

Waste Management

ANNUAL REPORT > 2019



Region of Waterloo

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In 2019, the Region of Waterloo continued our successful diversion of waste away from landfill. Our diversion rate is at 65%, and considering population growth and program changes, this is one of the top diversion rates among similar size municipalities.

The efforts made by our citizens generated impressive results during a time when changing recycling markets are creating challenges for many municipalities. Your commitment to the programs and careful attention to program requirements for curbside collection has meant the continued success of our programs.

✓ Who We Are

Waterloo Region, in Southwestern Ontario, includes the cities of Cambridge, Kitchener and Waterloo, as well as the townships of North Dumfries, Wellesley, Wilmot and Woolwich. Together, we're roughly 1,300 square kilometres with a population of about 618,000 people. The Region of Waterloo is an upper-tier municipality, which means it's responsible for providing certain services — like waste management — to roughly 219,000 households. Approximately 160,000 of those households receive curbside waste collection — single-family homes and small buildings of up to six units in the cities, suburbs, farms and villages that make up our community.

It's our job to pick up curbside residential waste and run the Waterloo landfill, including the operation of a small vehicle transfer station, landfill gas-to-energy system and the Nyle Ludolph Materials Recycling Centre. We also manage the Cambridge waste transfer facility, compost site and landfill gas utilization system, plus we monitor five closed landfills — all while continuing to ensure our environmental controls are protecting the air, soil and water at all sites.

Careful management and your commitment to diversion, especially the two-box sort for recyclables, means our landfill has an estimated 20 years of capacity left.

✓ Recycling Success as Markets Change

Changes to the global recycling markets have made it more challenging for municipalities to find a place for recyclables to be properly processed. When China stopped accepting recyclables from other nations in 2018, it meant that the North American market (where recyclables from the Region of Waterloo have been managed) had a lot more competition. While some municipalities struggled to find a home for their blue box material, the careful blue box sorting done by residents, collection crews and staff at the Nyle Ludolph Materials Recycling Centre meant that our materials are still being fully processed. Although there has been a resulting drop in the revenue from these materials, the key benefits of diversion from landfill and resource recovery continue, and it all begins with you at home.

| Curbside Service Levels | |
|-------------------------|--|
| Services | Collection frequency and limits |
| Blue box recycling | Weekly, no limits |
| Green bin | Weekly, no limits |
| Garbage | Every two weeks, 4–10* |
| Bulky items | Every two weeks, 3–10* |
| Yard waste | Seasonally every two weeks, no limit (opposite the garbage schedule) |

