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ZERO WASTE TORONTO

A VISION FOR OUR CITY





TORONTO ENVIRONMENTAL ALLIANCE



NOW IS THE TIME.

February 2016

Right now, we are facing a major decision that will affect our environment, our economy and our city. In the next six months, City Councillors and Torontonians will discuss, debate and decide what Toronto's Long Term Waste Management Strategy will be. This sets us on a path for how we will deal with our city's waste for the next 50 years. The path we choose reflects the vision we share for our future.

This report outlines a vision for zero waste - a future where there is no waste, where everything is designed to be reused or to become the materials and resources to create something new. This vision is about eliminating waste and taking responsibility for our actions.

Around the world and right here in Canada, communities are adopting zero waste. Ontario's new provincial waste strategy clearly articulates a goal of zero waste, supported with new programs and regulations aimed to eliminate waste and create a strong circular economy.

Toronto's Long Term Waste Management Strategy is our chance to choose a zero waste path for our city, a path that will help our environment, our communities, and our economy.

Zero waste strategies grow the economy by keeping resources and money circulating locally with good

green jobs, all while dramatically cutting our greenhouse gas emissions and conserving natural resources. It means more support for the innovative businesses and community groups that are already demonstrating the success of zero waste strategies.

The good news is that the City of Toronto has taken some important steps towards a zero waste future.

In this report, we celebrate the waste-free steps we have already taken in our city and we identify the steps we still need to take towards a zero waste future. Using examples from our own communities and from other leaders around the world, this report points out key opportunities and wrong turns we need to avoid.

This report provides innovative ideas and concrete examples that can help as our city discusses what kind of future we want and what path we will choose to take on waste. Our intention is to inspire Torontonians and Councillors with this vision of zero waste for Toronto, and demonstrate how achievable it really is.



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ACKNOWLEDGEMENT

The Toronto Environmental Alliance wants to thank the Toronto Civic Employees Union (CUPE) Local 416 for the donation that made this report possible.

CUPE Local 416 and the Toronto Environmental Alliance (TEA) have a long history of working together to promote environmentally responsible approaches to waste management in Toronto. In 2000, we collaborated on Green Future, Green Jobs, a report that made the business case for the City of Toronto to start separating and collecting organics rather than send it to landfill. The report led the way to the City's highly successful Green Bin program.

CUPE Local 416 members work night and day to manage Toronto's waste in environmentally responsible ways. TEA invests many thousands of hours every year doing research, talking to waste

practitioners, attending community meetings, and communicate our findings and solutions to our supporters, to waste experts, to business decision-makers and to elected officials at City Hall and Queen's Park.

This report (and the thousands of hours of work that it embodies) is a testament to CUPE 416's commitment to creating a more sustainable waste management system in Toronto. We are extremely grateful.

The content of this report reflects the views of TEA, and not necessarily those of CUPE Local 416.



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VISION: A ZERO WASTE FUTURE

All over the world, people are adopting a zero waste vision of a future without waste. In this vision, anything wasted is seen as a sign of environmental and economic failure.

A zero waste future is one in which goods are shared, designed to last and be easily recycled and repurposed. Zero waste uses a hierarchy that focuses on the highest and best use of a resource: reduce, reuse and recycle (in that order). Disposal or destruction of resources is waste that we need to avoid and design out of our system.

Zero waste is about building a vibrant circular economy, where unwanted materials are not disposed in a landfill or incinerator, but become the raw materials for something new. A strong circular economy keeps valuable resources circulating in the local economy, supporting good green jobs, benefiting the community, and reducing harmful environmental impacts.

Zero waste is possible.

Right now in Toronto, our City waste diversion services mean we can reduce, reuse, recycle or

compost 85% of the waste coming out of our homes.¹ Improving access and education will help more people get to 85% - then we can look at simple and creative ways to reduce the other 15%.

Community groups and businesses right here in Toronto and around the world are showing that creative zero waste solutions prevent pollution, support healthy communities and drive a circular economy.

