

WASTE REDUCTION

High-rise models a solution to waste crisis

Every year, Toronto residents put roughly one million tonnes of waste out for the city to collect. Just under half is disposed in landfill, and 53 per cent is diverted from landfill and sent for recycling or composting in the Blue Box and Green Bin.

The Toronto Environmental Alliance started wondering — why is the diversion rate so low?

Every few years, Toronto's Solid Waste department performs audits on residential waste, and TEA looks at its numbers. Its studies show 85 per cent of waste from the average household could be recycled, composted or otherwise diverted from disposal using existing Toronto waste programs.

Toronto has a full range of systems and programs to keep things out of landfill, from Green Bins to electronic waste collection, to a Toxic Taxi that picks up hazardous waste and a transfer station that dismantles mattresses for recycling. Residents learn about these programs from annual recycling calendars, an educational website, TTC ads, and a web-based tool called the Waste Wizard.

So why are we diverting only 53 per cent and not 85 per cent of our waste?

Too many recyclables in the garbage bag

Looking more closely at the city's numbers, TEA found that though most people use the Blue Bin and Green Bin, they're still throwing out recyclables and compostables in the garbage bound for landfill. In fact, there is more recyclable and compostable material in a garbage bag than actual garbage.

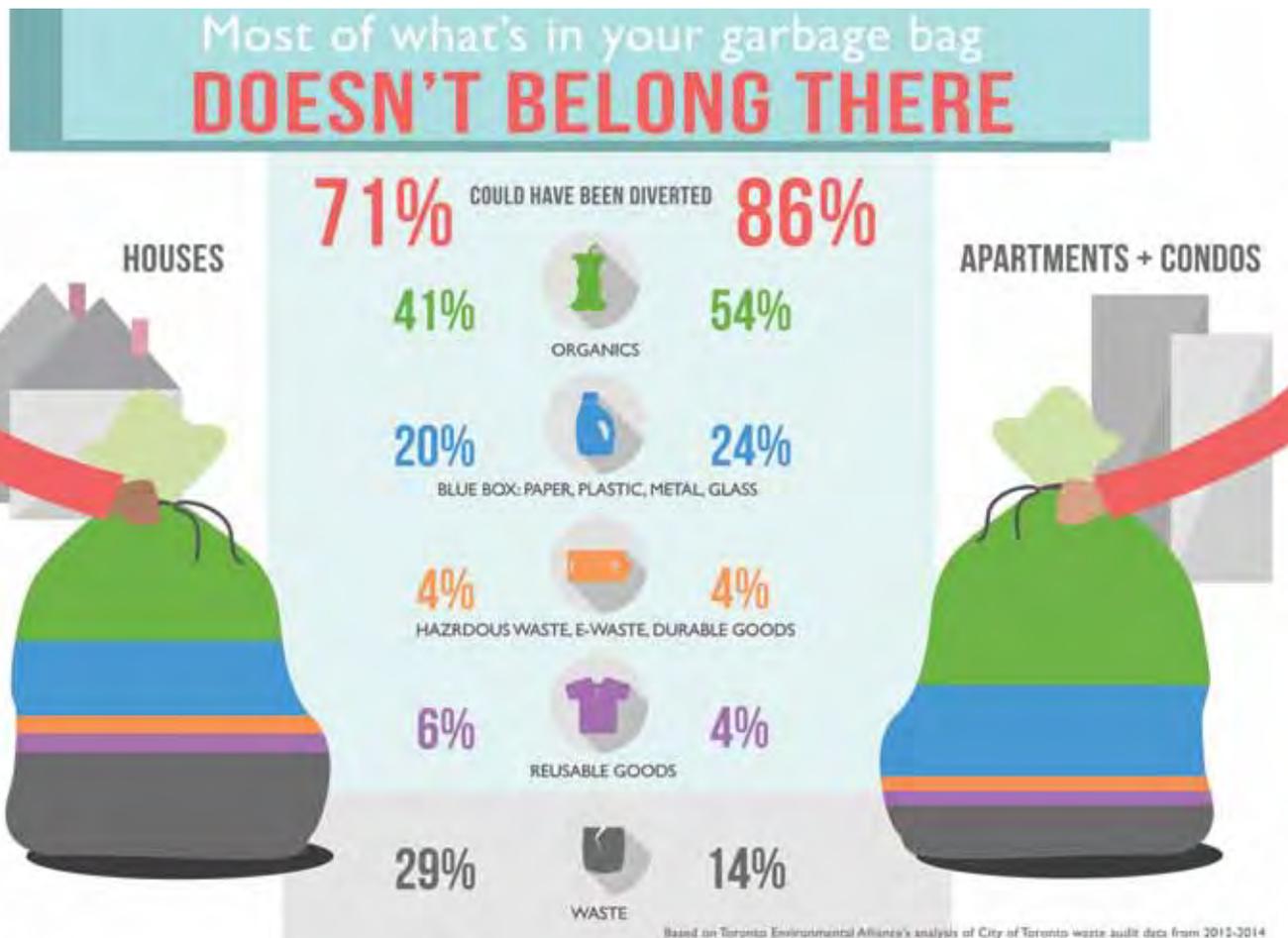
Among the half of Torontonians who live in apartments and condos, about 85 per cent of what they throw in the garbage shouldn't

