

briefing note



Date: June 20, 2016

To: Public Works & Infrastructure Committee

Re: PW 14.2 Final Long Term Waste Management Strategy - Focusing on Organics first

Toronto's Final Long Term Waste Management Strategy is one of the most important environmental decisions the City can make in 2016. However, the Strategy relies on sending 100,000 tonnes of garbage each year to another community's landfill, and misses major opportunities to dramatically reduce waste in the next five years.

In 2015, Toronto's diversion rate actually decreased (52%), and the Strategy projects only a 4% increase in the diversion rate over the next 5 years. At this rate, our City will only reach a 70% diversion rate by 2026 - a target we were supposed to meet in 2010. To put this in perspective, if the City focused solely on getting all organics out of the residential garbage stream, we could reduce waste to landfill by 180,000 tonnes a year and reach our 70% target in 5 years.

The Waste Strategy has set a deadline in 5 years (2021) to review progress and decide on major future capital investments, so it makes sense to do more effective diversion before this point in order to make the right investment for the next 45 years of the plan.

We need a waste strategy that focuses on Organics first.

The Waste Strategy needs to focus on the area of greatest impact first: organics and food waste. Over half of the waste coming from Toronto households is organics, yet most is ending up in the garbage. This includes multi-residential buildings, which often lack convenient access to Green Bins, and single-family homes who have had Green Bins for over a decade. There is more household organic waste sent to landfill each year (180,000 tonnes) than what is collected in residential Green Bins (105,000 tonnes).

Recommendations:

1. Adopt a target of zero organics found in the garbage stream from City-collected waste, including residential waste and City buildings and facilities by 2021.
2. Use data and waste audits to develop a targeted enforcement and education strategy for all City-served customers to get organics out of the garbage stream.
3. Pass new laws requiring organic waste collection in all multi-residential buildings in Toronto, regardless of waste service provider.
4. Consult with stakeholders and the public on requiring organic waste collection and food waste prevention plans for all Institutions and businesses in Toronto regardless of waste service provider.

Technical notes on the Final Long Term Waste Management Strategy:

1. The LTWMS does not directly address Organic Waste (Toronto's largest waste stream)

- Organics are the largest category of waste coming from Toronto homes - 50% or more of what we throw out. It is also the largest category of waste from many non-residential buildings.
- Based on City waste audits, 180,000 tonnes of compostable food and yard waste is going to landfill each year from residential waste - more than is collected in the Green Bin.
- The Strategy makes no specific mention of an organics strategy, and there is no projections for tonnages of diverted organic waste

2. The LTWMS will create a Multi-Residential diversion strategy, but does not project any major progress in the first 5 years nor does it specifically focus on organics.

- City waste audits show that 100,000 tonnes of organics, and 50,000 tonnes of recyclables are ending up in multi-res garbage. But the Strategy projects increasing multi-res diversion by only 10-20,000 tonnes at the end of 5 years (13% of this divertable waste).
- Promoting on-site composting for multi-res buildings does not start until 2023, even though it is inexpensive, and local groups are already working on this.
- Many City-served high-rise buildings still do not fully use Green Bins, and most buildings without City service do not have any organic waste management options.
- The Strategy recommends setting the same rules for every residential building to divert organics and recyclables, but it is too slow. This needs to start immediately and move rapidly to ensure we have results in time for the 5 year review.

3. The LTWMS does not address inconsistency of waste services and lack of organics diversion outside the home.

- Toronto residents said repeatedly during the consultation that different waste sorting rules where they live, work and play is very confusing. This leads to poorer diversion rates.
- The Strategy mentions various options to increase diversion in Industrial, Commercial and Institutional sector, but does not set a plan on where to start.
- Regulatory tools to require organics collection for all ICI buildings would have the greatest impact on waste, and be least affected by Provincial regulations.
- Other cities are doing this: San Francisco and Vancouver require all businesses to have food waste prevention plans and to compost food scraps. New York City and California now require large food manufacturers and venues to compost food waste.
Many large and small businesses and institutions in Toronto are already separating organics -- for example, UofT and Ryerson; food courts at the Eaton Centre, Scarborough Town Centre and Cloverdale Mall; offices, small businesses, and major grocery retailers.

4. The LTWMS does not outline a role for the Corporation to show leadership

- There is no strategy, target or reporting plan for waste generation volumes or diversion rates for City buildings and facilities.
- Many City buildings do not have Green Bins, even some buildings with kitchen facilities, and many do not have sufficient waste sorting signs.
- The Strategy is missing a key opportunity for the City to reinforce messages, educate and to lead by example by ensuring all City buildings use City waste services effectively.

Benefits of focusing on Organics as a first step in the Waste Strategy

Moving quickly to get organic waste out of the garbage will dramatically cut the waste going to disposal and could eliminate the need to send waste to other communities.

