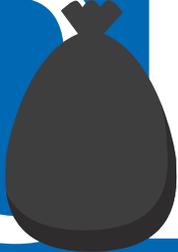
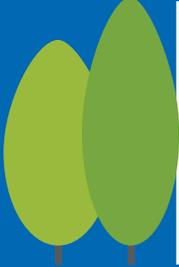


Waste Management

# ANNUAL REPORT > 2020



Region of Waterloo

---

## Contents

Who We Are	1
COVID–19 Impacts	2
Recycling Success as Markets Change	3
<hr/>	
 2020 Highlights	4
Diverting Waste	4
Continuing our Green Bin Success Story	5
Yard Waste Gets Back to Nature	5
For the Love of the Blue Box	6
Other Diversion	7
There’s Always Some Garbage	8
Greenhouse Gas Reduction	9
The Power of Landfill Gas	10
<hr/>	
Managing our Sites and the Environment for the Future	11
What Comes Next?	12
Working Together: Community Education and Engagement	12
Keeping you Informed and Building Trust	14
Our Budget	14

---

---

In 2020, the Region of Waterloo continued our successful diversion of waste away from landfill. Our diversion rate is at 63%, 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 623,000 people. The Region of Waterloo is an upper-tier municipality, which means it's responsible for providing certain services — like waste management — to roughly 223,000 households. Approximately 161,000 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 25 to 30 years of capacity left.

---

---

## ✓ COVID-19 Impacts

### 2020 was a unique year and essential waste services continued.

With the sudden COVID-19 pandemic lockdown in March, a number of changes were made to curbside collection to ensure safe and continuous collection to our 161,000 households. Uncertain of how the lockdown would impact waste volumes and to manage our limited resources, staff focused efforts on essential waste collection (garbage, blue box and green bin) and temporarily suspended non-essential collection services (bulky items and yard waste). To help support residents during these changes, Regional Council approved a temporary increase in bag limits for curbside collection. The Transfer Stations were also temporarily closed for public waste drop-off. Waste Operations (landfill and recycling centre) remained open.

Waste volumes did initially spike at the beginning of the lockdown, understandable with more people at home, but then stabilized within a few months. All waste services were re-introduced, the transfer stations re-opened with many safety features, and bag limits were normalized.

We are grateful for the support we received from our residents, their understanding and how quickly they adapted to the changing schedules. We were able to maintain a safe and continuous collection service with no interruption.

---

## ✓ Recycling Success as Markets Change

Changes to the global recycling markets have made it challenging for municipalities to find a place for recyclables to be properly recovered. One of the largest challenges that municipalities face is the strict contamination rules introduced in the recycling market. Processors can only accept well-sorted materials with very little contamination as feedstock for recycling. Contamination is classified as a non-recyclable item such as the wrong type of recyclable material (say a plastic #4 mixed in with plastic #1) and/or food content left in a container. These changes in the recycling market mean the market has become very competitive with a greater urgency for well-sorted, correct recyclable materials.

While some municipalities struggle to meet these contamination rules, the careful sorting done by residents, collection crews and staff at the Nyle Ludolph Materials Recycling Centre mean that our materials are still being fully recovered. Although there have been some fluctuations 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.

The most important step in our recycling system is the first sort, the sort you do in your home.