be there. That's mainly because most apartments and condos in Toronto still don't have Green Bins to collect their food waste.

But the picture isn't much better for people who have Green Bins and Blue Bins picked up at the curb. Roughly 70 per cent of what's in their garbage bins shouldn't be there.

So, what does this mean? If faithful users of the Blue and Green Bins are still getting it wrong, are they being asked too much? Is it unrealistic to push for higher diversion rates?

The answer, thankfully, is no, and there is an example right here in Toronto that proves it.



Waste diversion champions in apartments and condos

In the world of waste reduction, high-rise apartments and condos are an especially difficult nut to crack. High-rise buildings frequently have lower diversion rates than houses, and this is the same in Toronto. There are many theories why — from building design and easy access to garbage chutes, to lack of Green Bins, inadequate education and language barriers.

But, in the northern corner of Scarborough, a high-rise building in Malvern is showing that not only can high-rise buildings divert more of their waste, they can divert more than most houses. Mayfair on

the Green, a 283-unit condo with more than 1,000 residents, is diverting over 80 per cent of its waste, putting out just one dumpster of garbage per month.

This isn't a flashy new green condo, showcasing the latest in sustainable technology. This is a typical Scarborough high-rise condo, 25 years old, with a single garbage chute. TEA staff and volunteers visited the building to find out what made this building so successful at reducing, reusing and recycling their waste, and the answer is refreshingly simple: dedicated staff and ongoing education.

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ONTARIO'S PATH TO FUTURE PROSPERITY

Every year in Ontario, more than nine million tonnes of valuable resources leak from our economy and this number has grown dramatically over the last two decades.

These resources are the waste created through our take, make and dispose pattern of consumption — a linear model that treats our resources and energy as limitless and dis-

posal as inexpensive. According to Statistics Canada, every year Ontarians generate more than 12 million tonnes of garbage (enough to fill the Rogers Centre almost 16 times) with more than three-quarters of it sent to disposal.

This may be surprising to many as Ontario is the birthplace of the iconic Blue Box, an

international recycling success story, which has been lauded by the United Nations. Residents pride themselves on sorting their recyclables every week and substantial progress has been made in this area.

However, despite some successes, Ontario's overall recycling rate has essentially flat-lined for the last two decades with a low recycling

rate in the business sector being the primary contributor. Ontario, like many other jurisdictions around the world, increasingly understands that this linear economic model not only hurts the province's competitiveness but also its future prosperity.

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CHANGE IS POSSIBLE

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How 430 Mayfair on the Green got so green

Princely Soundranayagam has been the building's superintendent for more than 15 years. He saw a big opportunity to reduce waste using the city's existing diversion programs.

He also knew diversion actions had to be simple for residents to use them. With full support from the building manager, Ed Lynn, Princely began distributing flyers, and going door-to-door to talk with residents about new recycling and waste systems in the building.

The building's garbage chutes are now used exclusively to collect organics and food waste. 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 charity.

The efforts have paid off: The building used to spend over \$1,500 a month on waste collection, but their recent bills have been under \$150, dropping the annual waste costs by thousands.

This success story is about more than just a few recycling signs and more bins, it's about creating a culture of waste reduction. Plentiful signs (in many languages) and regular feedback to residents ensures that everyone has the information they need. The staff practices what it preaches — the office and shared library are furnished with reused furniture, books and plants.

Building staff and residents are proud of what they've achieved — sharing the success (and the savings) is a key part of keeping the momentum up.