GREEN BIN
↑ 150%
FROM 2017

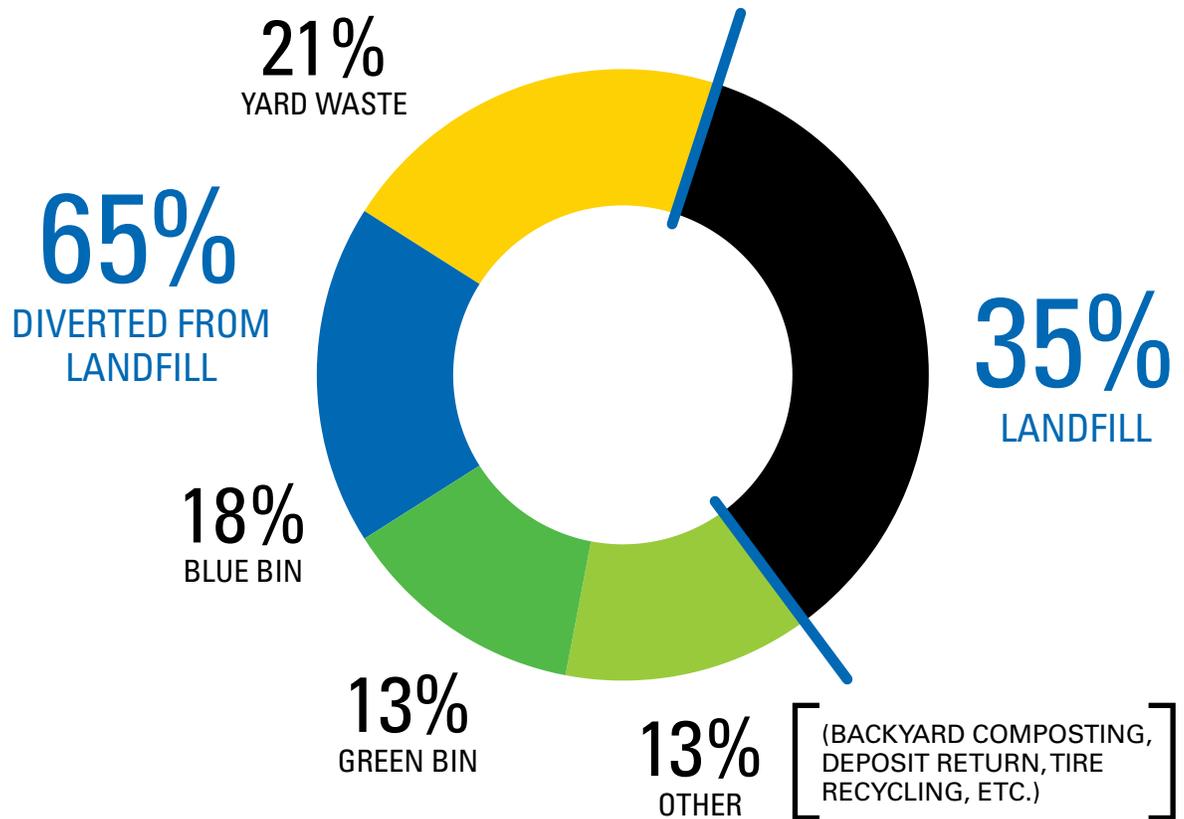
BLUE BIN
↑ 5%
FROM 2017

GARBAGE
↓ 31%
FROM 2017

YARD WASTE
↑ 26%
FROM 2017

✓ Diverting Waste

Instead of being buried and lost to the landfill, valuable resources were recovered and re-used through recycling and composting.



The success of our two-stream blue box system continues to depend on proper sorting. Paper, plastic bags and wrapping go into one box. Aluminum and steel cans, glass and plastic containers and paper cartons go into the other. Your commitment to separating these items correctly means not only less waste, it also makes sure that buyers want our material to be turned into raw materials and new items.

OVER 90%
OF MATERIAL COLLECTED
IN THE BLUE BOXES GETS
RECYCLED (THE REMAINING
10% IS NON-RECYCLABLE
CONTAMINATION).

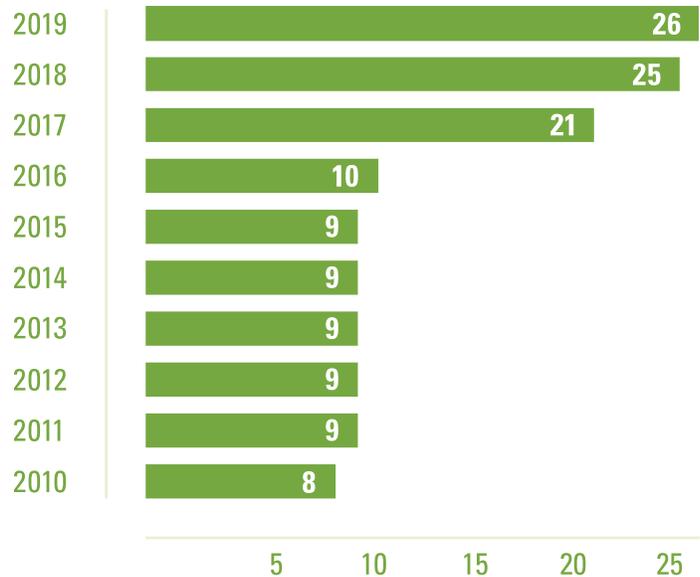


✓ Continuing our Green Bin Success Story

Green bin use continues to be the rising star of our diversion programs, as households get rid of compostable food waste every week. Thanks to you, we collected nearly 26,000 tonnes in 2019, continuing the trend of setting a new record every year since 2017 with our green bin material collected.