It will also have significant environmental, economic and community benefits for Toronto.

- Keeping organics out of landfill is the fastest way to reduce GHGs from our waste.
- Processing organics in the City's facilities could generate \$4M worth of green energy - Renewable Natural Gas that can power the City truck fleet *and* sell excess for revenue.
- Organics are processed locally, and much can be fully processed in Toronto, supporting the local circular economy and reducing GHGs from trucking.
- Organics contaminate recyclable materials, making it more challenging to separate items for recycling before final disposal
- Requirements for all businesses to reduce or separate food waste will benefit our communities - it will prevent food waste and increase redistribution of food to those in need.
- Standardized organics collection for all buildings will reduce confusion, decrease contamination and increased organics diversion is linked to increased Blue Bin recycling.
- Organics will not be affected by the Provincial regulations under the Waste Free Ontario Act in the way Blue Bin recyclables and other types of divertable waste will be.
- Organics diversion is primarily about access (what goes in the bin does not change the way Blue Bin materials do), so mainly requires effective outreach and improving diversion tools access. This will have a more transformative effect on how buildings see and handle waste.

Toronto has a number of projects and groups that are demonstrating the 3Rs of food waste - reducing food waste, redistributing edible food and recycling the nutrients through composting. These, and others, are outlined in TEA's report: [Organics First: Setting Toronto on the Path to Zero Waste](#)

- Second Harvest's 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.
- 430 Mayfair on the Green is a Scarborough high rise that turned their garbage chute into an organics chute and now boasts a diversion rate of 85%!
- Foodshare provides support and training for composting projects, and their community composter turns more than 22 tonnes of food waste into rich compost each year.
- Zooshare's anaerobic digester will recycle food waste from local grocery stores and manure from the Toronto Zoo into fertilizer and electricity, diverting 14,000 tonnes from landfill each year.



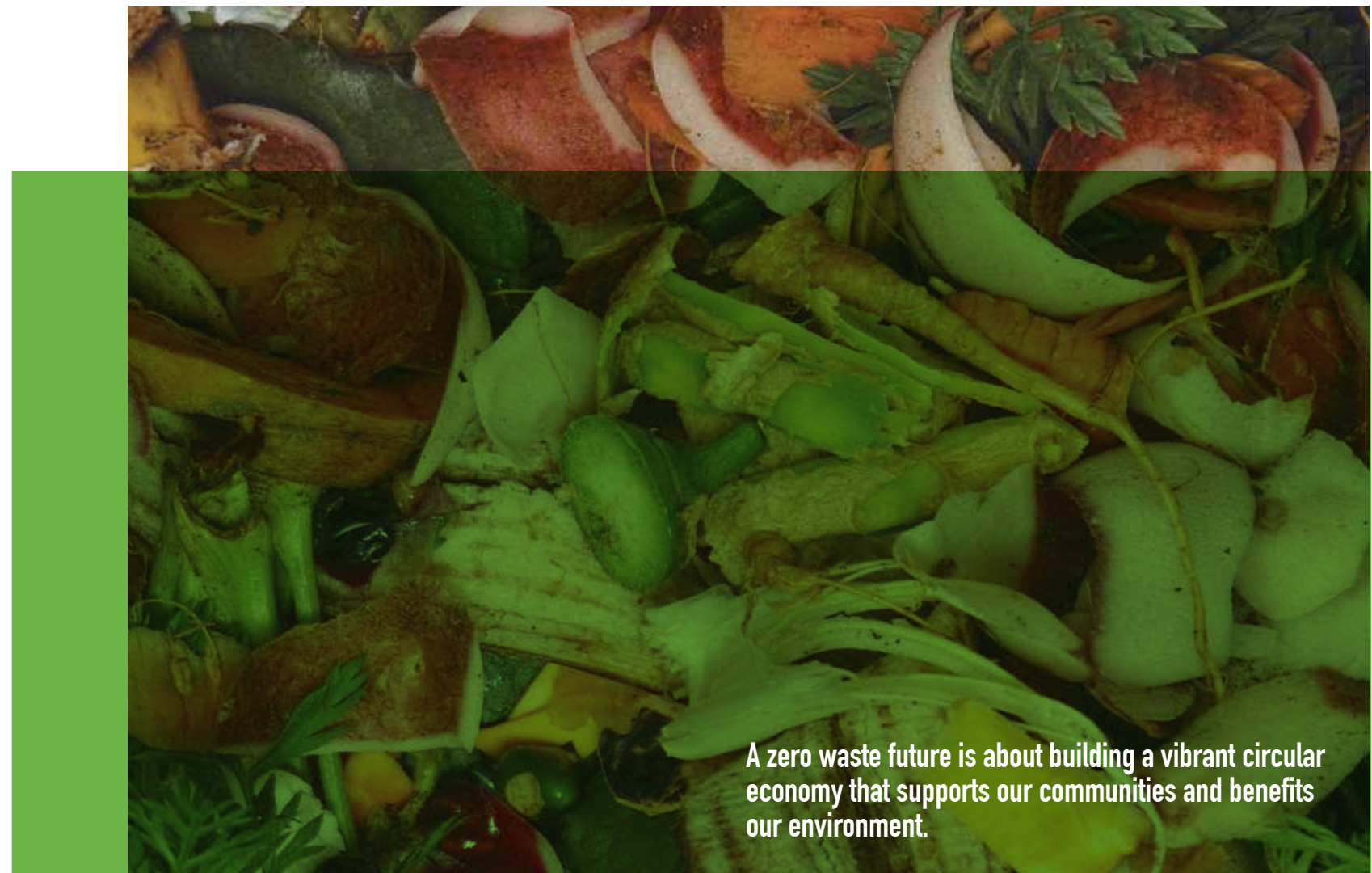
ORGANICS FIRST:

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 year¹. 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.

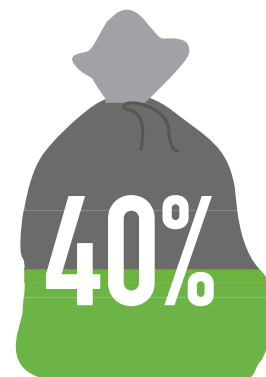
We need to get all the organics out of our garbage. Here's why:

- 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 Bin².
- 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 emissions³.
- 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 digester⁴.

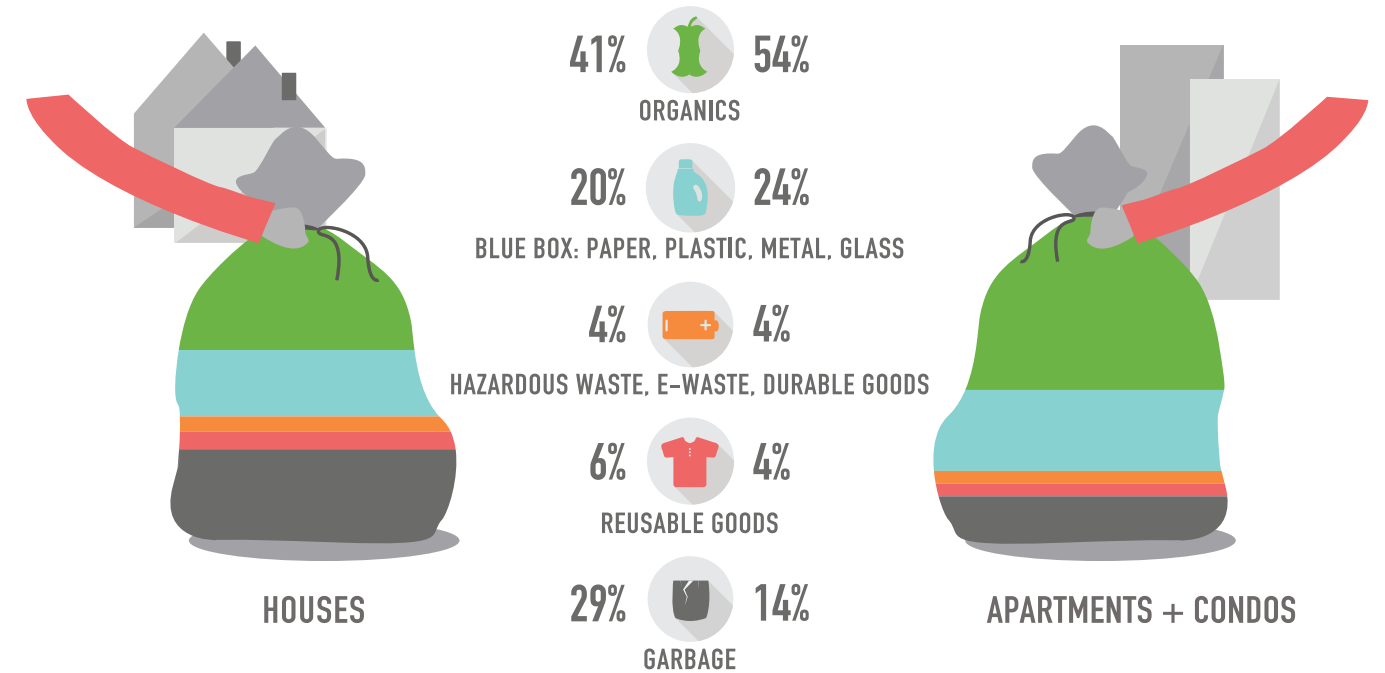
Unfortunately, the City doesn't have enough anaerobic digesters to process all the organic material it collects. Currently, up to a third of Toronto's organics are sent private contractors to process.