430 Mayfair on the Green is not the only

high-rise building with higher diversion rates, but it is far ahead of the pack.

They've shown that people succeed in diverting waste when it's easy, when they see and understand the benefits, and when they have ongoing education and support to keep improving.

What does this mean for Toronto?

With a growing waste problem and dwindling landfill space, Toronto is developing a long-term waste strategy to determine what to do with waste over the next half century. Some think we need to look at expensive disposal technologies, such as burning our waste, or building another landfill.

The Mayfair on the Green example shows another option.

The good news is that Toronto already has the diversion programs to drastically reduce garbage, and to get on the path to 85 per cent diversion. What we need now is to learn from and share the success of buildings like Mayfair on the Green, which are showing that high diversion rates are within reach.

To read more about waste reduction in Toronto, visit torontoenvironment.org.



Superintendent Princely Soundranayagam shows where the building's Green Bin waste is collected from the organics chute. HOLLY THOMSON, TEA

Toronto Environmental Alliance (TEA) is a non-profit grassroots environmental organization with more than 50,000 supporters across Toronto. We advocate for a green, healthy and equitable city.

RECYCLING COUNCIL OF ONTARIO

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Thinking outside the Blue Box

In the early 1980s, Ontario launched the world-renowned Blue Box recycling program in Kitchener. Today it serves 95 per cent of the province's population; helps divert two million tonnes (37 per cent) of materials to recycling; generates 2,500 full-time jobs; and reduces greenhouse gas emissions by 5.5 million tonnes, which is equivalent to 1.2 million cars off the road.

While the performance of the Blue Box program can be celebrated, when looking at other jurisdictions' residential recycling rates, Sweden (49 per cent) and Germany (62 per cent) for example, it's easy to see that improvements can be made. And when residential and non-residential recycling rates are combined, Ontario has sat at 25 per cent for more than a decade.

Why do other places outperform Ontario? Landfill availability in Ontario and the U.S. is a cheap disposal option. Ontario has fewer regulations that require more reduction and recycling. Most importantly, while local governments encourage, support, and pay for recycling at home, there is little support or regulation directed to businesses and institutions.

Of the nine million tonnes of waste disposed of annually in Ontario, 3.2 million tonnes (36 per cent) is generated by the residential sector (homes, condos, and apartments); 5.7 million tonnes (64 per cent) is generated by the non-residential sector (restaurants, office towers, hospitals, hotels etc.). Businesses only collect 13 per cent (900,000 tonnes) of the material they generate for recycling.

The disparity can be attributed to service.

Municipalities use tax revenue to make infrastructure and program investments to collect and divert materials generated by homes. Motivated by their requirement to protect the environmental and human health, municipalities are responsible for cost and liability of disposal; generally do not want to invest in digging new landfills or building incinerators; and take pride in their recycling and composting service.

Conversely, businesses and institutions do not have subsidized recycling services, and have minimal regulatory requirements to reduce the amount of waste going to landfill. They have to individually manage their buildings and properties, typically seeking private service to support recycling or waste programs. Ontario has waste laws, but the language is vague, there are no minimum targets, and there is virtually no enforcement.

This presents an opportunity to tap into the resources currently being lost to disposal from the non-residential sector. How can Ontario improve?

Procure goods and services that support waste reduction

Every public and private organization buys goods and

services. Gaining a better understanding of how purchasing affects waste reduction results presents opportunity for change. Buying products and packaging that is readily recyclable from a supplier or, better yet, requiring a supplier to take back the product and its package for recycling will incent more recyclable products to go to market and support the recycling industry.

Requirements and support

To achieve results, regulatory requirements that include minimum recycling rates and resources on how to improve are needed. Boosting the non-residential recycling rate to the same level as the Blue Box program could mean 2.3 million more tonnes recycled, which is equivalent to taking 1.5 million cars off the road in terms of greenhouse gas reduction.

Changing the economics

Landfill levies generally make it more costly to dispose of items than recycle them. Both Manitoba (\$10/tonne) and Quebec (\$20.69/tonne) have adopted this polluter pay principle. These funds are then dedicated to improve waste reduction and composting activities. If Ontario applied a \$10 levy, it could make more than \$50 million available for recycling infrastructure, pro-

grams, research, and market development.

Prevention

Banning materials that have recycling options or are potentially toxic from disposal is direct and effective improvement. Recycling industries need a guaranteed supply of materials to support their operations. Simultaneously, by banning materials from disposal, governments signal to collection, transport, and recycling industries there is a market opportunity, which will spur additional investment.