GREEN BIN TONNAGE (000's) 2010–2019



✓ Yard Waste Gets Back to Nature

Almost 20,000 tonnes of yard waste was diverted from our landfill in 2019. The brush, plant material and Christmas trees we kept out not only saved landfill space, it reduced greenhouse gases. It also meant we had wood chips and compost to give away to residents, returning nutrients to the soil from over 14,000 tonnes of compost and woodchips made from your yard waste.

[Over 14,000 tonnes of compost and woodchips from yard waste given away at our sites.](#)



For the Love of the Blue Box

Our trucks make over a million stops a month during curbside collection.

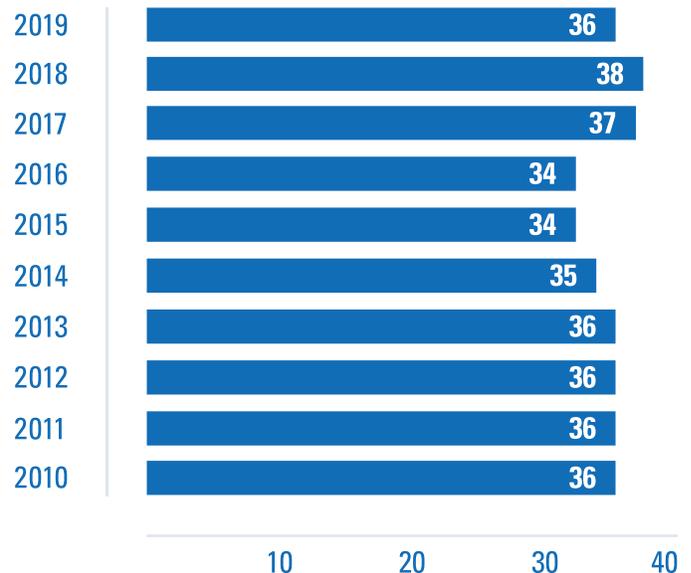


The blue box is the tried and true foundation of our diversion programs! The efforts residents make to sort materials into two separate categories (paper/cardboard and plastic bags, and then all containers) really does make a difference, and helps us make sure we can further sort these materials to get them properly recycled. In 2019, we focused our blue box education efforts on helping residents understand some of the challenges we face and why sorting is so important. None of the recyclers want garbage mixed in the material they buy, but a newspaper recycler also doesn't want water bottles, and the pop-can recycler doesn't want plastic bags. Keeping items separated into the two different blue boxes matters more than ever.

While the slight dip in recycling tonnage to the still impressive 36,000 tonnes in 2019 may make you wonder about the success of our program, the truth is that packaging changes impact the weight of materials recovered. As packaging manufacturers work to "lightweight" their packaging (lighter packaging reduces their costs), it means that weighing our recyclables isn't always the best measure for determining how much is being recycled. As manufacturers move away from metal and glass to thinner and lighter plastics, a truck full of recycling collected from the blue box weighs less today than in the past. Rest assured that even though recycling may weigh less today than it used to, we are still seeing very high volumes collected, filling our trucks and the Nyle Ludolph Materials Recycling Centre to capacity!



BLUE BIN TONNAGE (000's) 2010–2019



Other Diversion

When you drop off things at our transfer station like tires, electronics and household hazardous waste, you're keeping them out of the landfill and saving space. Participating in community take-back programs for these items, or others such as LCBO bottles and cans, all helps reduce the amount of garbage going to landfill. In 2019, almost 7,200 tonnes of waste was diverted this way because of your efforts.