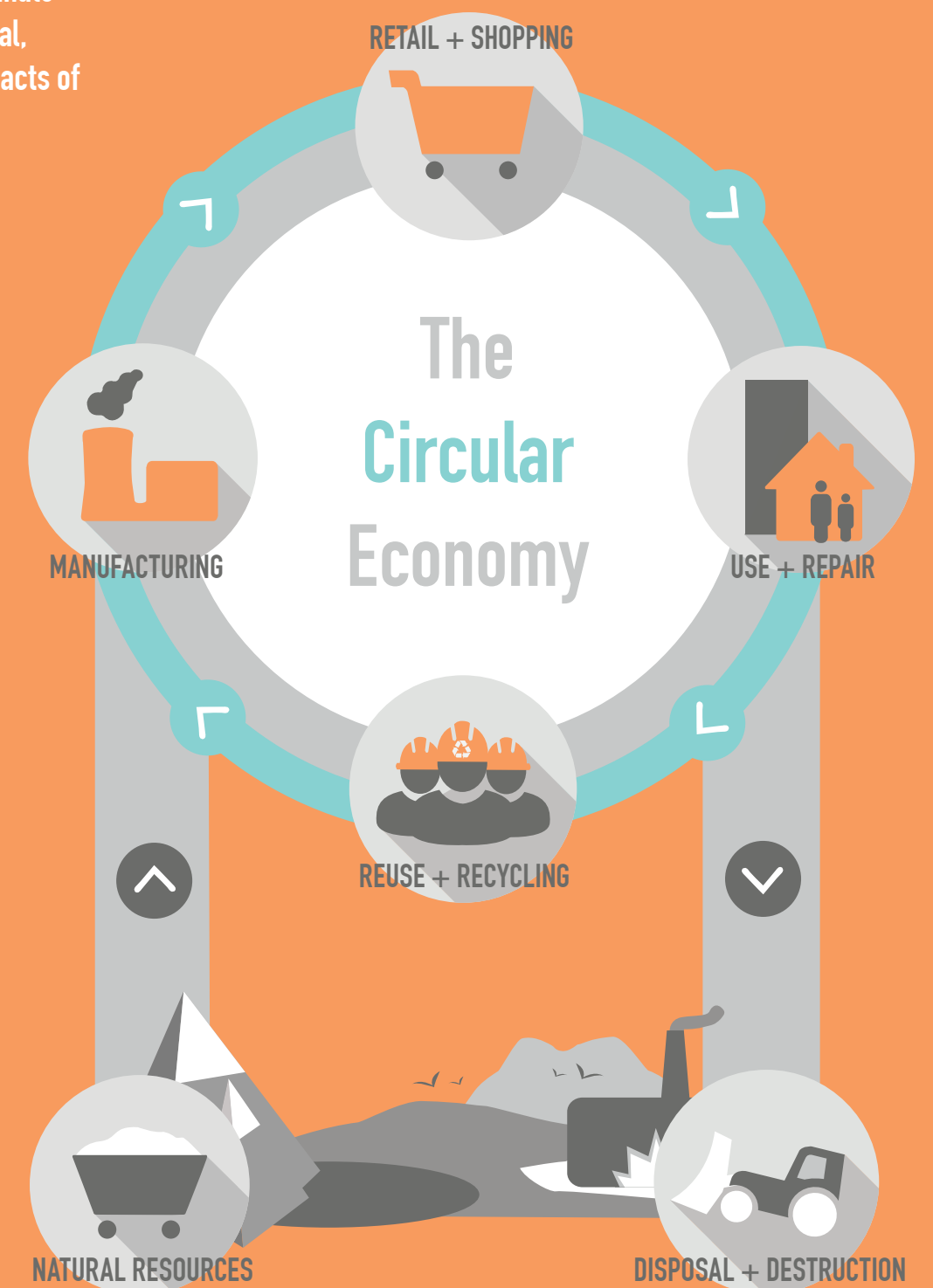
Zero waste is a journey.

The path to zero waste requires investing in people and nurturing a value almost all of us share: taking responsibility for our own actions and not being wasteful. It requires communities and governments to understand waste management is not a disposal problem to be solved by machines rather, it is a resource recovery challenge to be solved by empowering people.

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**

ZERO WASTE is an approach to waste that works to eliminate the harmful environmental, health and economic impacts of wasting resources.



“It’s good for everyone.
It’s easy. It’s not hard to do.”

– *Mayfair on the Green resident.*

- Located in the Malvern neighbourhood of Scarborough
- Transformed garbage chute into Green Bin organics chute
- Ground floor recycling room also collects cooking oil, hazardous waste and reusable items
- Door-to-door outreach educated residents on proper waste sorting and got buy-in from building residents

\$20,000 TO **\$5,000**
per year waste fees TO per year waste fees

20  TO **1** 
20 garbage dumpsters per month TO 1 garbage dumpster per month

40  TO **1000+** 
40 bags / reusable goods donated per month TO 1000+ residents in 282 units

MAYFAIR ON THE GREEN: A ZERO WASTE SUCCESS STORY

Located in Scarborough, a 25 year old condominium is showing how zero waste is possible: with over 1000 residents, this building is generating only one dumpster of garbage per month.

The residents of Mayfair on the Green are reducing, reusing, recycling and composting over 85% of their waste, far above the average high-rise building that diverts only 26%.

Soon after it was initiated by the building superintendent, Princely Soundranayagam, both building staff and the condo board committed to reducing waste. The goals were to both save on rising waste fees, and to do their part for the environment. Using the City’s full range of waste services and educational tools, the building was able to make dramatic changes in just a few years.

The building’s garbage chute has been transformed into a Green Bin chute, collecting organics and food waste only. Residents drop off recycling and garbage downstairs, where they can also recycle electronic waste, cooking oil and

hazardous waste like cleaners, batteries and old paint.

Residents place old household goods, books and clothes they no longer want on a designated sharing shelf. If another resident hasn’t taken it within a few weeks, the goods are donated to a local charity.

Using City waste signs, posters and brochures in multiple languages, the building staff went door-to-door to explain the benefits of the new program and answer questions.

As a result of their hard work, the building has saved thousands of dollars in waste fees and donated hundreds of bags of goods to charity. Residents are proud of what they’ve accomplished and they’re happy to share the story of their success. Their commitment is strong as they continue to look for ways to reduce waste further.²

The City can play a key role in helping multi-residential buildings develop zero waste strategies like Mayfair on the Green through incentives, access to recycling and diversion services, and educational support and feedback.

THE MANY BENEFITS OF ZERO WASTE

Zero waste protects the environment, benefits communities and supports a strong local economy.

ZERO WASTE BENEFITS OUR ENVIRONMENT



20 X

less energy to create an aluminum can from recycled materials than to create one from raw materials⁴

Zero waste reduces our climate impact.

Reducing, reusing and recycling can be a key part of a climate change strategy to reduce our greenhouse gas emissions.

The U.S. EPA has estimated roughly 42% of all greenhouse gas emissions are caused by the production and use of goods, including food, products and packaging.³ Reducing, reusing and recycling will conserve that energy and dramatically reduce our carbon emissions.

Zero waste conserves resources and minimizes pollution.

Our current culture of consumption is unsustainable. Extracting raw materials from natural spaces requires large amounts of energy and causes pollution, whether it is logging a forest, mining for minerals or drilling for oil. Processing these materials requires more energy and causes more pollution. Once they're used, the goods are simply dumped in a landfill or destroyed in an incinerator.

In contrast, a zero waste approach conserves natural resources and reduces pollution from extraction, manufacturing and disposal. Reducing and reusing means fewer products are made, as people buy less and as products are made to last. Recycling keeps waste out of landfills and incinerators and provides manufacturers with recycled instead of raw materials to make new goods.