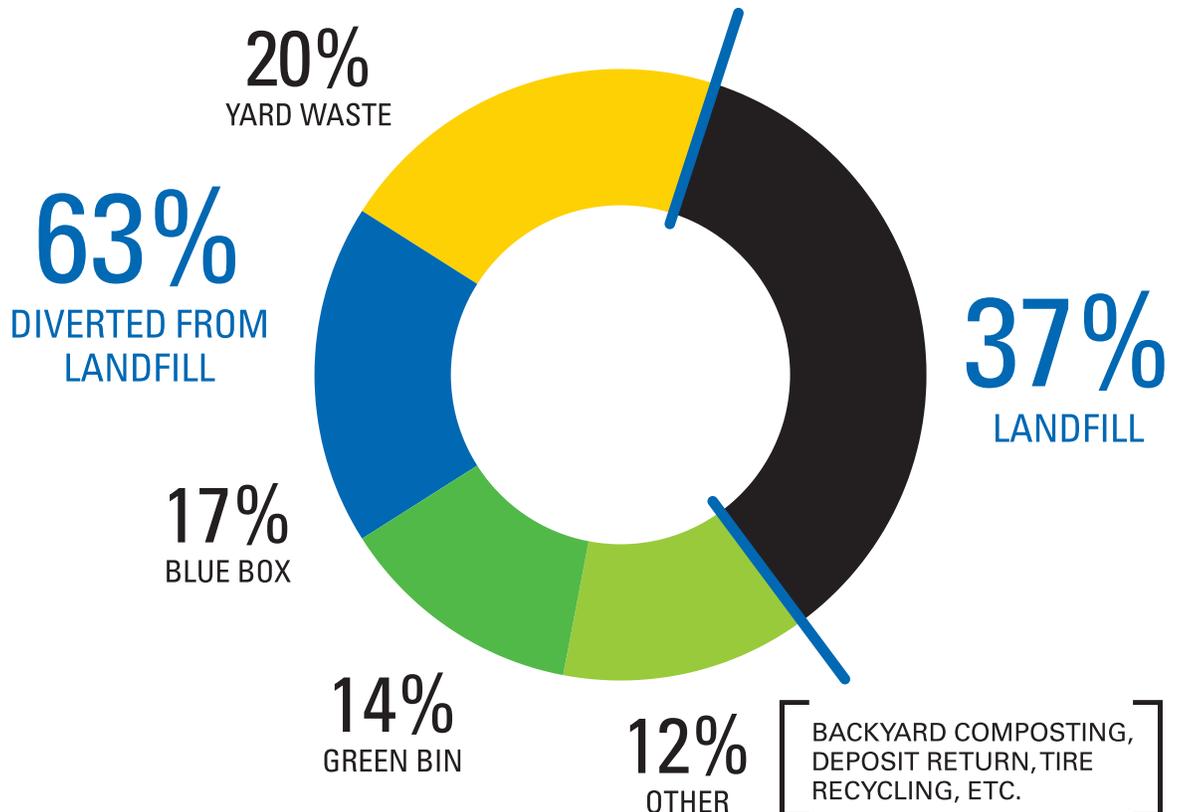


Curbside Service Levels	
Services	Collection frequency and limits
Blue box recycling	Weekly, no limits
Green bin	Weekly, no limits
Garbage	Every second week, 4–10*
Bulky items	Every second week, 3–10*
Yard waste	Seasonally spring to fall, every two weeks (opposite Garbage collection), no limit

---

## ✓ Diverting Waste

An amazing 63 per cent of all the waste collected was diverted away from the landfill and reused again. Instead of being buried and lost to the landfill, valuable resources were recovered and reused through recycling and composting.



The success of our two-stream blue box system continues to depend on proper sorting. Paper and plastic bags (bagged) 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 for recycling into new items.

---

### OVER 90%

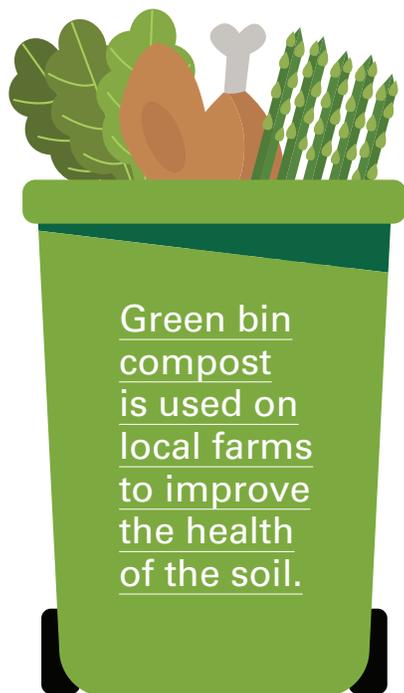
of material collected in the blue boxes gets recycled (the remaining 10% is non-recyclable contamination).



