



**Region of Waterloo**  
TRANSPORTATION AND  
ENVIRONMENTAL SERVICES  
Waste Management

Waste Management

# **2021 Waste Annual Summary**

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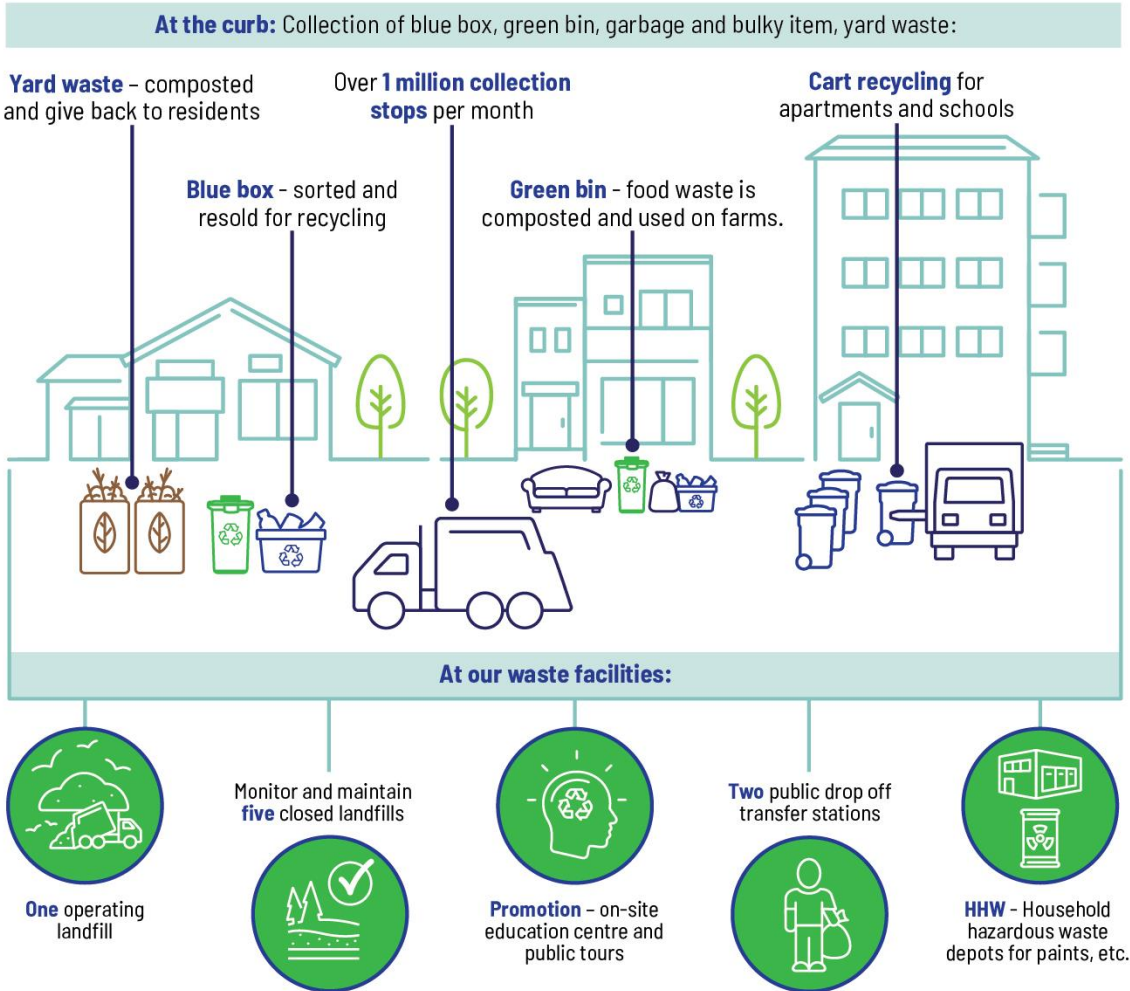
Download the **Waste Whiz** app



## Who are we

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 are 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 is responsible for providing certain services, like waste management.