Shifting Responsibility

Jurisdictions with successful environmental policies use regulation to require manufacturers and sellers of products to be responsible for collection and recycling. The intent is to shift responsibility from the end-user/consumer and encourage ease of recyclability of a product. Manufacturers, like recyclers, need material for their processes, and having them work together means discarded materials gain value and are recovered.

The benefits of recycling have remained constant. What needs to change is the thought process when things are discarded. The Blue Box has presented an important first step. After 30 years, it's time to think outside the box and apply new approaches to waste reduction.

Jo-Anne St. Godard is Executive Director of Recycling Council of Ontario, a not-for-profit, membership-based organization involved in policy, education, and project work around the issues of consumption, waste generation, reduction and diversion, and recycling.



Diverting waste from landfills, waterways

It is aging quietly in your storage locker, garage or basement — but taking up valuable space — the leftover paint you were saving for “touch ups”, but that was two renovations ago! Product Care Association’s PaintRecycle program solves the problem of what to do with leftover paint.

The PaintRecycle program includes more than 250 municipal and retail permanent collection sites, as well as more than 100 municipal one-day events mainly occurring from June through December. Dropping off waste paint for Ontario residents at any of these collection sites is free. For more information visit Product Care’s website: regeneration.ca or your local municipal website.

As much as 10 million litres of paint is left over in Ontario every year, enough to fill four Olympic-sized swimming pools. The PaintRecycle program commits to recycle as much of the collected paint as possible ... back into paint.

After being collected, sorted for quality and colour, and then filtered and reprocessed, a very good quality paint product is the result — with several brands already on the market.

The PaintRecycle program is an example of “Extended Producer Responsibility” (EPR),

the modern approach to waste management that puts the onus on manufacturers, retailers and first importers (collectively referred to as “stewards” according to provincial legislation) to develop a comprehensive strategy through which end-of-life products are diverted from landfills and waterways.

Product Care’s members, who are the “stewards” of paint products in Ontario, cover the cost of the PaintRecycle program through their membership in Product Care, a not-for-profit organization that started managing the paint recycling program in Ontario at the end of June 2015.

“We were asked by the paints and coatings industry in Ontario to submit a paint recycling program to the provincial regulators,” says Mark Kurschner, Product Care Association’s president. “The fact is, most paint manufacturers and retailers in this province know us from programs in other parts of Canada. They recognize that Product Care has developed and managed numerous successful recycling programs over more than 20 years, and will continue to do so for the years to come.”

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Paint cans being unloaded at a collection site. CONTRIBUTED

Got leftover paint? Recycle it!

Getting rid of leftover paint is easy and it's free for residents!*

To find a collection site near you, use our depot finder at ReGeneration.ca



 **ReGeneration**
Special waste recycling by Product Care

*Some restrictions may apply.

 **PaintRecycle**

Ontario looks at new waste diversion law

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“This linear approach is neither sustainable given our finite supply of resources, nor is it in our long-term economic interests,” says Rob Cook, CEO of the Ontario Waste Management Association. “Along with environmental costs, there are economic costs embedded in the bills we pay and the lost opportunities of throwing away the very resources our economy needs to grow.”

A number of recent reports have underlined the positive environmental and economic opportunities associated with a more circular economic approach, including a Conference Board of Canada Report, which identified increasing reuse and recycling could support close to 13,000 new jobs in Ontario and boost the provincial GDP by \$1.5 billion.

That economic opportunity combined with enormous environmental opportunities, including significant reductions in greenhouse gas emissions, is motivating jurisdictions around the world. For example, the European Union (EU), representing 28 European member countries is in the process of finalizing a legislative plan to help transform Europe into a more competitive resource-efficient economy.

The plan, which is due out before the end of the year will cover the whole value chain, from producer through to the end user, and focus on concrete measures aimed at ‘closing the loop’ of the circular economy.

“The initiative has gained a broad level of support, not only from the environ-

mental community, but businesses as well as local authorities. A circular economy is viewed as fully compatible with the jobs and growth agenda, which is currently a priority in Europe,” says Clarissa Morawski, managing director of ReLoop Platform. “Producers are also keenly aware that a circular economy means greater access to resources in the future.”

Ontario has expressed its intention to bring forward new waste diversion legislation, likely in the fall, which will set the framework for a circular economy and address the major problems that have plagued recycling programs.