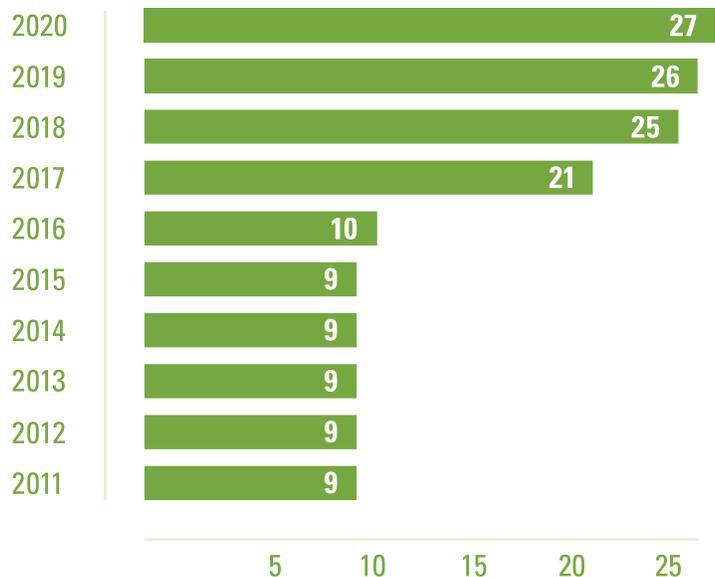
---

## ✓ Continuing our Green Bin Success Story

More people were working and preparing food at home in 2020 due to the COVID-19 pandemic. Residents have come to appreciate that food waste is not garbage but rather a valuable resource that can be reused. Thanks to you, we experienced another record setting year for increases in the green bin. In 2020, we collected over 27,000 tonnes of green bin material.



**GREEN BIN TONNAGE (000's) 2011–2020**



## ✓ Yard Waste Gets Back to Nature

Almost 21,000 tonnes of yard waste were diverted from our landfill in 2020. The bagged leaves, garden trimmings and Christmas trees we kept out of the landfill 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 compost and wood chips made from your yard waste.