ZERO WASTE BENEFITS OUR COMMUNITIES



Zero waste promotes social equity and builds community.

A zero waste approach can build community capacity, support marginalized communities and protect community health.

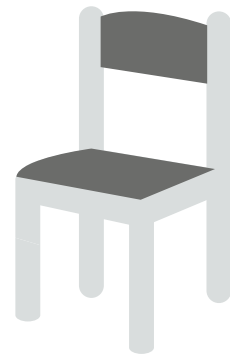
Community groups, and small businesses have solutions to help Toronto get to zero waste while also building community capacity and addressing social inequities.

Community projects focused on reuse help redistribute useful goods to those in need, from leftover food donated to shelters, to furniture for refugees, to business clothing for those entering the job market.

Community-based zero waste strategies like composting at a community garden, tool sharing and skills sharing to reuse and repair, build capacity to reduce waste and costs.

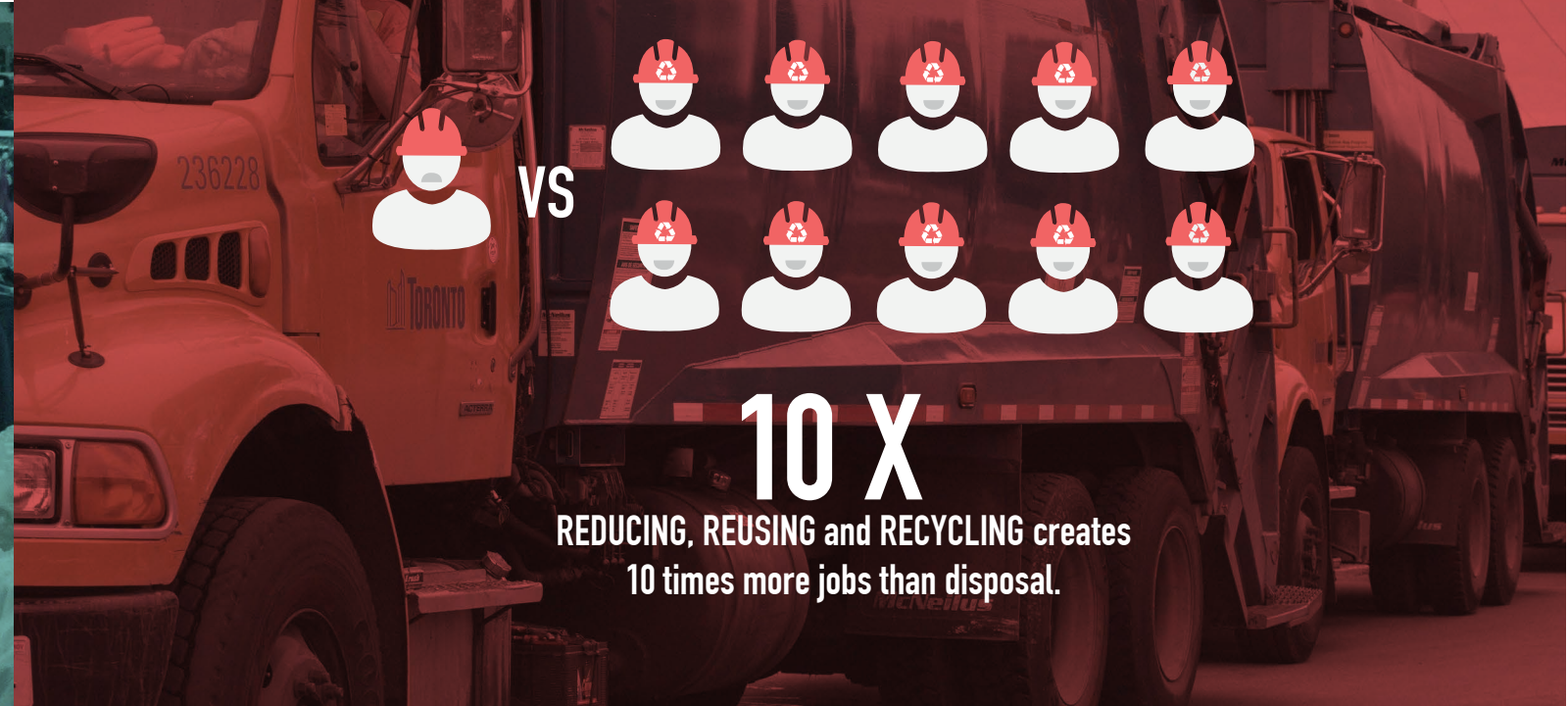
A zero waste strategy needs to ensure everyone has access to tools to reduce, reuse and recycle waste where they live, work and play. This allows everyone to participate in protecting our environment.

A zero waste approach also protects the health of communities by reducing pollution in the air, water and soil by keeping toxics and waste out of landfills and incinerators.



In 2015, The Furniture Bank collected more than 61,000 pieces of donated furniture from Toronto residents to redistribute for free to more than 7,600 families and people in need – including refugees and formerly homeless individuals.⁵

ZERO WASTE BENEFITS OUR ECONOMY



Zero waste supports a local circular economy and creates jobs

A zero waste Toronto builds a circular economy, where one person's "waste" is a resource for something new. This creates good, green jobs as resources are endlessly recirculated through our economy instead of being used once and then disposed or destroyed.

Ontario's recycling, composting and diversion programs create 10 times more jobs than disposal.⁶ Green jobs are created in collecting and handling recyclable materials and processing at local recyclers, waste depots and compost facilities.

Reducing and reusing materials create even more jobs in rental and sharing businesses (e.g. car-sharing, tool rental), repair and tailoring, and reuse businesses. Local money is spent on local jobs and stays within the community instead of leaving the community to buy imported products.