The first step will be to create a new approach for “extended producer responsibility,” which means that the company who creates a product or package must recycle it. The current approach has restricted innovation and economic efficiencies; allowed companies to offload costs directly onto consumers through fixed fees; outcomes have lacked proper oversight and enforcement; and many recyclers have been forced out of business due to monopoly organizations controlling the marketplace.

A new approach should take the best approaches from other jurisdiction and in doing so, Ontario can again become a leader — make individual companies responsible and accountable to meet rigorous recycling outcomes that drive value creation; ensure adequate resources to oversee these outcomes and the teeth to enforce compliance; and allow for innovation and efficiency by ensuring competition.

It will also be important for the legislation to acknowledge the portfolio of regulatory or non-regulatory tools available to drive change. Disposal bans, disposal levies, requirements on businesses to recycle and compost are all tools that can be employed and have been successfully implemented in other jurisdictions. The government also has the ability to drive change through its own procurement activities.

“Ontario has a unique opportunity through this legislation to improve resource efficiency; reduce our environmental footprint; increase productivity; and drive local jobs and economic growth,” says Cook. “We think that is something everyone can get behind.”

Why more recycling is good for Ontario’s economy



New Material Recycling Facility in Toronto. The largest of its kind in North America. CONTRIBUTED

PaintRecycle: modern approach to waste management

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The EPR model has proven effective in other regions of Canada, including British Columbia, where the same “PaintRecycle” program that launched in Ontario on June 30 this year, was first implemented back in 1994.

The success of EPR is attributable, in part, to a shift in perspective about the nature of accountability related to end-of-life products, like paints and coatings. Under the EPR model, product recycling

programs are managed by industry and are not funded by any governmental tax or subsidy.

“The PaintRecycle program adopts the philosophy that the responsible recycling of end-of-life paints and coatings is just another constituent cost of the product,” says Gary LeRoux, president of the Canadian Paint and Coatings Association, whose membership largely comprises participation in, and funding of, the PaintRecycle program. “Rather than perceive recycling as some sort of add-on or afterthought,

it becomes an integral component of the product itself. Consumers in Ontario should know that every time they purchase a paint product in this province, provisions for its responsible disposal have already been made.”

As new products continue to be captured under emerging and expanding provincial recycling regulations, it is likely that the recycling programs developed by Product Care and other EPR management organizations will serve as proven roadmaps for the way forward.