For **\$3.20 per week** on an average property tax, here are the **waste services** you receive:



It is our job to collect residential waste and operate the Waterloo landfill including the operation of the 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 the landfill gas utilization system, plus we monitor five closed landfill – all while continuing to ensure our environmental controls are protecting the air, soil and water at all sites.



## Long term diversion trends

In 2017, waste collection services changed to every second week garbage collection, which had an immediate and impressive impact on our diversion programs. Since these service changes were implemented, sorting efforts by our residents have shown significant increases in the amount of waste being diverted into reuse and recycle, and less waste going to the landfill.

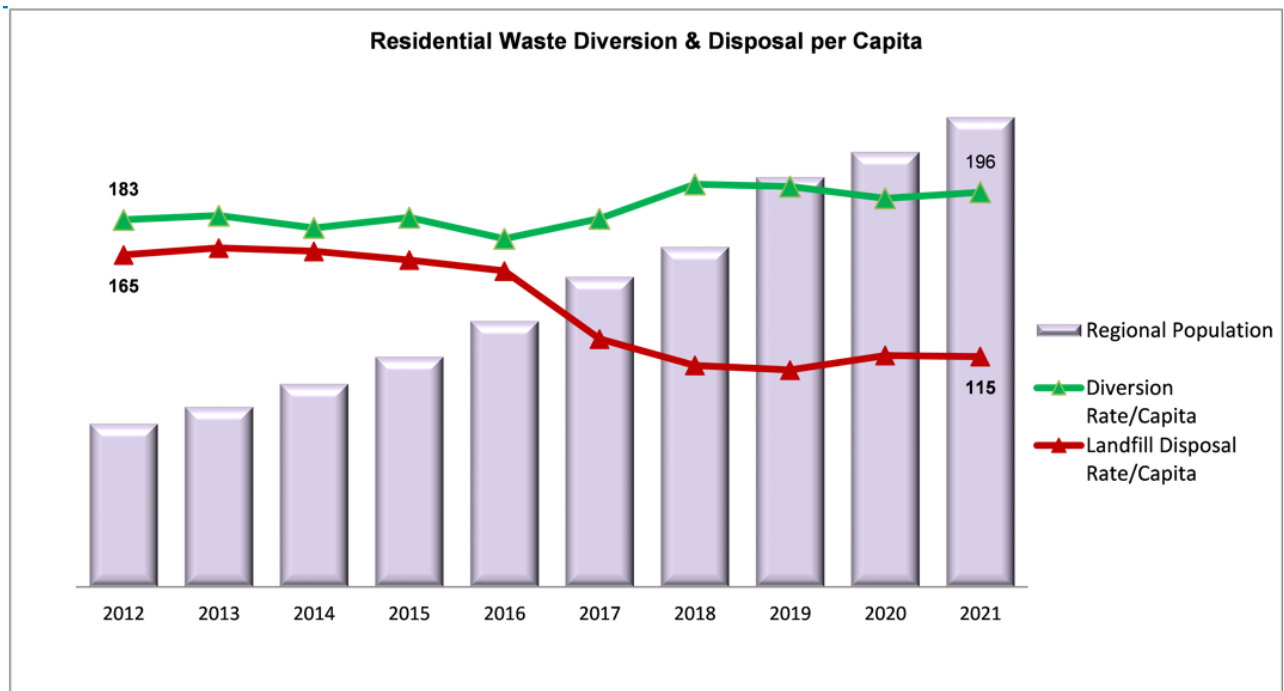
### Curbside collection changes since 2016:



Residents have also adopted many waste reduction practices such as zero waste habits and altered purchasing decisions to select products based on their minimal packaging or the recyclability of the packaging.

### Sorting Matters

The in-home sorting efforts by our residents have had a very positive affect in increasing the amount of waste diverted for reuse, rather than sending it to landfill. The chart below shows that over the last ten years, the waste diverted per capita has increased to 196 kilograms per capita versus waste landfilled, which decreased to 115 kilograms per capita.