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

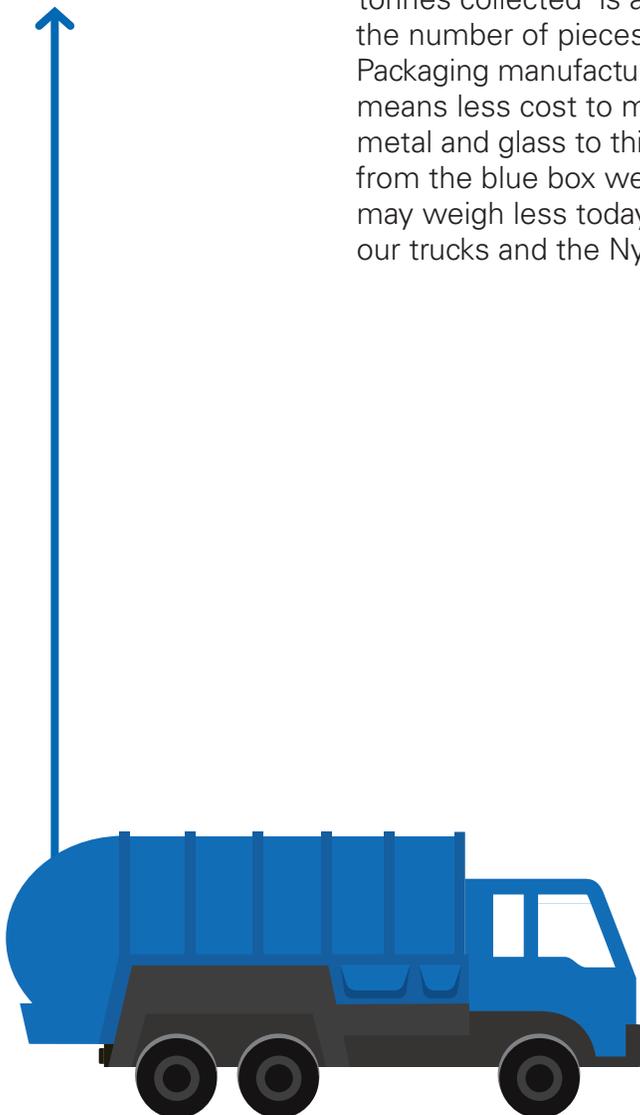


## For the Love of the Blue Box

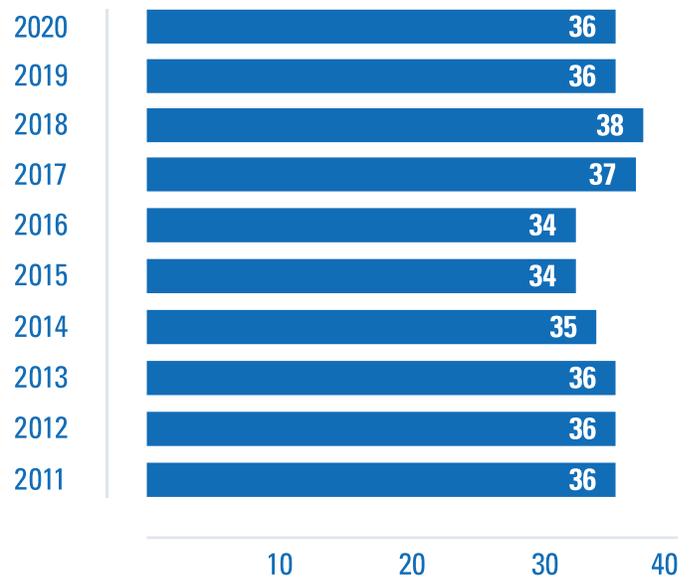
We are the Home of the Blue Box. The first ever blue box curbside collection program started right here in 1983.

The blue box is the foundation of our diversion programs. The efforts residents make for sorting 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 2020, we focused our blue box education efforts on helping residents understand the contamination issues we face and why sorting is so important. None of the recyclers want garbage 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.

In 2020, an impressive 36,000 tonnes of recyclables were collected. While 'tonnes collected' is an industry measure, it does not tell the full story in the number of pieces, or volumes, that were collected, sorted and recycled. Packaging manufacturers work to lightweight their packaging (lighter packaging means less cost to make and transport). 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. Even though recycling may weigh less today than it used to, we are still seeing high volumes, filling our trucks and the Nyle Ludolph Materials Recycling Centre to capacity!



**BLUE BIN TONNAGE (000's) 2011–2020**



## Other Diversion

When you drop items off at the diversion programs at the transfer stations like tires, electronics and household hazardous waste, you are allowing them to be recycled and keeping them out of the landfill. Participating in community take-back programs for these items, or others such as LCBO bottles and cans, all help to reduce the amount of garbage going to the landfill. In 2020, almost 7,900 tonnes of waste were diverted because of your efforts.



**770**  
TONNES  
APPLIANCES



**610**  
TONNES  
HOUSEHOLD  
HAZARDOUS WASTE



**4,430**  
TONNES  
TIRES



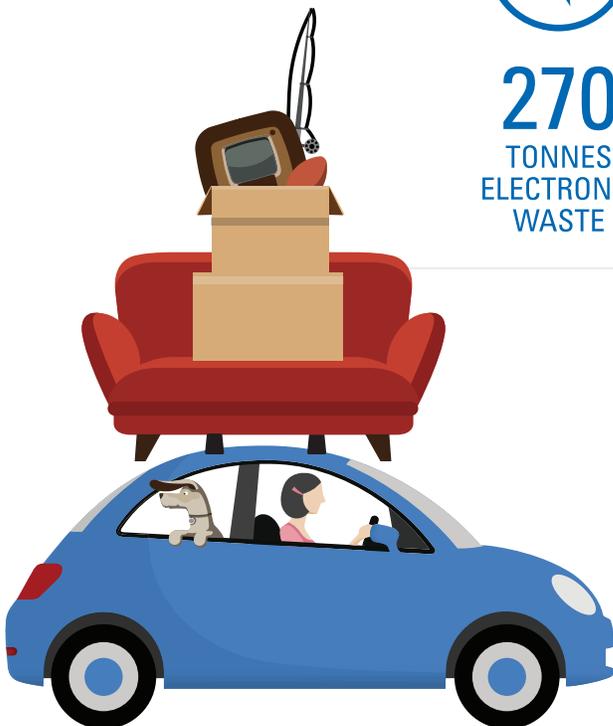
**270**  
TONNES  
ELECTRONIC  
WASTE



**1,200**  
TONNES  
DRYWALL AND  
PALLETES



**13,600**  
TONNES  
MULCH AND  
COMPOST



In 2020, 380,800 transactions were handled at our waste sites.

