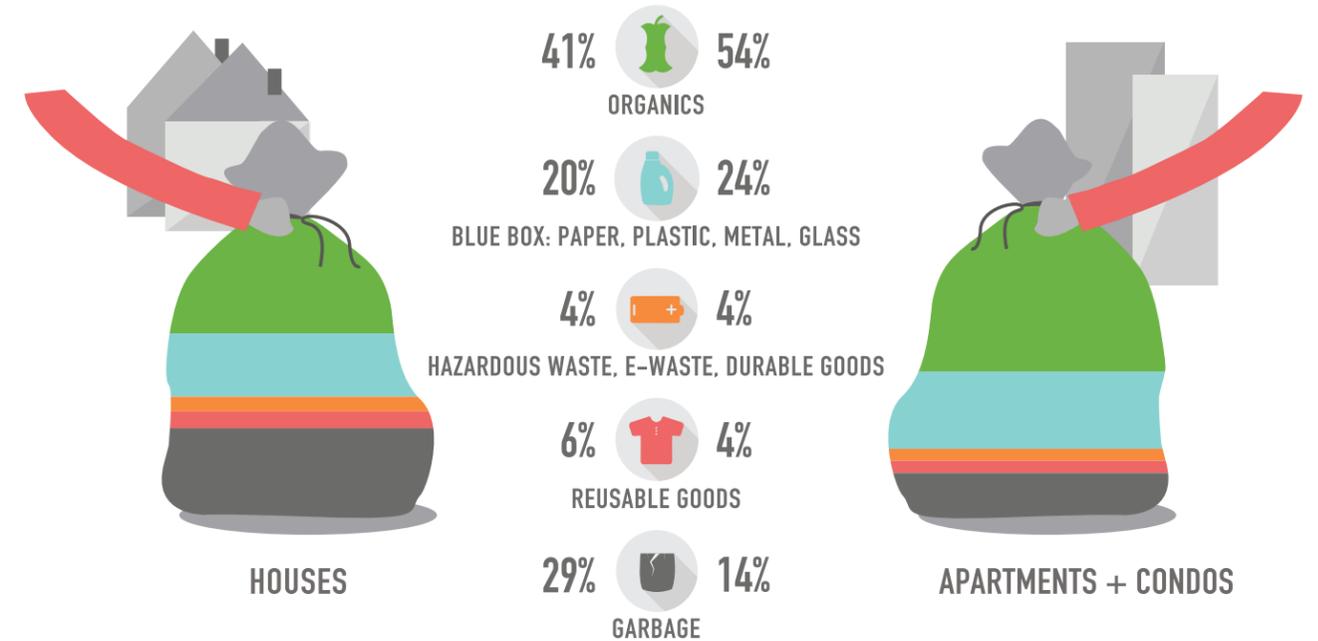
Unfortunately, the City doesn't have enough anaerobic digesters to process all the organic material it collects. Currently, up to a third of Toronto's organics are sent private contractors to process.

Community composters at community gardens and recreation centres allow neighbourhood residents to recycle the nutrients from their food scraps into garden compost.

**Toronto was the first major city in North America to have Green Bins to collect organics from houses. But more than a decade later, many of our high rise buildings, and most businesses, still don't compost their food waste.**

## MOST OF WHAT'S IN YOUR GARBAGE BAG DOESN'T BELONG THERE

71% COULD HAVE BEEN DIVERTED 86%



Unfortunately, most organics do not get composted.

Most of what's in your garbage doesn't belong there<sup>5</sup>. Even with recycling and Green Bin organics collection at home, over 40% of the average Torontonians' garbage bag is organic and compostable waste and 20% is recyclable materials.

We already have the infrastructure and the technology to collect organics, process it and turn it into valuable commodities like compost and renewable natural gas.

**Many buildings in Toronto don't have City waste services, and don't get Green Bins.**

Many high rise apartments and condominiums in Toronto pay for waste collection from private waste companies are not required to have Green Bins. Organics from these buildings ends up in the garbage.