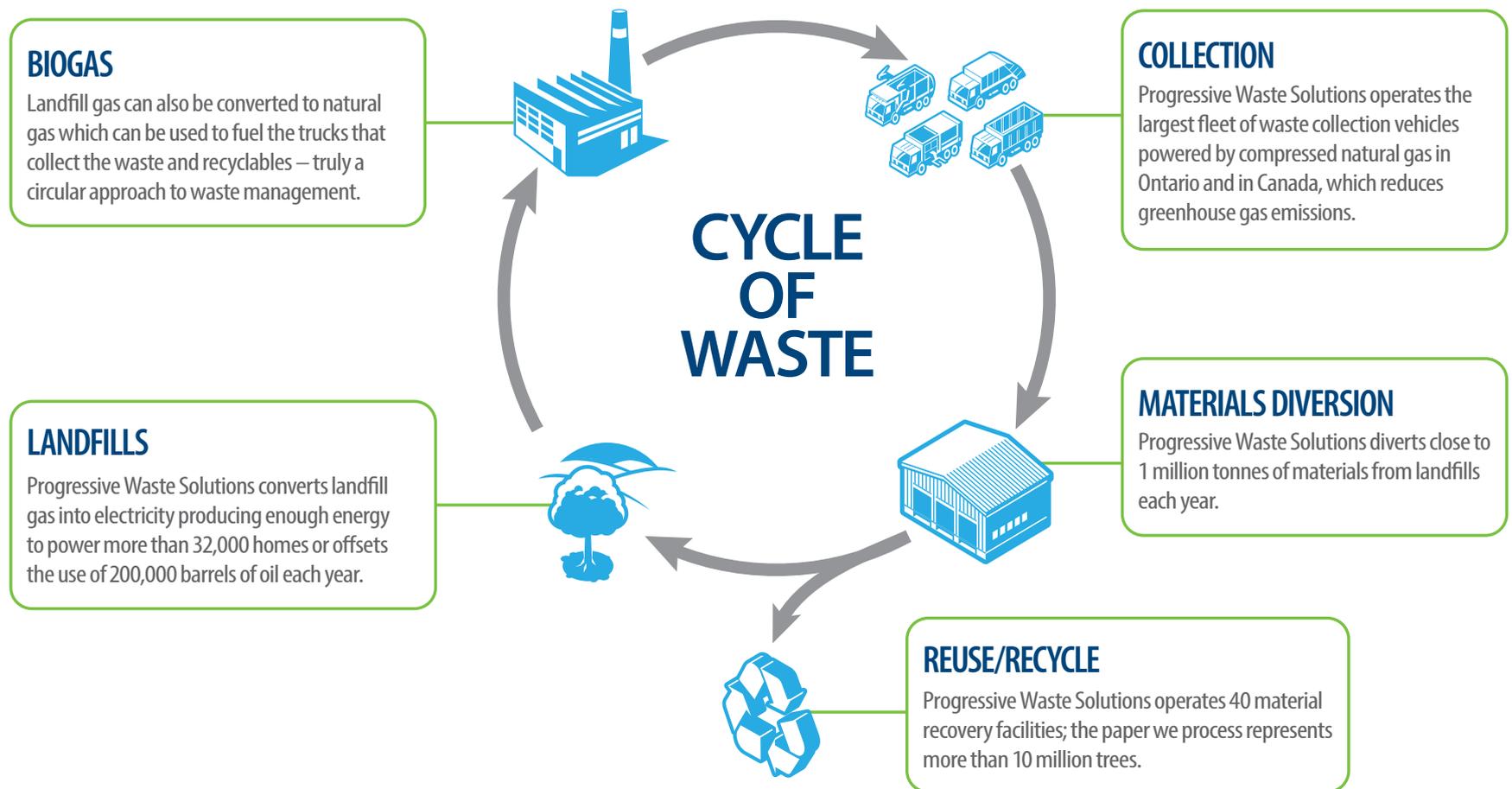


Collected paint cans ready for recycling. CONTRIBUTED

Creating a Circular Economy from Waste



Progressive Waste Solutions is committed to creating a more sustainable future. The recyclable materials that Ontario generates are valuable resources that, through our strengths in logistics and investments in infrastructure, we collect and process in an environmentally responsible way so that they are beneficially reused or recycled for new products.



For more information on how we are progressive, please visit:
www.progressivewaste.com

Give old electronics a new life and help preserve our planet

Technology is amazing — it powers our world and connects us to friends, family and information. Every time we turn around there's a new gadget that's faster and cooler than the last one.

So what happens to our tech when we're not using it anymore? It doesn't seem right to just trash it or stash it in a drawer. And we shouldn't. Just because our electronics are out of use, doesn't mean they are worthless. They are filled with fascinating and reusable materials like plastics, rare earth metals and precious metals that can be recycled through a process called urban mining.

Urban mining is the process of extracting these precious metals and rare earth metals from recycled electronics without mining in ecologically sensitive areas.

Not only is it better for the environment,

but in some cases urban mining is actually more efficient than traditional mining.

Consider this: One tonne of recycled smartphones yields 324 times more gold than the same weight in ore from a traditional mine.

The earth is reaching out for your help. Will you answer the call?

Recycle Your Electronics, operated by Ontario Electronic Stewardship (OES), is your go-to resource for electronics recycling. OES prevents old electronics from being illegally exported or handled by irresponsible recyclers. OES makes it easy too. In fact, 96.5 per cent of Ontarians live within 10 kilometres of a collection depot. To find the nearest drop-off location or to download educational resources, visit RecycleYourElectronics.ca

The year 2009 marked the beginning of Ontario's waste electrical and electronics



Rare earth metals and precious metals in old electronics can be recycled through a process called urban mining. SHUTTERSTOCK

equipment (WEEE) diversion program. Since that time, Ontario Electronic Stewardship has successfully diverted approximately 67 million devices from landfills.

OES remains dedicated to running a program that is effective, efficient and convenient

for everyone who calls Ontario home. OES helps recover valuable resources that can be put back into the manufacturing supply chain.

Technology advances fast, but we only get one earth. The future is in your hands. Don't let it go to waste.

World Leader in Primary Battery Recycling

Ontario's Curbside Battery Recycling Program

- 678,929 homes • 56 municipalities
- 157,945 kg diverted from Ontario Landfills since 2012

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TAKING CHARGE

Recycle your single-use batteries

In 2007, Ontario's collection rate for used single-use household batteries was less than 5 per cent of batteries sold in Ontario.