Zero waste needs businesses to play a key role

Right now, Torontonians pay most of the costs of our waste system through waste fees. The Province's new Waste Free Ontario Strategy sets a clear "zero waste" goal and new rules that will build a circular economy and eliminate waste. A key part of this is requiring companies

that import or make products and packaging take responsibility for the waste from those products. Called 'extended producer responsibility', this gives companies an incentive to reduce packaging, and make their products more durable, or easier to recycle. This will drive innovation for a circular resource economy and save residents money.

On Blue Bin materials alone, extended producer responsibility will save the City of Toronto up to \$30 Million each year on collecting, sorting and processing materials.⁷

TORONTO WAS ONCE A LEADER IN ZERO WASTE

Toronto was on the zero waste path, but we lost our way.

More than 15 years ago, Toronto faced a garbage crisis with rising disposal costs and fewer places to send our garbage. Residents and City Hall agreed that we needed to take responsibility for our waste. The City committed to a target of diverting 70% of our waste away from landfill by focusing on comprehensive recycling, and launching the first major Green Bin program in North America.

Though our diversion rate climbed at first, it's now stalled at 53%, and we're falling behind many other cities. More than 1,000,000 tonnes

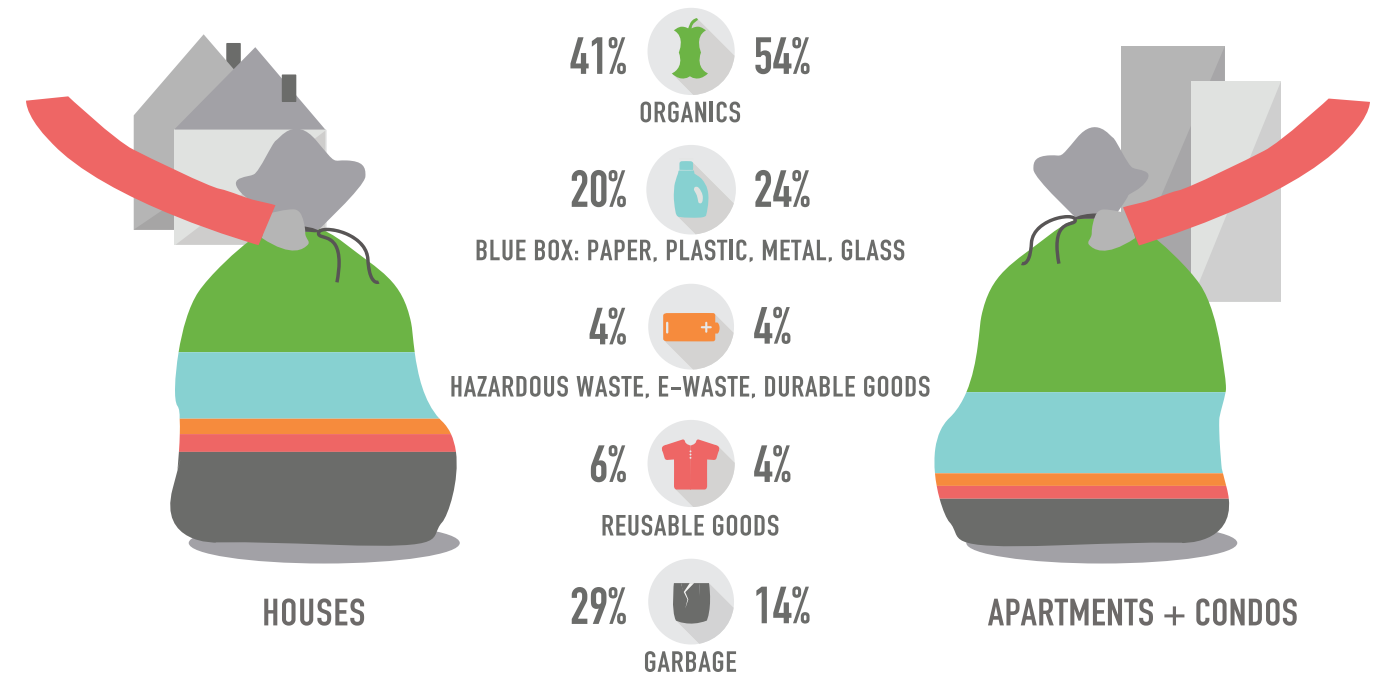
of waste is collected by City and contracted workers, and just under half went to landfill. At this rate, the City-owned Green Lane Landfill will be full by 2029.⁸

Looking at our garbage bag, we can see that most of what we throw away isn't waste, but valuable resources that can be reused, recycled and composted. With the right zero waste plan, we can get those resources out of the garbage bag.

If we used Toronto's existing waste diversion tools properly, we could cut residential waste sent to landfill by 300,000 tonnes per year. This alone could extend the life of the Green Lane Landfill by 18 years.⁹

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

71% COULD HAVE BEEN DIVERTED 86%



Outside the home, the situation is worse.

The garbage bags from where we work, study and play typically have even more recyclable and compostable waste in them. Known as the IC&I (industrial, commercial and institutional) sector, these mostly privately-owned spaces are poorly regulated and do not report on their recycling, diversion and waste statistics. Estimates say Toronto's IC&I sector generates 840,000 tonnes of waste annually.

Most have minimal recycling and few have organic waste collection.¹⁰

Construction, renovation and demolition waste is a significant category of waste, with an estimated 380,000 tonnes generated each year.¹¹ Unfortunately, though much of this waste is reusable or recyclable, a lot of it is just sent for disposal.

60% of the waste in Toronto comes from private buildings, businesses and institutions. This sector is poorly regulated, does not report its diversion rate and has an estimated diversion rate of 11%.¹²

BURYING AND BURNING RESOURCES ARE NOT PART OF A ZERO WASTE FUTURE.

Most of what Torontonians put in the garbage doesn't belong there, and most of it can be easily reused, recycled or composted. All of this means we are throwing away valuable resources. This is bad for the environment, the community and is a waste of money.