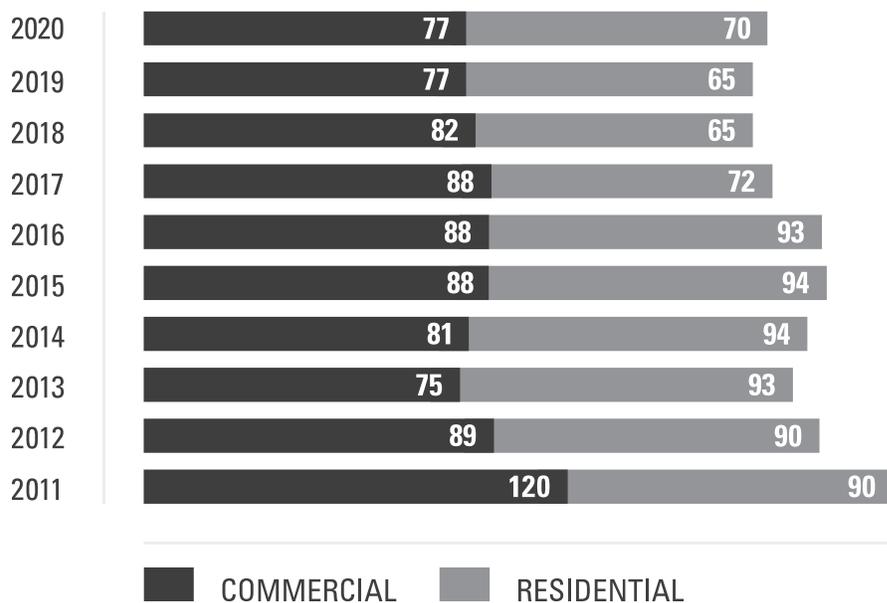
## SCALES

Vehicles cross over scales and fees are charged by weight and material. Scales are calibrated and certified regularly.

## ✓ 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 147,000 tonnes of garbage – 48% was residential, while 52% came from commercial and other landfill customers. With more people at home due to the COVID-19 pandemic, we experienced a small increase in garbage volumes. The total amount of residential garbage landfilled in 2020 was just over 70,000 tonnes.

**GARBAGE TONNAGE (000'S) 2011–2020**

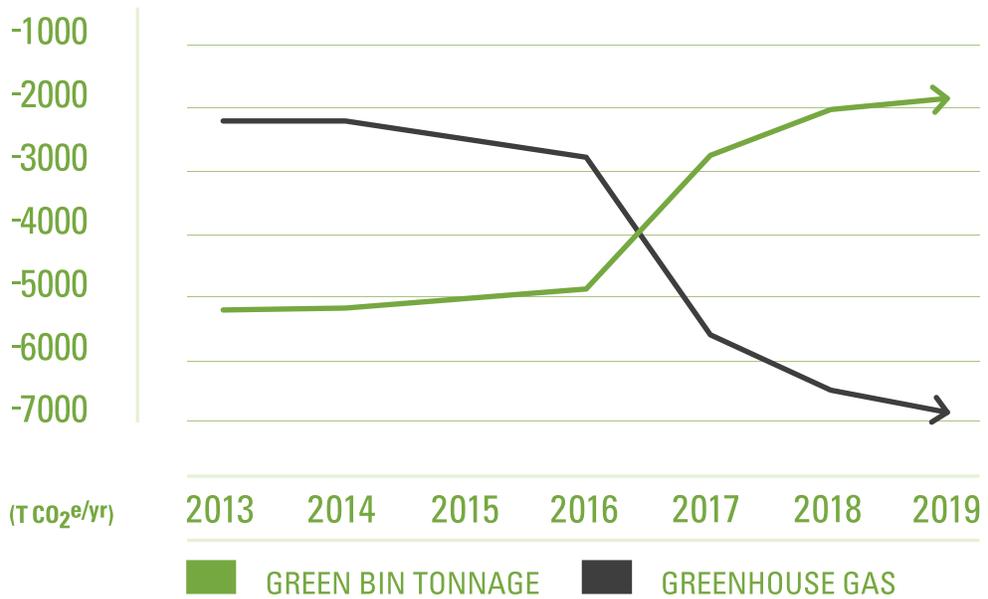


Waste volumes initially spiked at the beginning of the pandemic in March but then began to normalize by the summer.