760
TONNES
APPLIANCES



590
TONNES
HOUSEHOLD
HAZARDOUS WASTE



4,390
TONNES
TIRES



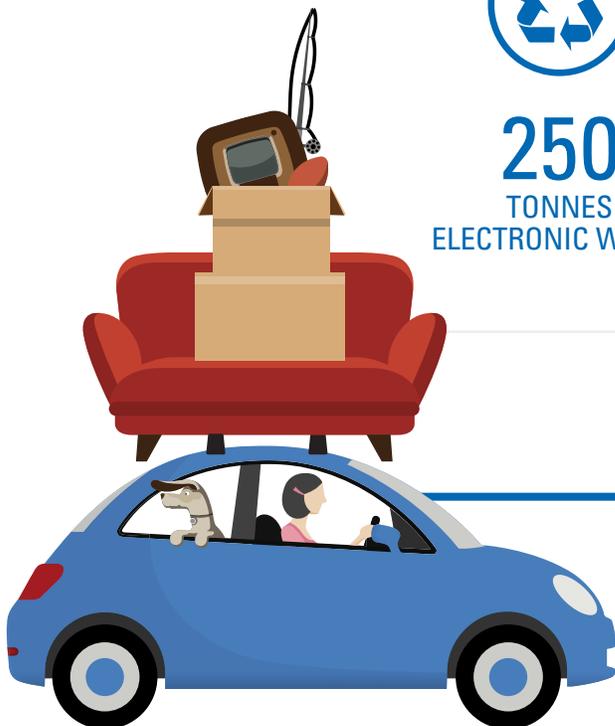
250
TONNES
ELECTRONIC WASTE



1,200
TONNES
DRYWALL AND
PALLET



14,090
TONNES
MULCH AND
COMPOST

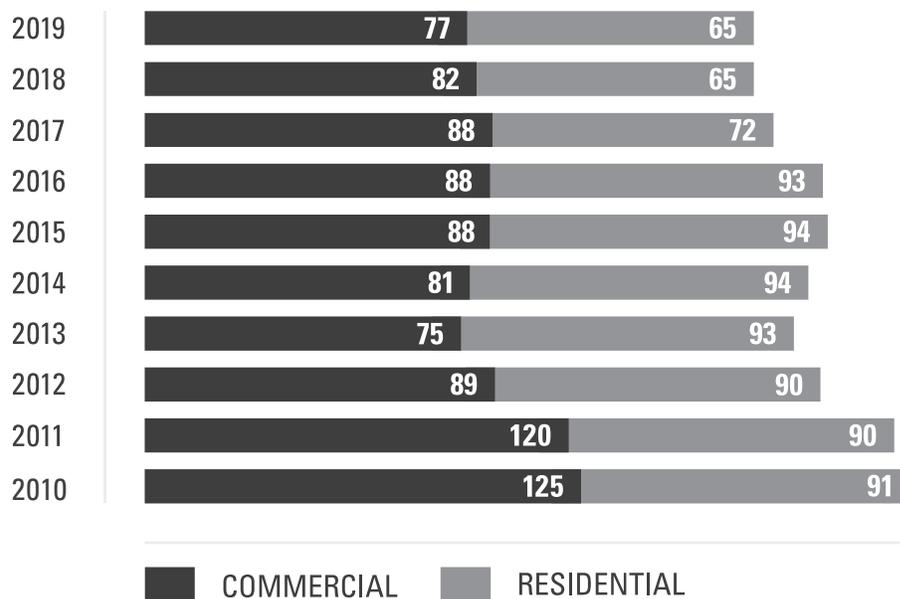


389,000
transactions
handled at all
waste sites.

✓ There's Always Some Garbage

Even after we've diverted everything we can, there's always something left over. Last year we landfilled just over 142,000 tonnes of garbage — 46% was residential, while 54% came from commercial and other landfill customers. In spite of our growing community, the amount of total residential garbage landfilled in 2019 remained the same as in 2018: 65,000 tonnes!