When we waste resources, all of the energy and money that went into processing that material is wasted. Companies that need materials - like paper, plastics and metals for their products and packaging - have to start from scratch and rely on raw materials. That means extracting natural

resources, like logging forests, drilling for oil, or mining for metals. This creates significant pollution and greenhouse gas emissions.

Focusing on disposal takes attention and resources away from lower cost zero waste solutions. The simple fact is that burning things or burying resources in landfills is bad for the environment, harms the economy and is very expensive. It is not part of a true zero waste future.

Impacts of landfill

Currently, Toronto's garbage is sent to the City-owned Green Lane Landfill, but that is filling up. Unless our diversion rates improve, our landfill will be full by 2029.

Landfills occupy natural spaces and they also waste and trap valuable recyclable material. When organics are sent to landfill they create methane, a greenhouse gas 23 times more harmful than carbon dioxide. Fortunately, Toronto's landfill captures and destroys this methane so it is not released to the atmosphere, and is looking at a better solution.

Some people talk about "zero waste to landfill" and then simply dispose of waste in an incinerator or energy-from-waste facility. This is not zero waste, and is not a circular economy, because resources are being destroyed and wasted.

DID YOU KNOW? Some places, like Sweden, Germany and Norway, built too many large energy-from-waste incinerators. They are now scrambling to import other people's garbage to keep the incinerators running. This means that no matter how successful the residents are in recycling and zero waste, they still have to deal with the air pollution, toxic ash and truck traffic from someone else's unsorted garbage to create dirty, inefficient energy.¹⁶

Impacts of incineration

Incinerators and "energy-from-waste" facilities include pyrolysis, gasification, plasmification and others - these are all about destroying waste resources and are worse than landfill.

- Incinerators and "energy-from-waste" creates toxic pollution. Pollution controls can't eliminate all pollution, including dioxins and ultra-fine particulate that are harmful to human health, even in small amounts.
- Air pollutants build up in the soil and in wildlife and vegetation for generations.
- "Energy-from-waste" and incinerators are the most

expensive way to dispose of waste.

- It locks us into wastefulness, as facilities need a constant flow of garbage - all day and every day. Cities often sign contracts guaranteeing steady waste volumes - if they reduce waste they pay a financial penalty.¹⁴
- "Energy-from-waste" facilities burn garbage to generate only a small amount of expensive energy. Most incinerators are as dirty as coal.¹⁵



of the garbage incinerated goes into the landfill as ash.

Incinerators need landfills: Burning waste creates ash that can be up to 35% of the waste put into the incinerator. Sometimes this is toxic and needs to go to a special hazardous waste landfill.¹³



ZERO WASTE + ORGANICS

More than half of all waste produced by Toronto residents is food, plant, and yard waste. While Toronto offers the Green Bin and Yard waste composting, 182,000 tonnes of organics are put in the garbage and sent to landfill every year.¹⁷

Zero waste values organic materials as a resource.

By recycling organics, Toronto produces compost that enriches soils, replaces chemical fertilizers, and reduces greenhouse gas emissions. Most of Toronto's Green Bin waste ends up at two City-owned anaerobic digesters, which turn organic material into compost and will soon capture the methane to use as a renewable energy. Leaf and yard waste is collected by the City and turned into a nutrient-rich compost that residents can pick up for free at Community Environment Days.

HALIFAX - This city banned organics from their landfill as a way to increase diversion.

TORONTO - Our city was the first major North American city to roll out a major residential Green Bin Program in 2002.

Zero waste requires equal access to Green Bin organics collection for all buildings where we live, work, study and play.

The Green Bin is widely used by residents living in houses, but most residents living in apartments and condominiums are not yet using this service. Most offices, restaurants and businesses do not separate organic waste at all unless they are a small business with City collection.

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.¹⁸

FOODSHARE - Their community composter turns more than 22 tonnes of institutional food waste into rich compost each year.¹⁹

Zero waste strategies reduce food waste at the source, donate unwanted food to social programs, and compost at the community scale.

While no one wants to waste food, the average Canadian household spends \$28 per week on food that isn't eaten.²⁰ Food waste is a big problem at the commercial scale, especially for warehouses, grocery stores and restaurants. Community groups in Toronto are responding to the challenge with innovative solutions that improve social equity.

SECOND HARVEST - Their Food Rescue & Delivery program collects over 3,700 tonnes of unwanted food from restaurants, stores and warehouses and delivers it to food banks and shelters across Toronto.²¹

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.²²



ZERO WASTE + RECYCLABLES

While Toronto residents are fairly good at using the City's Blue Bin, over 20% of a typical residential garbage bag is filled with recyclable materials. That means up to 84,000 tonnes of recyclable resources are landfilled every year.²³

Zero waste strategies recycle as many things as possible, and work to reduce packaging and reuse things instead of choosing disposables.

A big portion of our waste is single-use disposable products and packaging made of paper, plastic, metal and glass that can be recycled.

Zero waste strategies provide equal access to Blue Bin recycling for all buildings.

Not all buildings in Toronto recycle the same materials. This makes things confusing, as what you can recycle at home may not be recyclable at school or work. Businesses and institutions have an average diversion rate of only 11%. Many only recycle a few materials, like paper and cans, and some don't recycle at all.

AUSTIN, SAN FRANCISCO & VANCOUVER - These cities require businesses to collect all the same materials that are recycled at home and school.

TORONTO - Small businesses that use City waste collection services have an average diversion rate of 64%, six times higher than the average business in Ontario.²⁴

Zero waste needs companies to do their part by reducing packaging and redesigning products to be more recyclable.

New Provincial waste rules will make all companies that import or make products and packaging in Ontario responsible for the cost of recycling those products. Called "extended producer responsibility", it gives companies an incentive to reduce packaging and make their products easier to recycle. This will save the City of Toronto up to \$30 Million each year on collecting, sorting and processing these materials.²⁵

Many businesses around the world are showing how this can happen.