In 2014, with momentum driven by industry incentives provided through the Stewardship Ontario Battery Incentive Program; municipalities, Raw Materials Company (RMC) and most importantly consumers have pushed Ontario's collection rate to 24 per cent.

Our patented alkaline battery recycling technology is able to upcycle over 88 per cent of a battery's contents into new products that are used in the steel and agricultural industries. No materials are landfilled and all of the recovered materials are consumed within a few hundred kilometres of RMC's ISO 14001 processing facility.

Raw Materials Company offers convenient and innovative recycling programs to ensure that single-use batteries are diverted from Ontario landfills. Aside from the 4,000 free drop-off locations at retail, non-profit and municipal locations, the most popular and convenient program for consumers has been curbside battery recycling. Working in collab-



Incentives have increased collection rate for used batteries in Ontario. SHUTTERSTOCK

oration with 56 municipalities across Ontario, Raw Materials Company helps to facilitate the collection of single-use household batteries at the curbside for 678,929 homes. Industry stewards fund the incentive program through Stewardship Ontario and municipalities can use the incentive to offset the delivery costs of the curbside battery program.

If you're planning to do a little work around the house this long weekend, do yourself and the environment a favour and round up all of your used single-use batteries.

The best place to keep them is in a non-conductive plastic container in a cool, dry place out of the reach of small children. Once you're ready, visit rawmaterials.com and use the handy search tool to find a free recycling point near you.

Wasted energy

Medical waste is a potent power source

Many Ontarians may assume that waste from medical facilities is kept out of landfills and disposed of in a way that keeps potentially dangerous pathogens from seeping into the environment. Not so.

The disposal of biomedical waste — blood and other bodily fluids from humans and animals, microbiology laboratory waste, and sharps such as needles and blades — is regulated by Ontario's Ministry of the Environment and Climate Change under Guideline C-4.

The guidelines outline how biomedical waste is to be segregated from other waste, stored or shipped, and ultimately disposed of. Sharps, for example, are sterilized in an autoclave, while other biomedical waste is incinerated.

However, items that contain blood and human waste such as bandages, cleaning wipes, incontinents and bed liners are not classed as biomedical waste and routinely thrown into garbage bags and sent to landfills.

Those bodily fluids may contain infectious pathogens that could pose a danger to the environment and to human health, argues Jayne Pilot, CEO of Pilot Performance Resources Management Inc. and an expert on biomedical waste disposal and international environmental standards.

The National Centre for Emerging & Zoonotic Infectious Disease estimates that one in every 25 patients has an infection related to hospital care. Disease management is increasing in Ontario with Ebola Virus, staph infection.

"When you close off a garbage bag with these items, you now have an environment (food, warmth, darkness) for the growth of those diseases," Pilot says.

In May, Pilot issued a white paper entitled "Health Care Waste Diversion and Destruction — Disposal Decision — Ensuring Health and Environmental Safety," in which she calls for all waste from health-care facilities to be incinerated and produce electricity.

When health-care waste carrying infectious bacteria ends up in landfill, it not only sits in an ideal environment for growth, but vectors such as mosquitoes, insects, birds, rodents and roaches, which feed on this waste, are carriers to spread disease, Pilot warns.

The solution is reducing risks through the total destruction of all health-care waste through Energy from Waste (EFW) — burning waste to produce electricity — removing these pathogens in landfills and possible spreading of pathogens to agricultural lands and waterways, or are spread by scavengers.

Hospitals throughout Europe have been burning all health-care waste for years, Pilot says. While hospitals in Ontario once had incinerators, they were not built to handle metals, plastics and other materials and, if they weren't upgraded, they were eventually closed.

But a facility run by Emerald Energy from Waste in Brampton, Ont., has been incinerating waste since 1992. It produces enough electricity to run its own operations and generates steam for the nearby Norampac paper mill. Opening other such facilities across the province will ensure that no health-care waste will end up in landfills, Pilot says.

"The more I talk to people, the public, they are flabbergasted that waste from hospitals and health-care facilities goes to a landfill," she says. "They're shocked."



The facility in Brampton, Ont. has been incinerating waste since 1992. It produces enough electricity to run its own operations and generates steam for the nearby Norampac paper mill.

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FROM MAKING IT
INTO THE ENVIRONMENT.**

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