When measured on a per person bases, the amount of waste landfilled in 2021 was 115 kilograms per capita. When we compare this number to the amount of waste diverted, 196 kilograms per person, we can see the success achieved by our residents to reuse/divert material.

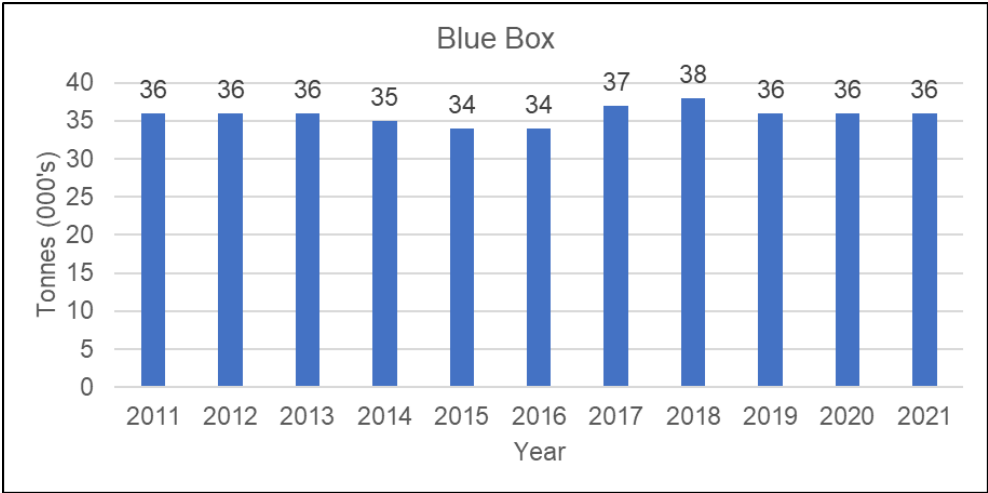
## Blue Box program

The blue box is the foundation of our diversion programs. The [first ever community blue box](#) curbside program began right here, in Kitchener, in 1983.

Waterloo Region has a two-stream recycling program that requires materials to be sorted and separated into two different blue boxes; one for containers and another for paper and plastic bags. When materials arrive at our Nyle Ludloph Materials Sorting Centre, they are ready to begin the next, more complex, stage for sorting. See how materials are sorted at our [sorting centre](#).

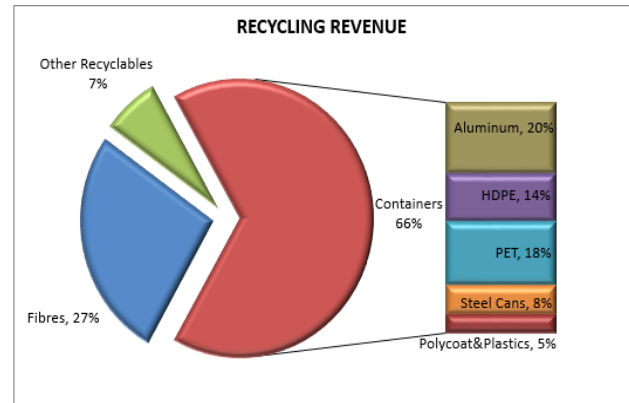
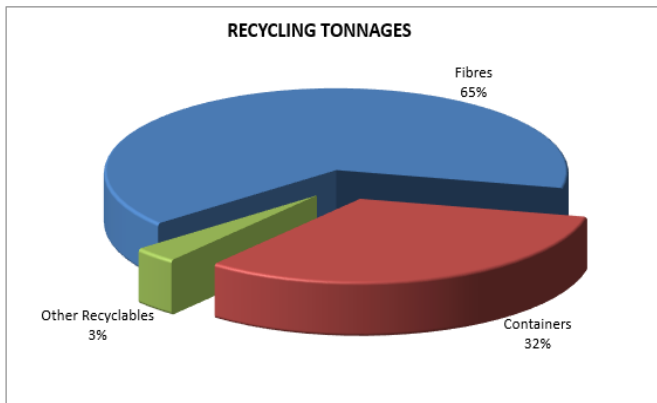
In 2021, over 36,000 tonnes of recyclables were collected, which accounted for 24 per cent of the total waste tonnes collected curbside.