HARMONY DAIRY & THE BEER STORE - These companies have created business models where they take full responsibility for their product packaging. They use refillable beverage containers and deposit return programs to ensure the containers get returned to them and therefore never end up in our municipal waste system.



ZERO WASTE + HAZARDOUS WASTE

While hazardous and electronic waste make up a much smaller portion of Toronto's waste they can still cause environmental and health problems if not carefully handled. Household hazardous waste (HHW) includes fluorescent bulbs, batteries, paints, oils, cleaners, and medical waste. Electronic waste (e-waste) like computers, cell phones, and televisions also have hazardous substances and precious metals in them that need to be handled and recycled properly.

Zero waste strategies safely handle toxic materials and support the transition to non-toxic alternatives.

Residents can drop off hazardous and electronic waste at Community Environment Days held in every ward each year, or at a City-run HHW Depot. Residents can call the Toxic Taxi to have City workers collect hazardous materials from their home, and can rely on E-Waste pickup as part of their regular waste pick up.

CITY OF TORONTO -

City-run HHW Reuse Centres allow residents to drop off and pick up unused paint, oil, cleaners and other products.

Zero waste strategies require equal access to hazardous waste and e-waste recycling services in all buildings so that residents, students and employees can contribute.

Currently, it is not easy for businesses, schools or others to safely recycle or dispose of hazardous and electronic materials in Toronto. There are some recycling programs run by small businesses and community groups or offered through special service contracts, but much more needs to be done to provide consistent, transparent and reliable service.

reBOOT - This charity refurbishes second hand computers to re-sell or provide at low cost to non-profit organizations.²⁷

XEROX - Companies that lease large office equipment like printers, sometimes have return programs for used printer cartridges, which can be toxic and difficult to recycle.

Batteries make up only 1% of landfilled waste, but are responsible for 88% of the toxic heavy metals found in landfill.²⁶



ZERO WASTE + REUSABLES

While you may not be throwing these items out every day, Torontonians have a lot of reusable items that get tossed in the garbage, such as clothing, toys and furniture. Reusing items is even better than recycling, as it conserves the energy and resources that went into making those products. Reuse has social benefits as it makes affordable goods available to the community and supports small businesses and social enterprises.

Zero waste strategies reuse durable materials to benefit the community socially and economically.

The City of Toronto collects reusable goods for donation at annual Community Environment Days and has an online Reuse Guide of places to donate goods. Many Toronto charities and small businesses collect reusable clothing, furniture and other goods to donate, sell or swap, giving items a second chance.

KIND EXCHANGE - This consignment shop buys, trades and sells gently used clothing, footwear and accessories in Toronto. Part of their proceeds go to charitable partners and in only a few years they have opened 10 locations.²⁸

Zero waste strategies reduce the need for new goods by repairing and restoring things in ways that foster a circular and sharing economy.

Community groups and repair businesses are helping people save money and make their goods last longer with skill and tool sharing to maintain and repair durable goods like clothing, appliances, computers and furniture.

TORONTO TOOL LIBRARY

- They have loaned out more than 25,000 tools since 2013, so people don't have to buy their own. They have 4 locations - including one in a Toronto Public Library and a downtown express location.²⁹

REPAIR CAFE TORONTO

- In 2015, they have mobilized more than 72 volunteers to teach more than 1,000 people how to repair their own goods, keeping more than 1,050 items out of Toronto's landfill. Expansion plans include holding more community events and collaborating with The Toronto Public Library.³⁰

Zero waste requires companies to play their part to make goods more durable.

Many products sold in Ontario have no warranty, break down easily and are difficult to repair. Companies need to be held responsible to improve the life span of what they sell.

EUROPEAN UNION & QUEBEC

- Consumer protection laws in these places require longer warranties on all durable goods. This puts an expectation on companies to make products that are more durable, and repairable.³¹



ZERO WASTE + THE “LEFTOVERS”

Toronto’s recycling and compost system means that 85% of residential waste can be recycled, composted or otherwise diverted from disposal. The 15% “leftover” includes items like unrecyclable disposable products, packaging, broken toys, furniture and construction materials. Fortunately, other cities are showing that these materials don’t need to end up in the garbage bag.

Zero waste strategies increasingly reduce, reuse and recycle so that we’re moving towards a day when there is no waste left.

Toronto regularly adds new materials to the list of what can be recycled in the Blue Bin, and is finding other ways to reduce waste. In 2013, 3,000 tonnes of bulky waste such as mattresses, furniture and large appliances were dismantled and recycled at the City’s Durable Goods Centre.³²

ST PAUL, MINNESOTA - In this city, unwanted and unwearable clothing and textiles are picked up at the curb with other recyclables.

OWEN SOUND - This small Ontario city collects household pots, pans and cutlery in their Blue Bin.

Zero waste requires companies and businesses to do their part to reduce waste.

While some companies are making big steps, new Provincial rules will help reduce waste even further. Companies that import or make products like furniture, carpets, textiles and appliances may soon be responsible for the waste from their products and packaging. This type of producer responsibility law is already used in Ontario to ensure electronics and tires are recycled properly.

INTERFACE CANADA - This company built recycling into their design. Customers can replace carpet tiles as needed (instead of the whole carpet) and old carpet tiles are recycled into new ones.³³

Zero waste strategies need governments to take the lead and use incentives like fines, rules and rewards to reduce waste and deal with problem wastes.