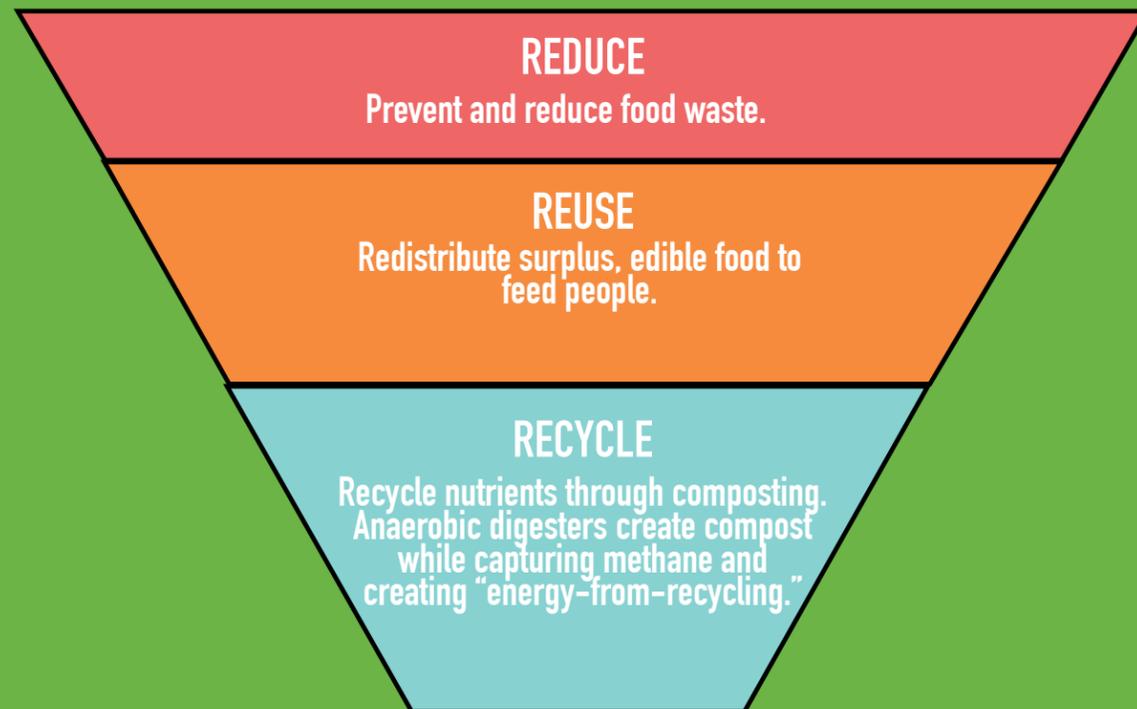
Almost all businesses in Toronto use private waste companies, and only a handful collect Green Bin waste, most is going straight to landfill.

It is estimated that Toronto's Industrial, Commercial and Institutional sector generates 840,000 tonnes of waste every year - 280,000 tonnes of this is food and organics.

Based on TEA's analysis of City of Toronto waste audits, more organics are sent to landfill each year (180,000 tonnes) than was collected in the residential Green Bin program in 2015 (105,000 tonnes).

# THE 3R'S OF ORGANICS

Zero waste is about conserving our resources and using them wisely: reducing, reusing and recycling – in that order. When it comes to organics and food, we can use a similar hierarchy: prevent and reduce food waste, redistribute surplus edible food to feed people, and recycle the nutrients and energy in food through composting. No organics should be disposed in landfill or incinerator.



# ZERO WASTE SOLUTIONS

We can learn from great community examples from right here in Toronto and from other cities facing the similar challenges:

## **NOT FAR FROM THE TREE**

This non-profit group connects property owners with volunteers to harvest fruit from trees in Toronto yards to keep it from going to waste. The harvest is split between the owner, the volunteers and local food banks<sup>7</sup>.

## **SECOND HARVEST**

Their Food Rescue & Delivery program collects over 3,700 tonnes of food from stores and warehouses and delivers it to food banks and shelters across Toronto<sup>8</sup>.

## **VANCOUVER**

A ban on disposing organics since 2015 means all businesses and residences in the city collect food waste for composting<sup>9</sup>.

## **SAN FRANCISCO**

All of their buildings, including businesses, offices and stores must collect organic waste for composting. Some businesses divert more than 80% of their total waste<sup>10</sup>.

## **NEW YORK CITY**

Starting in July 2016, large businesses will be required to ensure their food waste is composted<sup>11</sup>.

## **TORONTO**

Small businesses that use Toronto's waste services and Green Bin divert 64% of their waste, 6x higher than the average<sup>12</sup>!

## **MAYFAIR ON THE GREEN**

This Scarborough high rise turned their garbage chute into an organics chute and now boasts a diversion rate of 85%<sup>13</sup>!

## **FOODSHARE**

Their community composter turns more than 22 tonnes of institutional food waste into rich compost each year<sup>14</sup>.