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 there⁵. 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.

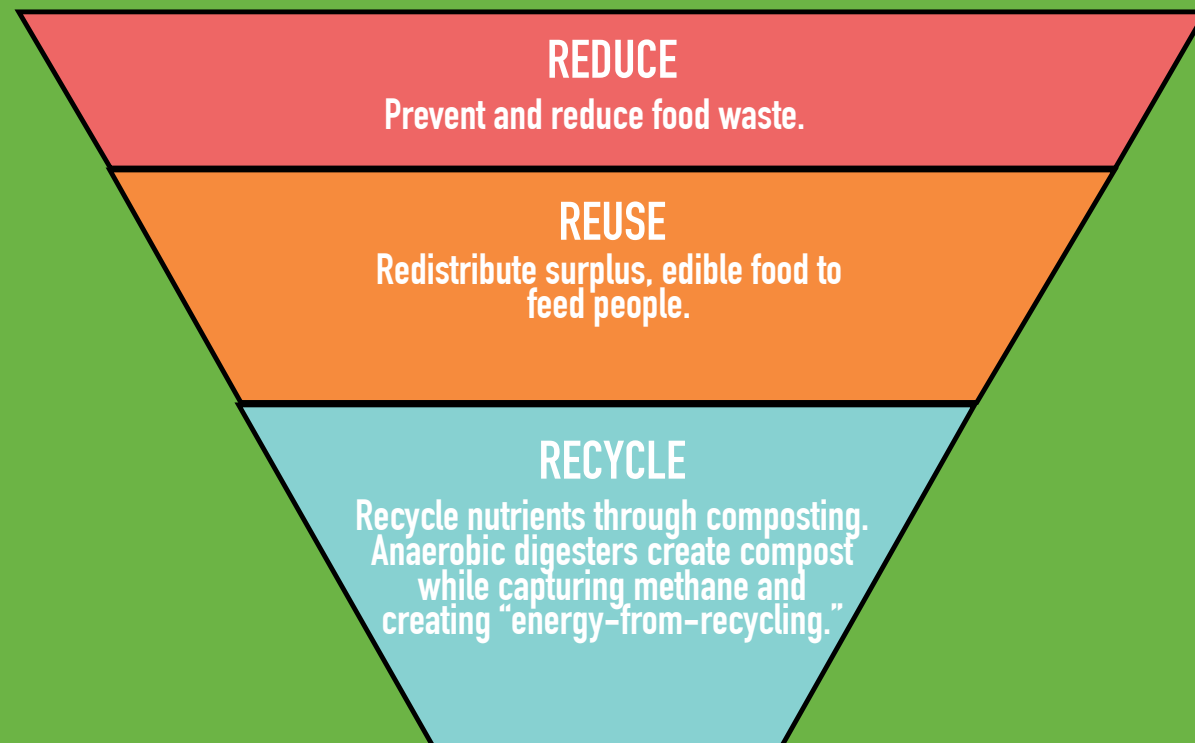
Almost all businesses in Toronto use private waste companies, and only a handful collect Green Bin waste, most is going straight to landfill.

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 banks⁷.

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 Toronto⁸.

VANCOUVER

A ban on disposing organics since 2015 means all businesses and residences in the city collect food waste for composting⁹.

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 waste¹⁰.

NEW YORK CITY

Starting in July 2016, large businesses will be required to ensure their food waste is composted¹¹.

TORONTO

Small businesses that use Toronto's waste services and Green Bin divert 64% of their waste, 6x higher than the average¹²!

MAYFAIR ON THE GREEN

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

FOODSHARE

Their community composter turns more than 22 tonnes of institutional food waste into rich compost each year¹⁴.

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 year¹⁵.

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 money¹⁶.
- 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 tossed¹⁷.
- 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 Bin¹⁸.

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:

- F/Cover Derivative of "[Compost](#)" by Jon / [CC BY-NC-SA 2.0](#)
- Page 2 Derivative of "[Food](#)" by [szczel](#) / [CC BY-NC-SA 2.0](#)
- Page 5 Infographic by Holly Thomson for TEA
- Page 10 Derivative of "[Downtown Toronto with Colorful Sunset](#)" by [MikeCphoto](#) / BigStock.com
- Page 11 Derivative of photo courtesy by Holly Thomson

ENDNOTES

1. Zero Waste Toronto: A Vision for our Future, February 2016, is available at 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
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.seconddharvest.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
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.

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.



torontoenvironment.org



twitter.com/toenviro



facebook.com/toenviro