GARBAGE TONNAGE (000'S) 2010–2019

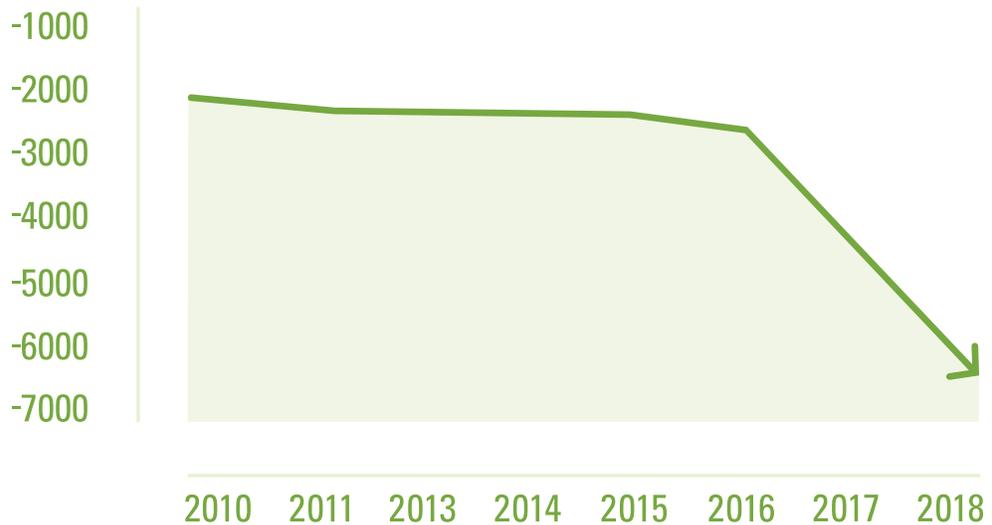


There are approximately 20 years of landfill capacity left.

Greenhouse Gas Reduction

Your enthusiastic use of the green bins means we're also reducing greenhouse gases, which are a significant environmental concern for us all. The green bin success story is bound to result in further reductions going forward. A total of 28,000 metric tonnes of greenhouse gas emissions have been reduced since the full implementation of the green bin program. In 2017, following the curbside policy changes, green bin use spiked and the reduction in GHG emissions doubled, and this trend continued.