While ‘tonnes collected’ is an industry term, it doesn’t necessarily reflect the actual number of pieces. Manufacturers work to make packaging as light as possible to reduce manufacturing and transportation costs. A full truck of blue box materials may weigh less in tonnes than in the past but contains a much larger number of pieces that each need to be sorted.



Municipalities face several challenges in getting materials recycled. The largest challenge is contamination; there can be no contamination in the materials we send to be recycled. Another is the changing and often confusing composition of new packaging used by manufacturers, such as packaging made from laminated materials (chip bags) and compostable materials, neither of which can be recycled. There is a good market for blue box materials in Ontario as long as the materials are well sorted and with no contamination.

The sale of sorted Blue Box material generates approximately nine per cent of our total revenues earned. The first chart shows the tonnage collected by material type and the second chart shows the breakdown of the revenues earned by each material after sorting.



### Where the materials are recycled

After all the materials are sorted by their material type and baled, they are sent to different recycling processors. Different plastics are sent to processors in Grey, Dufferin and North Perth counties to be recycled into new plastic. Steel food cans are sent to mills in the Hamilton area where they are melted down and rolled into new steel. Paper, food boxes, cardboard and plastic bags are sent together to a recycling centre in the Niagara area for continued sorting, then each material is sent to end-use mills to be recycled.



Sorting works! Over 90 per cent of the collected blue box material gets recycled.

### Changes to the Ontario Blue Box program coming in 2024

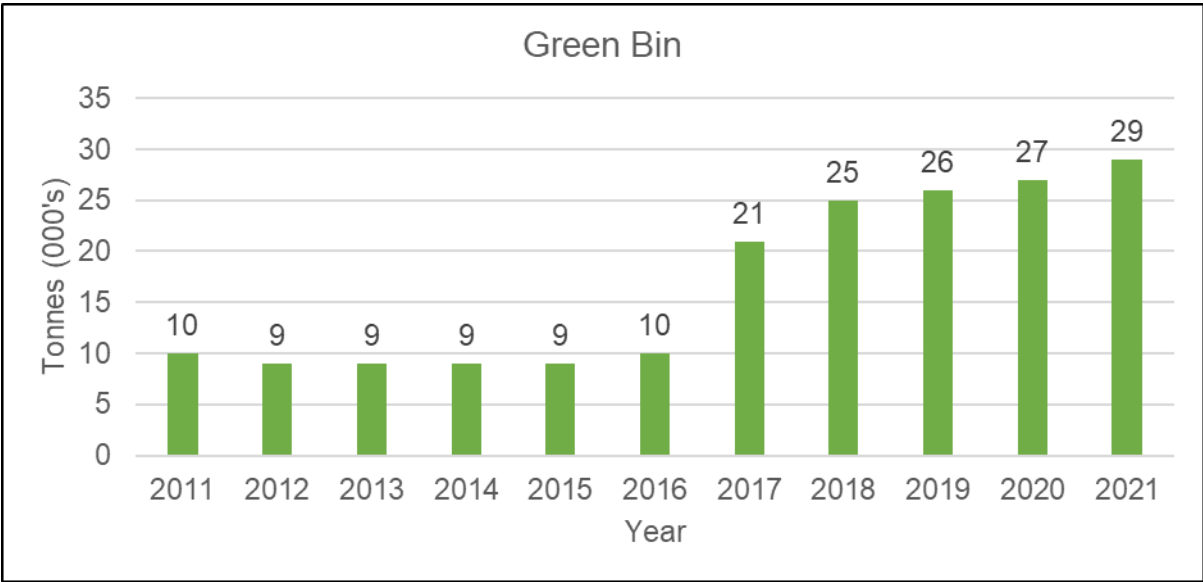
The Ontario Ministry of Environment, Conservation and Parks is moving to a new provincial Blue Box framework, the Extended Producer Responsibility (EPR). This new regulation makes producers (manufacturers of consumer packaging) fully responsible for the collection and recovery of Blue Box materials. This shifts the Blue Box program away from the municipalities to the producers of the retail products we purchase.