## **ZOOSHARE**

North America's first zoo-based biogas plant is funded by community bonds. Its anaerobic digester will recycle manure from the Toronto Zoo and food waste from local grocery stores into high-quality fertilizer and electricity, diverting 14,000 tonnes from landfill each year<sup>15</sup>.

# THE BENEFITS OF ZERO ORGANIC WASTE

A zero waste strategy for organics protects the environment, benefits communities and supports a strong local economy.

## Zero organic waste is good for the environment

- When organics break down in a landfill without oxygen or light, it releases methane gas, a greenhouse gas 23 times more potent than carbon dioxide.
- Composting recycles valuable nutrients to create healthy soil. This improves growing conditions for food and plants, and increases the soil's ability to absorb carbon, a greenhouse gas.
- Toronto's anaerobic digesters break down Green Bin organics, creating a nutrient-rich material for compost as well as methane gas that will be converted into a green energy source.

## Zero organic waste is good for our communities

- Canadians waste an average of \$28 each week on uneaten food. Community education programs teach families how to prevent food waste and save money<sup>16</sup>.
- A Guelph study showed that over 60% of food found in organics bins was 'avoidable' food waste - edible food that could have been eaten instead of tossed<sup>17</sup>.
- Community gardens and community composters connect people with their food and with each other
- Each year 'food rescue' programs redistribute thousands of tonnes of food from grocery stores, warehouses and restaurants to feed hungry people in food banks and shelters.

## Zero organic waste is good for the economy

- Preventing food waste saves money - for families, for institutions and for businesses.
- Unlike other recyclables, organic and compostable waste can't travel too far to be processed, in fact, most of it can be recycled right here in Toronto. This creates local green jobs.
- Creating green energy from processing organic waste is also good for the economy. Four million cubic metres of Renewable Natural Gas can be produced from one of the City's organics processors. This gas is worth \$4 million annually.

TORONTO'S GREEN BIN PROCESSING FACILITIES ARE A SOURCE OF GREEN ENERGY:

BIOGAS CREATED DURING THE PROCESS CAN BE CONVERTED INTO RENEWABLE NATURAL GAS – A FUEL WITH 93% LESS GREENHOUSE GAS EMISSIONS THAN DIESEL!

# TORONTO CAN ACT NOW TO ACHIEVE ZERO ORGANIC WASTE.

Focusing on organics first will set Toronto on the path to zero waste. Toronto City Hall can play a key role in helping all buildings in Toronto by increasing access to diversion services, introducing regulations to create consistency across the city, and improving educational support and feedback.

**Problem: Too much organic waste ends up in residential garbage.**

Between 40% and 55% of what we're putting in the garbage at home is organics that could have been composted - even though people have, and use, their Green Bin<sup>18</sup>.

**Solution: Targeted education and enforcement will help all residents get the food waste out of the garbage bag, and use their Green Bins properly.**

**Problem: Not all residents can compost organics at home.**

More than half of Toronto households live in apartment or condominium buildings and many of them have to throw their food scraps in the garbage.

Many high rise buildings with City waste service didn't start collecting compostable waste until 2015. For those residents who live in a building that uses a private waste company, they may not have any access to organics collection services.

**Solution: All residents in Toronto must receive organics collection so they can compost at home.**

Mayfair on the Green, a Scarborough high rise, turned their garbage chute into an organics chute and now boasts a diversion rate of 85%!

ZERO WASTE IS A JOURNEY THAT TAKES MANY STEPS. THE FIRST AND MOST IMPORTANT STEP IS TO GET THE FOOD AND OTHER ORGANICS OUT OF OUR GARBAGE BAG.

**Problem: Outside the home, almost all food and other organics end up in the garbage.**

Too often, edible food and compostable waste from where we work, study and play is just tossed in the garbage. Without any requirements to reduce or collect and compost food waste, most businesses just send organics to landfill. Even City-owned buildings rarely have Green Bins!

**Solution: Make it the law that all businesses and institutions in Toronto have organics collection to compost food waste.**

**THE PILLARS OF ZERO WASTE:**

1. **Commit to zero waste with targets and timelines**
2. **Ensure equal access for everyone to the tools to reduce, reuse and recycle**
3. **Prioritize education and effective communications**
4. **Tap into community excitement and innovation**
5. **Use incentives to keep moving forward**
6. **Keep learning**

# CREDITS

## Thank you!

This report is a product of a great team effort. However, TEA would like to thank our principal author, Emily Alfred, for her tireless efforts as TEA's Waste Campaigner and Jolene Cushman, our Campaign Engagement Coordinator, for making it look so great.