TONNAGE OF GHG EMISSION REDUCTION 2010–2018

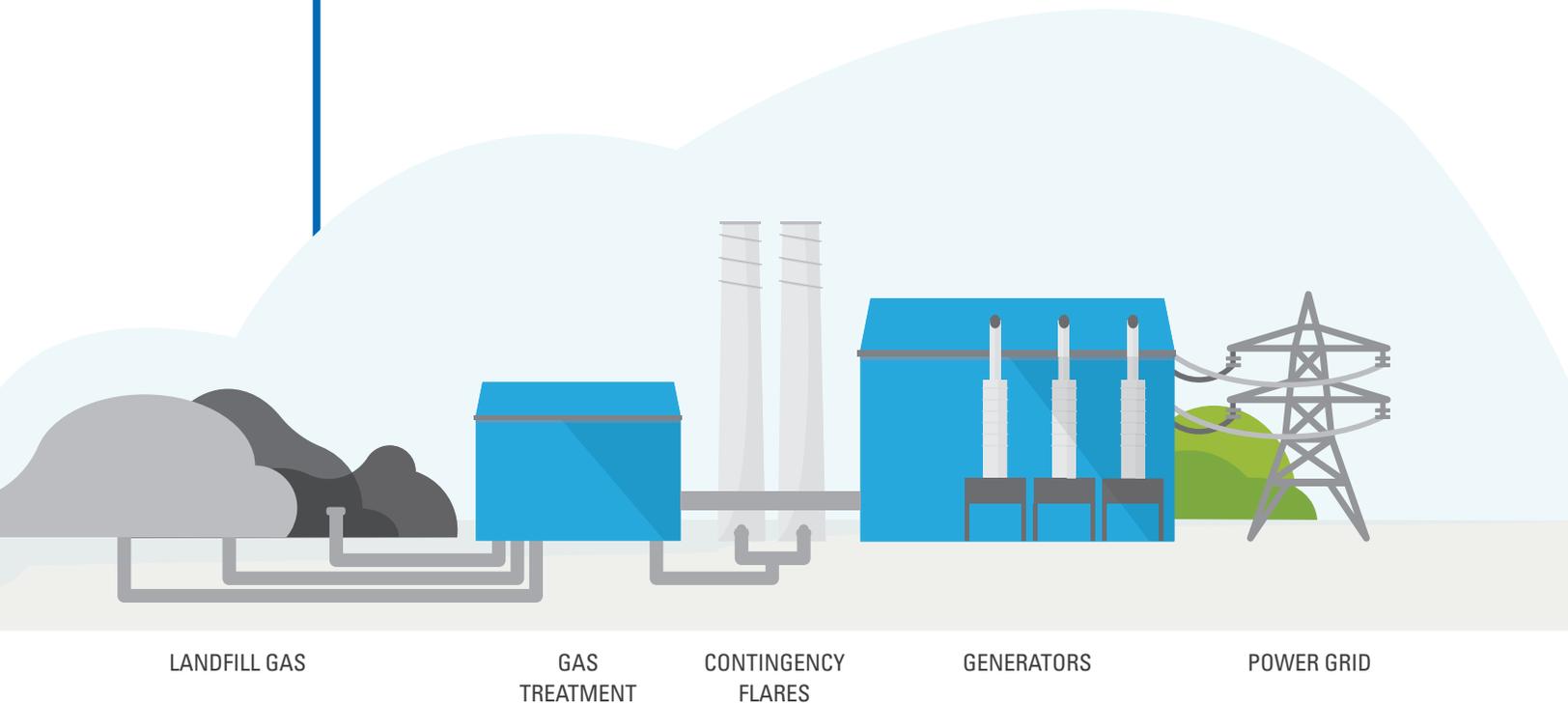


We collected nearly 26,000 tonnes of organics in 2019.

✓ The Power of Landfill Gas

In 2019, we received \$1.5 million in federal funding to help expand the existing landfill gas capture system in Waterloo. When organic waste, like food and wood scraps, begin to decay in the landfill, gas is produced. Those gases include methane, a greenhouse gas that contributes to climate change. Continuous improvements to the landfill gas capture system prevents greenhouse gases from being released into the air, and instead uses them to generate renewable energy. We harness our landfill methane and it is used to help power a steel recycling plant in Cambridge, or turned into electricity in Waterloo — enough to power between 4,000 and 6,000 homes. The upgrades to our Waterloo gas collection system made with the help of this funding will allow the system to expand as the landfill fills up.

→ We regularly monitor over 500 groundwater wells and 200 landfill gas wells at various sites to protect the surrounding environment.