Residents can find more information on the Province’s “Strategy for a Waste Free Ontario: Building a Circular Economy” at <https://www.ontario.ca/page/strategy-waste-free-ontario-building-circular-economy>. The Region of Waterloo is scheduled to transition to the new Blue Box program in March 2024. There are many details yet to be worked out and as plans are finalized, we will continue to share these details with residents.

## Green Bin program

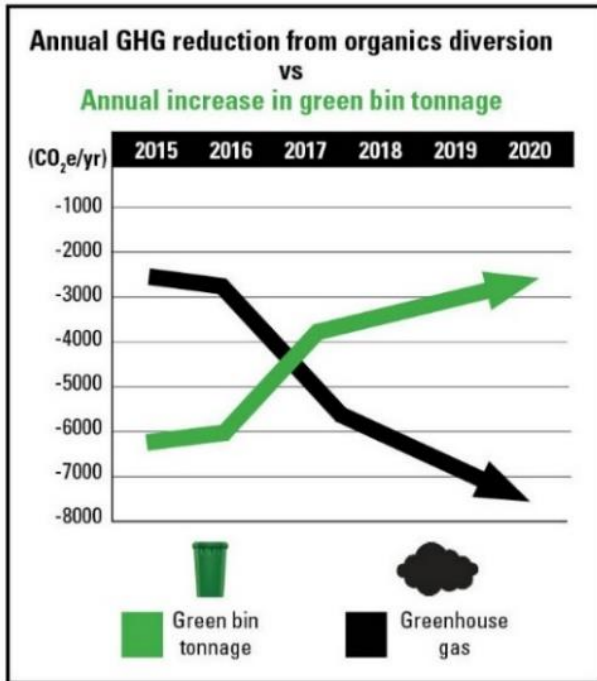
The amount of green bin food waste collected has increased year over year for the last five years. In 2021, over 28,000 metric tonnes of food waste was collected curbside with the Green Bin.

Food waste is a valuable resource that can be reused to make a useful product, compost. The collected green bin material is shipped to the City of Guelph’s Organic Waste Processing facility where the materials are processed using an aerobic processing method (rapid decomposition in a controlled environment with only oxygen and water added) to make an earthy soil-like compost.



The finished compost is used as a soil amendment for local agriculture. Compost adds nutrients to soil which helps improve the soil health. Watch how our [Green Bin material is processed](#) into compost.

## Using the Green Bin helps fight climate change

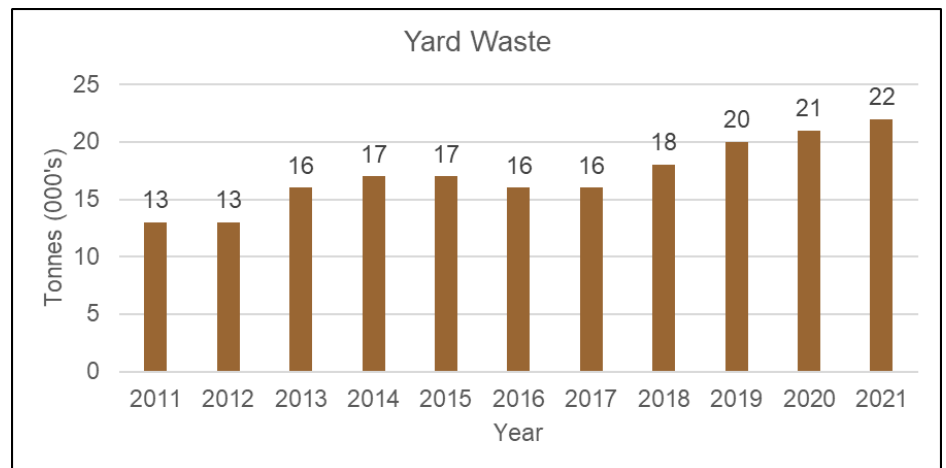


There is a direct correlation between your green bin use and impacts to the environment. When food waste is landfilled it slowly decomposes and creates methane gas, a greenhouse gas and contributor to climate change. By using the green bin, you are keeping food waste out of the landfill and helping to reduce greenhouse gas emissions.