To acknowledge the great photos used in this report, we have listed photo attribution by page:

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# ENDNOTES

1. Zero Waste Toronto: A Vision for our Future, February 2016, is available at [www.torontoenvironment.org/zerowaste](http://www.torontoenvironment.org/zerowaste)
2. Based on 2014 Toronto Residential Waste Diversion totals, and TEA's analysis of City waste audits that show 41% of single family and 54% of multi-residential waste in the Garbage stream is material that could go in the Green Bin or Leaf & Yard waste program.
3. Toronto Solid Waste staff April 2016 report estimates that renewable natural gas generated from organics processing in Toronto's anaerobic digesters can replace diesel in City waste trucks. The RNG emits 93% less greenhouse gas emissions than diesel. Staff report to Public Works & Infrastructure Committee, April 2016, "Authority to Enter into Renewable Natural Gas Projects - Attachment 1"
4. Preliminary estimates that the Disco Road anaerobic digester can generate 4,000,000 m3 of renewable natural gas worth \$4 million. Staff report to Public Works & Infrastructure Committee, April 2016, "Authority to Enter into Renewable Natural Gas Projects - Attachment 1"
5. Based on TEA's analysis of City of Toronto 2014 residential waste audits.
6. Based on ICI sector waste estimate from City of Toronto Long Term Waste Management Strategy Technical Memo 1, Appendix G, August 2015 and average organics content of 1/3rd from Draft Strategy for a Waste Free Ontario, Ontario Ministry of the Environment & Climate Change, November 2015.
7. Not Far from the Tree has harvested 58 tonnes of edible fruit from Toronto trees since 2008. They estimate that 680 tonnes of fruit is available each year. [www.notfarfromthetree.org](http://www.notfarfromthetree.org)
8. Second Harvest 2014/15 Annual report notes 8,200,000 pounds of food was collected in the Food Rescue & Delivery program. Available at <http://www.secondharvest.ca/annual-report>
9. The City of Vancouver's 2014 food scraps recycling by-laws require all businesses to have food waste prevention and diversion plans as part of their business license. Metro Vancouver imposes fines on waste haulers who have more than 25% organics in their garbage loads.
10. Case studies of successful businesses available at SF Environment - Zero Waste Toolkit for Business Recycling & Composting website: <http://sfenvironment.org/article/business-recycling-and-composting/technical-assistance-for-sf-businesses-restaurants-office>
11. The New York City Commercial Organics Rule applies to food establishments in hotels with more than 150 rooms, stadiums and arenas with 15,000 seats and large food manufacturers and wholesalers.
12. Based on City waste tonnages in LTWMS Technical Memo No 1, Appendix C, August 2015
13. 430 Mayfair on the Green at McLevin Avenue. Details established at site visit, report and presentations from building staff Princely Soundranayagam between July 2015 and Feb 2016.
14. Foodshare Annual Report 2012 <http://foodshare.net/custom/uploads/2015/11/2012-FoodShare-AnnualReport-Final.pdf>
15. ZooShare will have an estimated input of 14,000 tonnes of commercial food waste per year and an additional 3,000 tonnes of animal manure. This manure is currently composted on-site therefore it is not counted in the diversion statistic. <https://zooshare.ca/wp-content/uploads/2014/08/Project-Description-August-2013.pdf>.
16. Toronto Food Policy Council - Food Waste by the Numbers [http://tfpc.to/food-waste-landing/food-waste-theissue#\\_edn5](http://tfpc.to/food-waste-landing/food-waste-theissue#_edn5)
17. University of Guelph food waste studies found that 53% of Green Bin waste was 'avoidable' food (that had spoiled) and 11% was 'possibly avoidable' (potato peels and potentially edible food). Only a third was actual inedible food scraps (banana peels, egg shells). Summarized in "Synthesis of Guelph Residential Food Waste Audits 2014" from Dr. Kate Parizeau. material that could go in the Green Bin or Leaf & Yard waste program.
18. Based on TEA's analysis of City of Toronto 2014 residential waste audits.

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**Zero waste is a journey that takes many steps. The first and most important step is to get the food and other organics out of our garbage bag.**

**This report shows that using the tools and systems already in place in our city, working with community groups, and learning from examples from other cities, we can get the organics out of our garbage.**

**As a city facing a major environmental decision, we need to focus on organics first in our Waste Strategy to protect the environment, support our communities and create a healthy circular economy.**



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