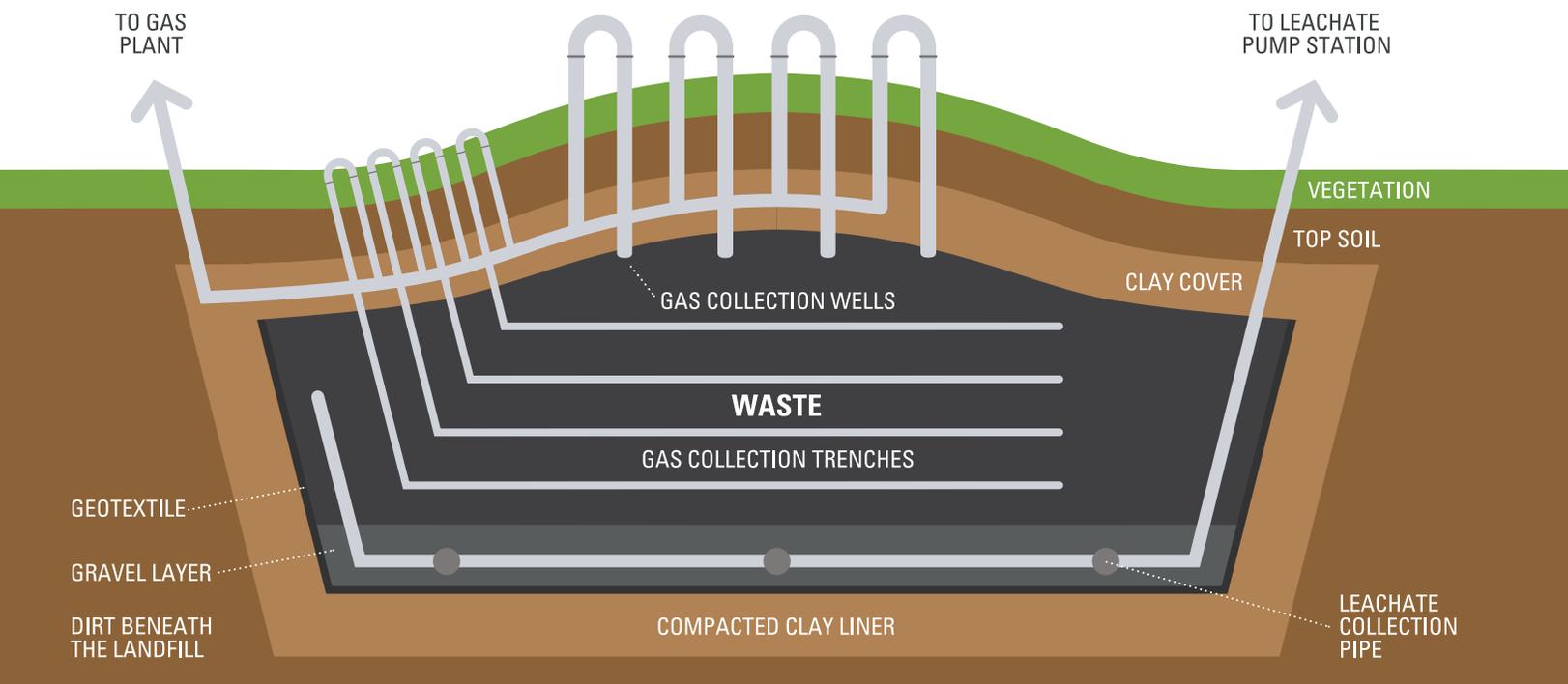


✓ Managing our Sites and the Environment for the Future

We have a plan to manage the remaining life of our landfill. The original fill area in the centre of the site and the north expansion at the Waterloo and Erb Street end are both full, so we're now filling at the south end of the site. Going forward, we'll build new cells at the landfill as needed, while maintaining our focus on the environment by collecting storm water and controlling gas and leachate.

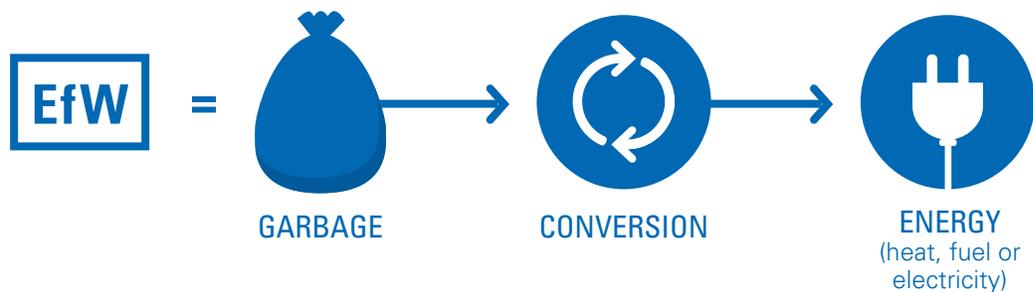
In Cambridge, the landfill, closed in 2003 and was replaced with a transfer station that will service the area for years to come. In 2019, important work was done to upgrade the large transfer station building by replacing the floor; years of scraping by heavy equipment had taken its toll and worn away the concrete. The new concrete floor is designed to last many years and includes an early warning system to indicate surface wear.