From the introduction of the Green Bin program to the end of 2021, the total reduction in greenhouse gas emissions have reached about 50,000 metric tonnes.

## Yard Waste program

Almost 22,000 tonnes of yard waste were diverted from our landfill in 2021. The bagged leaves, garden trimmings and Christmas trees are taken to a 16 acres compost pad at our Cambridge waste management site where this material is ground, piled into windrows and follows the natural process to turn into compost.



Watch how your [green bin and yard waste](#) is processed.

The compost and wood chips made from the yard waste collection is given back to the residents to use on their gardens or lawns. In 2021, over 31,000 tonnes of compost and wood chips were given away.

# At the Transfer Stations

## Drop-off diversion programs

In addition to our curbside collection diversion programs, we also offer a number of drop-off diversion programs at our transfer stations in Cambridge and Waterloo such as household hazardous waste (paint, lawn chemicals). There are also a number of other community take-back programs such as the LCBO for bottles and cans.

Producers of batteries, e-waste, used tires and household hazardous waste are fully responsible for collection, processing, recycling and disposal their products and packaging after consumers have finished using them. Resident can find many free locations to drop off these items off for recycling on Ontario’s Resource Productivity & Recovery Authority website: [rpra.ca/find-a-collection-site](http://rpra.ca/find-a-collection-site).



## At the scales

In 2021, over 400,000 transactions were handled at the scales at our waste sites.

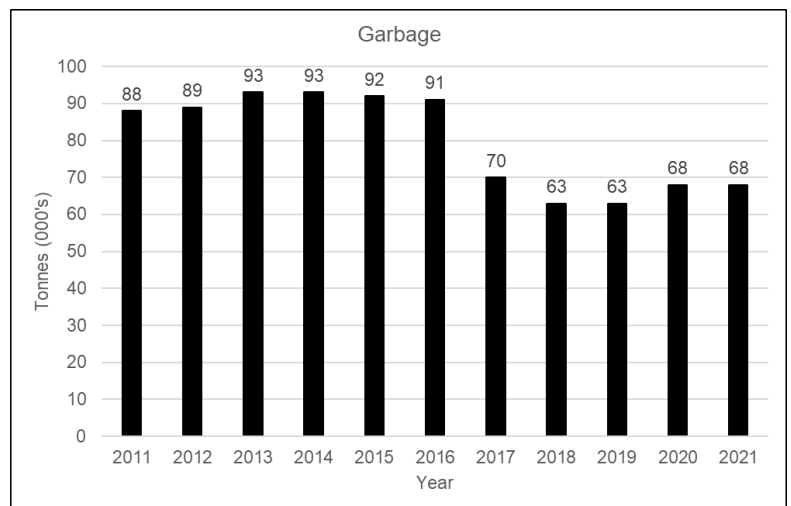
At the scales, vehicles are weighed coming in and weighted going out and fees are charges by weight and material type. Scales are calibrated and certified regularly. User fees are applied at the residential small vehicle transfer stations to help support the operations of the transfer stations.

Watch what happens at the [residential drop off at the Waterloo](#) Transfer Station.

# Garbage

There is always some garbage. In 2021, we landfilled over 153,796 tonnes of garbage: 45 per cent was residential, while 54 per cent came from commercial and other landfill customers. The total amount of residential garbage landfilled in 2021 was just over 68,000 tonnes.

Bi-weekly bulky item collection is included in the garbage tonnage. A bulky item is any item too large to fit into a garbage bag and includes furniture and appliances. There is a limit of three bulky items per collection.



Residents are increasing their use in the blue box and green bin diversion programs so material can be reused, and reducing the amount of garbage going into the landfill.

Watch how the landfill is operated and [what happens to your garbage](#).