## Greenhouse Gas Reduction

There is a direct correlation between your green bin use and impacts to the environment. Organic waste (food waste) in the landfill produces gas as it starts to decay. Your enthusiastic use of the green bin means we're 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 36,000 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 continues.

**ANNUAL GHG REDUCTION FROM ORGANICS VS ANNUAL INCREASE IN GREEN BIN TONNAGE**



We collected over 27,000 tonnes of food waste in 2020. By using your green bin, you are helping to reduce greenhouse gases.

---

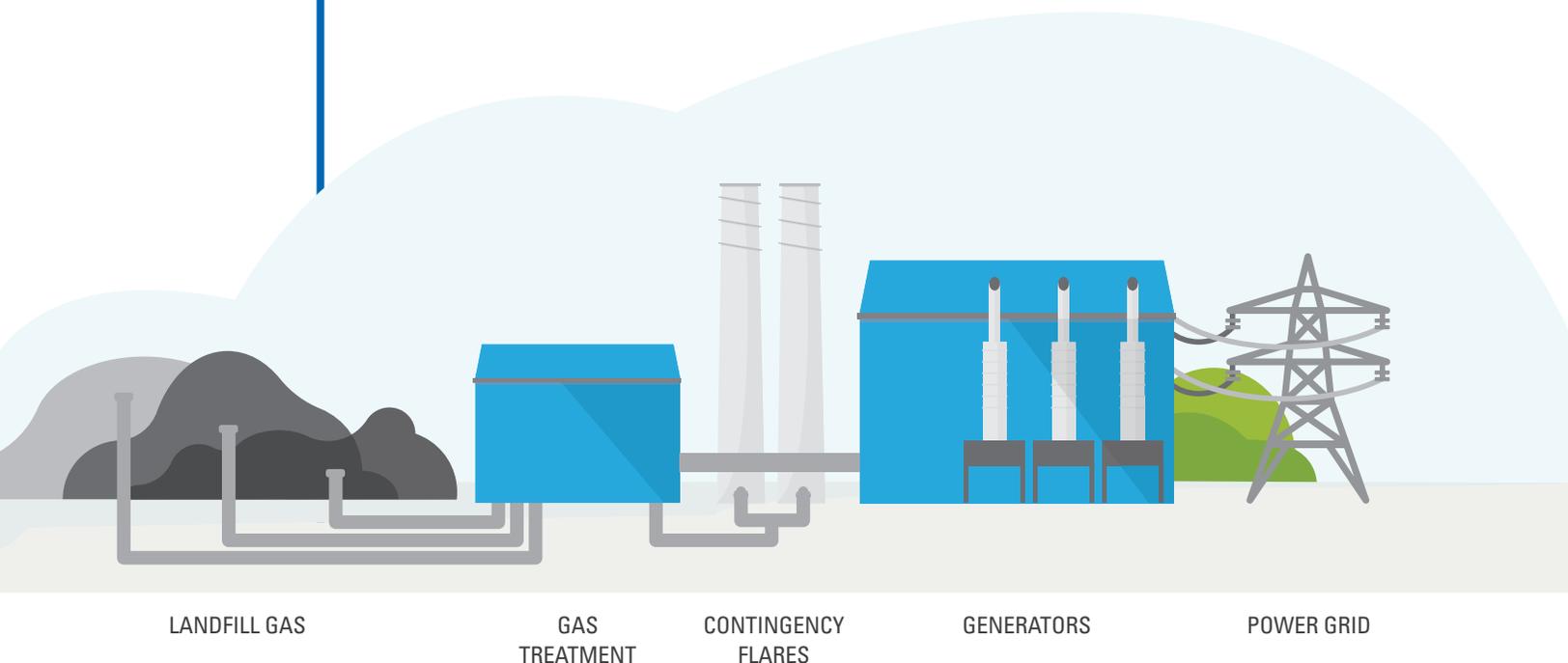
## ✓ The Power of Landfill Gas

When organic waste in the landfill like food and wood scraps start to decay, gases are produced. These gases include methane, a potent greenhouse gas that contributes to climate change. The landfill gas collection system designed into the landfill is an efficient way to prevent greenhouse gases from being released into the air, and instead uses the gas to generate renewable energy.