Odour abatement at the landfill remains a priority. We monitor air quality, collect landfill gas, and are sure to cover the waste fully at the end of each day, all while communicating with neighbours so they are aware of developments. Our engineering team monitors our Environmental Management System to confirm that we are meeting or exceeding Provincial requirements.



✓ What Comes Next?

We need a plan for when the landfill is full and our 2013 Waste Management Master Plan considers the options. The recommendation endorsed by Regional Council was to explore technologies which manage and treat waste in order to recover energy. This is known as Energy from Waste, or EfW. Since we've still got an estimated 20 years of capacity left, there's no immediate need for active EfW planning. But we'll continue to monitor EfW developments, provincial waste legislation, and our own waste programs, reporting back to you in the future with an update.



✓ Working Together: Community Education and Engagement

The success of our programs depends on your participation and feedback. Our team works hard at customer service, promotion and education so everyone can understand our programs. In 2019, 6,900 residents attended various waste education and outreach events, including the two public tour days at the Waterloo Waste Management site. Although we love hosting people on-site, arranging an in-depth tour of an active landfill can be challenging, so at the end of the year we launched our online 360-degree virtual tour, with a focus on the landfill and the Nyle Ludolph Materials Recycling Centre. Citizens can now tour our site using home or school computers, and anyone with access to the required technology can also experience the tour in virtual reality.

[45,500 calls were made to the Service First Call Centre related to Waste Management programs and services.](#)

✓ Keeping you Informed and Building Trust

Many residents have been using the My Waste/Recycle Coach app, which includes up to date information on all our programs and services as well as individual collection schedules, reminders and an item look-up feature. Building on this success and to be launched in 2020, a new, customized app will be available that allows residents to print a personalized, 12-month collection schedule, sign up for location specific alerts and provide access to on-line reporting of missed waste collection. This new app, called Waste Whiz, will also feature an interactive, online game to test recycling and green bin knowledge.

While the app is a great way for residents to stay up to date and informed, we continue to engage in many other ways, through our social media accounts on Facebook and Twitter, through our monthly electronic Waste eNewsletter, our annual calendar, and of course on our website.



IN 2019

68,200
USERS

ACCESS THE WASTE APP
(MOBILE AND ONLINE)

4,300
SUBSCRIBERS
TO WASTE ENEWS

413,000
VISITS
TO OUR WEBSITE



The cost to the average household through regional property taxes totalled about \$155 in 2019 for all waste programs and services – the rough equivalent of a coffee or two a week.

✓ **Our Budget**

In 2019, a total of \$66.3 million was spent on program and service delivery by the Region's Waste Management Division.

Our biggest expense was curbside collection, which accounted for 31% of our total costs. Other expenses include staffing, costs to construct and operate the landfill and waste transfer and receiving facilities, hauling and processing of green bin, yard waste and blue box materials, and monitoring and reporting of our services and their environmental impacts.

Funding to pay for these costs comes from many sources, including user fees, sale of recyclables, landfill gas royalties, Extended Producer Responsibility (EPR) funding and property taxes.



For More Information

- › Visit our waste [website](#)
- › Read our [Waste By-law](#)
- › Download the free Waste Whiz app for collection schedules and reminders.
- ›  @ROWWasteManagement
- ›  @WasteWR
- › Don't know where something goes, ask the [Waste Whiz](#)
- › [Subscribe](#) to the waste e-newsletter

Customer service call centre: 519-575-4400
(staffed 24 hours a day, seven days a week)

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519-575-4608

“Recycling is something
each one of us can do to
help the environment.”

Blue Box inventor and former Kitchener
resident Nyle Ludolph, 1927–2011