Some special types of waste cause big problems, or need unique solutions. Experience in other cities show that restrictions, deposits and incentives can help get to zero waste. Cigarette butts, gum, and coffee cups are small, but they make up a large part of Toronto’s litter problem. Construction, renovation and demolition waste such as wood, drywall, brick, and plastics are easy to recycle, but they often end up in landfill.³⁴

SAN FRANCISCO - There is a 40 cent fee charged on all cigarette packs sold in this city, which helps cover the \$11 Million spent on litter and beach clean up of cigarette butts every year.³⁵

VANCOUVER - This historic city requires that 75% of demolished pre-1940 houses are recycled or reused. That increases to 90% for buildings with heritage character, and the City plans to expand to newer buildings.³⁶



ONLY 15% OF WHAT WE CURRENTLY THROW AWAY IS GARBAGE. WITH A LITTLE BIT OF CREATIVITY, WE CAN CUT THIS NUMBER DOWN TO ZERO.

ZERO WASTE IS A JOURNEY.

Toronto is ready for a zero waste future. We have the programs and infrastructure to reduce, reuse and recycle almost all of our waste. We have an excited and robust group of businesses and communities ready to scale up with creative solutions that support a circular economy. Now is the time to continue our zero waste journey, and the 6 Pillars of zero waste will help governments and businesses take the next step.

THE PILLARS OF ZERO WASTE

ONE

Commit to zero waste with targets and timelines for Toronto

We need to commit to a zero waste vision for our city. Targets and timelines provide accountability and a way to measure our progress. Targets are best designed by residents and city politicians together. The City can develop targets and timelines to address waste directly under the City control, as well as what residents and businesses can do.

Targets can focus on a timeline for eliminating all divertable goods from garbage, and a timeline for reducing the overall waste generation per capita.

TWO

Ensure equal access to the tools to reduce, reuse and recycle

To reach zero waste, we need to ensure that reducing, reusing and recycling waste is easy and accessible for everyone. Everyone has the right to the same waste diversion services, regardless of where they live, where they work and how they move around the city. Currently, this equal access does not exist:

- Many people who live in apartments do not have access to green bins.³⁷
- Most places of work have only basic recycling and no green bin service.

The City can expand waste diversion programs and create policies so all residents and businesses have the same access. This will support a local resource recovery economy, green jobs, and help residents save money and reduce waste sent for disposal.

THREE

Make Education and Effective Communications a Priority

More than 85% of our residential waste stream can be reused, recycled or composted in existing programs in our city, but we're only diverting 53%, far below that target. Better education will help everyone understand the tools available. Effective communication also includes listening - to identify what works (and what doesn't), to answer questions, and to hear new ideas.

Currently, communications and education make up just 1% of the city's total solid waste management operating budget. The City needs to invest in research and tools to understand the best way to reach all Torontonians and then provide better communications and education. The City also needs to invest in front-line workers who are dealing with waste and recycling everyday to empower them to observe, evaluate and contribute to constant learning.

Businesses, schools, and the companies that design and sell products all need to play a role in communicating recycling and zero waste strategies.



FOUR

Tap into community excitement and innovation

Zero waste thrives on partnerships. The City needs to take a leadership role, but also partner with residents, community groups, and businesses. Every day thousands of City employees interact with Torontonians. These employees are all potential zero waste ambassadors.

Residents and businesses across our city have innovative and exciting ideas for reducing waste. They often create solutions unique to their community. Community groups and schools host clean up days and competitions and share creative ideas to reduce waste. Small businesses sell used clothing, repurpose old furniture and recycle goods. All of these groups have a wealth of knowledge and capacity to help us get to zero waste.

FIVE

Use incentives to influence behaviour and keep pushing for zero waste

Incentives such as rewards, fines and regulations can push zero waste even further, encouraging diversion and reducing waste.

The City can increase garbage fees, set disposal bans for recyclable and organic materials, and use other regulations to reduce waste. Businesses and community groups can provide incentives to their own building users with rules, competitions and prizes for increased waste diversion. Green policies can be adopted by the City, businesses and institutions to buy recycled products, choose suppliers with zero waste policies and avoid disposables.

SIX

Keep learning

Zero waste is a journey. To keep moving ahead, it's important to build in opportunities to step back and evaluate our progress. Ongoing data collection and research into how diversion programs are working and what's left in the garbage, can help us identify how to get to zero waste.

For instance, the City could form a committee of residents, community groups and businesses to share best practices and identify new opportunities to move towards zero.

CREDITS

Thank you!

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We would also like to thank the dedicated Torontonians who are proving zero waste is possible by changing how they handle resources at home, work and in our communities.

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

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ENDNOTES

1. Based on TEA's analysis of City of Toronto household waste audits. Diversion rate from City of Toronto website "All about Toronto waste" www.toronto.ca/wastestrategy
2. 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. Resident quote from CBC "Toronto condo goes green, cuts garbage to 1 bin a month", May 12 2015.
3. US EPA Office of Solid Waste and Emergency Response, "Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices", Sept 2009.
4. The Aluminum Association, "Aluminum Recycling" www.aluminum.org/sustainability/aluminum-recycling
5. Furniture Bank, 2015 Annual Report
6. AECOM, "The Economic Benefits of Recycling in Ontario", 2009.
7. City of Toronto [Solid Waste Management Services Operating Budget 2016](#) shows the City spends a net \$20 Million to process just over 200,000 tonnes of recyclables, or approximately \$100 per tonne. Assume another \$8.4M potential savings if recyclable material currently in the garbage stream (average of 20% based on TEA's analysis, or 84,000 tonnes) were put in the Blue Bin and not the garbage.
8. The City of Toronto collected 1,024,425 tonnes of waste and sent 524,000 to landfill in 2014. City of Toronto website "All about Toronto waste" www.toronto.ca/wastestrategy
9. Based on City Residential Waste Diversion numbers for 2014, and TEA's analysis of City waste audits that show 71% of single family (128,797 of 181,404 tonnes) and 86% of multi-residential (171,267 of 199,148 tonnes) waste put out as garbage is material that could be diverted. City of Toronto website "Residential Waste Diversion" www.toronto.ca/garbage. Based on projected capacity at current diversion rate, decreasing 300,000 tonnes per year could extend the life of Greenlane by 18 years.