In 2020, the landfill gas collection system action plan was updated. As waste composition and technology change, continuous improvements to the system help control odours, minimize subsurface gas migration and maximize gas capture. The upgrades to the gas collection system will also allow the system to expand as the landfill fills up.

We harness our landfill methane gas and it is used to help power a steel recycling plant in Cambridge, and turned into electricity in Waterloo – enough to power between 4,000 and 6,000 homes.

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



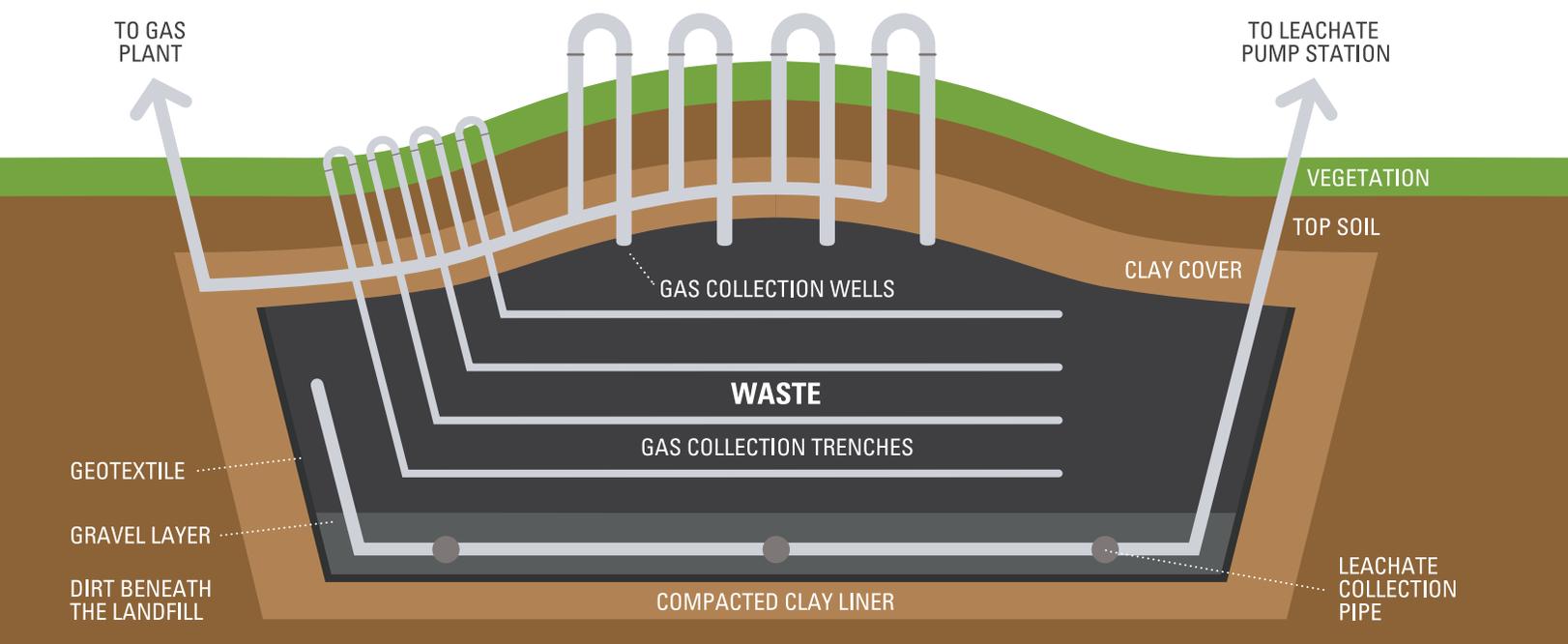
## ✓ Managing our Sites and the Environment for the Future

The landfill at the Waterloo Waste Management site opened in 1972. The total site size is 126.5 hectares, of which 71.1 hectares are available for landfill. Landfilling is complete in the central and north areas and we are now filling in the south Glasgow Street area.

In 2020, staff completed a comprehensive review and updated the development plan to optimize the remaining landfill space. Due to a number of factors including changing waste composition, revised density calculations, increased diversion and continued lower waste tonnages, the updated forecasts show that we have extended the life of landfill. There is approximately 25 to 30 years of landfill capacity.

Protecting the environment is a priority and this includes odour abatement. We collect landfill gas, leachate and storm water, monitor air quality and fully cover waste each day. Our engineering team monitors our Environmental Management System to ensure we are meeting or exceeding Provincial requirements.

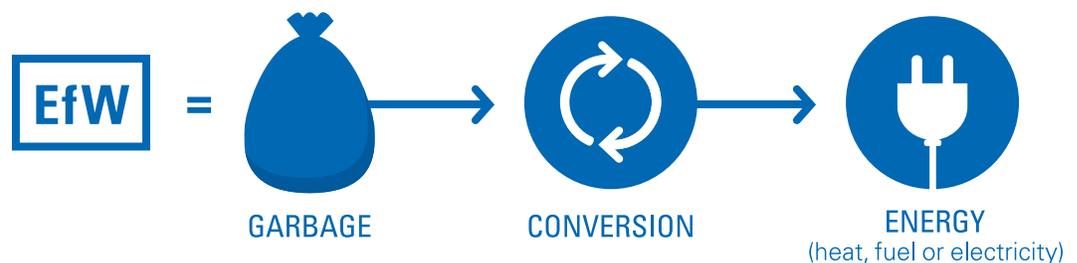
The Cambridge site operates as a transfer station (landfill closed in 2003). In 2020, continuous site improvements were made that include re-grading and site restoration work, as well as the installation of three new groundwater purge wells.



---

## ✓ What Comes Next?

We need a plan for when the landfill is full and our 2013 Waste Management Master Plan considered 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 25 to 30 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 updates.



---

## ✓ Working Together: Community Education and Engagement

The success of our programs depend on your participation and feedback. Our team works hard at customer service, promotion and education so everyone can understand our programs.

Many of our public events were cancelled due to the pandemic including our two highly popular landfill tours held to celebrate April's Earth Week and October's Waste Reduction Week. Staff were quick to launch new online education activities and virtual school presentations. We also expanded the online Virtual Tour to include several more videos. Citizens and students can view our landfill operations and the Nyle Ludolph Materials Recycling Centre using home and school computers. In 2020, over 1,000 students and adults participated in waste education events.

[36,800 calls were made to the Service First Call Centre related to Waste Management programs and services.](#)

---

## ✓ Keeping you Informed and Building Trust

There are many ways to stay informed about Waste programs and services. In 2020, we launched an upgraded Waste Whiz app that uses customized information specifically for the Region of Waterloo. The Waste Whiz has many features including access to the item search tool to find how to dispose of an item, to get reminders for collection and service alerts, to print a personalized, 12-month collection calendar, and to access the on-line reporting tool for missed waste collection. The new app also features an interactive game with progressive levels to test your recycling and green bin knowledge.

While the Waste Whiz app has become the best way for residents to stay up to date and informed, we continue to engage in many other ways such as our social media accounts on Facebook and Twitter, our electronic Waste eNewsletter, and of course, on our website.



IN 2020

---

30,300  
USERS

ACCESS THE WASTE WHIZ  
MOBILE APP

---

4,500  
SUBSCRIBERS  
TO WASTE ENEWS

---

574,100  
VISITS  
TO OUR WEBSITE

---



The cost to the average household through regional property taxes totalled about \$161 in 2020 for all waste programs and services – roughly \$3 per week.

## ✓ Our Budget

In 2020, a total of \$70 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 transfer stations, 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)

To request an alternate format of this document, call: 519-575-4400

Deaf and hearing impaired TTY:  
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