ENDNOTES

10. City of Toronto Long Term Waste Management Strategy (LTWMS) [Technical Memo I, Appendix G](#), August 2015.
11. Ibid.
12. LTWMS [Technical Memo I, App G](#) Estimates privately managed ICI waste at 840,000 tonnes annually. [Statistics Canada "Waste Management Industry Survey, 2010"](#) estimates the ICI diversion rate is 11%.
13. The Regions of Durham and York revised their agreement with Durham York Energy Centre in January 2016 to increase the permitted ash to up to 35% weight, see [Notice of DYEC Acceptance Test Certificate](#). Incinerators also create fly ash that often contains toxic substances and requires disposal in a special hazardous waste landfill - as occurred with Vancouver's Burnaby incinerator since 2012 - [Globe and Mail "Costs adding up as incinerator ash being shipped to Alberta"](#), Dec 5, 2012.
14. 'Put-or-Pay' provisions are common, and can mean high financial penalties. Detroit Michigan residents spent more than \$150/tonne for waste disposal but those from outside Detroit paid only \$15/tonne to help the City meet minimum waste volume agreements. Toronto Star "Incineration: a recycling killer?", Apr 3, 2012.
15. Energy Justice Network, www.energyjustice.net/incineration/worsethancoal and Environmental Integrity Project "Waste-To-Energy: Dirtying Maryland's Air by Seeking a Quick Fix on Renewable Energy?", Oct 2011.
16. Germany, Sweden and Norway are just three EU states that have been importing garbage from other countries to feed the many energy-from-waste incinerators. Guardian "Trash to cash: Norway leads the way in turning waste into energy", June 14, 2013. Also see Global Alliance for Incinerator Alternatives "Incineration overcapacity and waste shipping in Europe: the end of the proximity principle?", Jan 2013.
17. Based on 2014 Toronto Residential Waste Diversion totals, and TEA's analysis of City waste audits that show 41% of single family (74,374 of 181,404 tonnes) and 54% of multi-residential (107,540 of 199,148 tonnes) waste in the Garbage stream is material that could go in the Green Bin or Leaf & Yard waste program.
18. Case studies show some businesses saving more than \$100,000 annually and divert more than 80% of their waste. SF Environment - "Business Recycling & Composting: Zero Waste Toolkit for Successful Participation", 2010.
19. Foodshare, 2012 Annual Report.
20. Toronto Food Policy Council - Food Waste by the Numbers http://tfpc.to/food-waste-landing/food-waste-theissue#_edn5
21. Second Harvest [2014/15 Annual Report](#) notes 8,200,000 pounds of food was collected in the Food Rescue & Delivery program in 2015.
22. 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. Source: Correspondence with Frances Darwin, and [Project Description: Toronto Zoo Anaerobic Digester](#), Aug 2013.
23. Based on 2014 Toronto Residential Waste Diversion totals, and TEA's analysis of City waste audits that show 20% of single family (36,280 of 181,404 tonnes) and 24% of multi-residential (47,796 of 199,148 tonnes) waste waste in the Garbage stream is material that could go in the Blue Bin.
24. Based on City waste tonnages in [LTWMS Technical Memo No. I, Appendix C](#), August 2015
25. City of Toronto [Solid Waste Management Services Operating Budget 2016](#) shows the City spends a net \$20 Million to process just over 200,000 tonnes of recyclables, or approximately \$100 per tonne. Assume another \$8.4M potential savings if recyclable material currently in the garbage stream (average of 20% based on TEA's analysis, or 84,000 tonnes) were put in the Blue Bin and not the garbage.
26. Raw Materials Company, www.rawmaterials.com/page/technology/additional-benefits/
27. reBOOT Canada redistributed or recycled 100,000 kgs of computers and related materials in 2015. www.rebootcanada.ca/news/archives/12-2015
28. Kind Exchange <http://kindexchange.ca/our-story/>
29. Toronto Tool Library is also looking to start a Sharing Depot to loan out games, camping and sports equipment, party supplies and more. <http://torontotoolibrary.com/our-story/>
30. Repair Cafe Toronto <http://repaircafetoronto.ca/thank-you-for-a-strong-year/>
31. Quebec's [Consumer Protection Act](#), article 38 provides an automatic minimum Legal Warranty on all goods requiring that they are usable for a reasonable amount of time depending on the good and cost. [European Union directive 1999/44/EC](#) requires companies to honour a 2 year warranty for goods sold in member states.
32. City of Toronto, LTWMS Technical Memo I, August 2015.
33. Interface Canada - http://www.interface.com/CA/en-CA/about/modular-carpet-tile/ReEntry-20-en_CA
34. City of Toronto LTWMS [Technical Memo I, App G](#), estimates there are 380,000 tonnes of C&D waste managed by private waste companies annually.
35. The Cigarette Litter Abatement Fee was passed in 2009 with a 20 cent fee per pack. The fee went up to 40 cents in January 2016. San Francisco Examiner "San Francisco to double litter fee on cigarette sales" Dec 18, 2015.
36. Vancouver's Green Demolition Bylaw outlined on City website "Demolition permit with recycling requirements"; Impacts explained in [Globe and Mail "Heritage properties: A sad end for once-proud homes in Vancouver" December 11 2015](#).
37. Of the approximately 5,800 apartments and condo buildings in Toronto, 1,300 do not receive City waste services and are not required to collect Green Bin waste.

All over the world, people, businesses and cities are adopting a vision of zero waste. A zero waste path for Toronto will protect the environment, benefit the community and support good green jobs and a strong local economy.

Most importantly, it stops wasting resources, and allows Toronto to take responsibility for our own waste.

We have the tools, the ideas and the opportunity: together, we can push forward for a zero waste future for Toronto.



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