### **Announcing a garbage bag service change: three bags starting October 2022**

In keeping with the Region of Waterloo's Corporate Strategic Initiatives to direct more waste away from the landfill and into diversion programs, residents will see a change to their garbage limits in October 2022. Garbage limits will go from four bags/cans every second week collection to three bags/cans every second week collection for all single-family homes, duplexes and townhouse complexes that receive our curbside collection services.

Approximately 60 per cent of resident garbage could be put into the green bin and blue box, according to a 2019 residential garbage audit. Sorting recyclable material into the blue box and green bin does help the environment by allowing these natural resources to be recycled (they can't be recycled if landfilled), and residents would be able to take advantage of the weekly, unlimited blue box and green bin collection.

Almost 90 per cent of households already set out three or fewer bags every other week for collection. As our garbage weight limits allow up to 23 kilograms (50 pounds) per bag/can, the three bag/can limits equals to 69 kilograms (150 pounds) of garbage per collection.

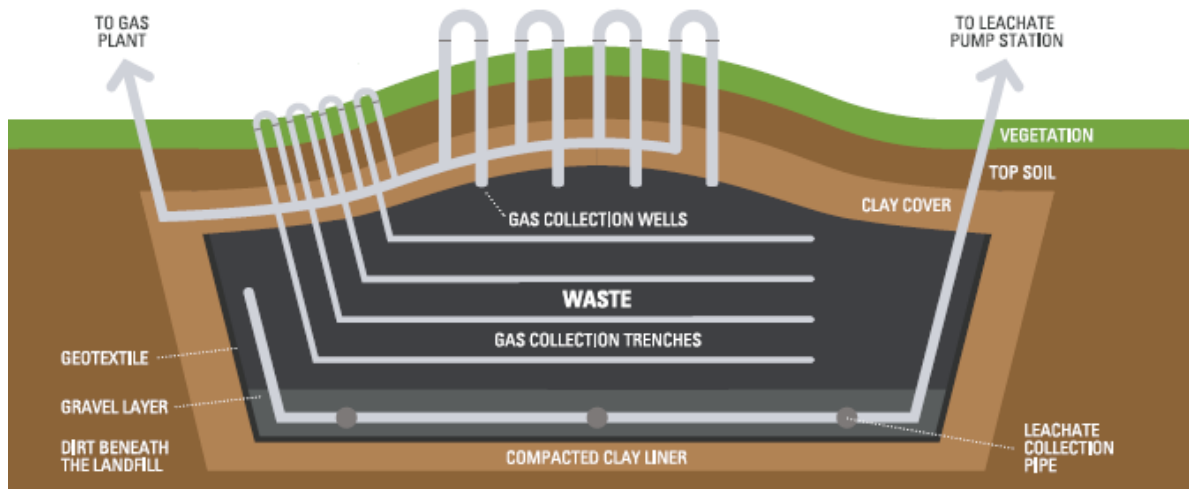
## **Managing our sites and the environment for the future**

The Region of Waterloo is responsible for a number of waste management sites and facilities including the operation of one landfill (Waterloo), one bulk transfer facility (Cambridge), two small vehicle transfer stations, the monitoring of five closed landfills and two partnerships for converting landfill gas to energy projects.

Our one [operating landfill site](#) is at the Waterloo Waste Management site. The Waterloo site opened in 1972. The total size of the site is 126.5 hectares, of which 71 hectares are available for landfilling. The north and central areas of the landfill are full and closed and we are now filling into the south area near Glasgow Street.

The Waterloo landfill site has an estimated 25 to 30 years of landfill capacity remaining. There are a number of factors that impact the forecasts for the life of our landfill. These include the changing waste composition and the amount of waste diverted which lowers the garbage tonnages.

Protecting the environment is a priority and there are a number of [landfill environmental monitoring programs](#), including odour abatement. We collect landfill gas, leachate and storm water, monitor air quality and fully cover the waste each day. Our engineering team monitors our Environmental Management system to ensure we are meeting or exceeding Provincial requirements. We monitor over 500 groundwater wells and 200 landfill gas wells at various sites to protect the surrounding environment.



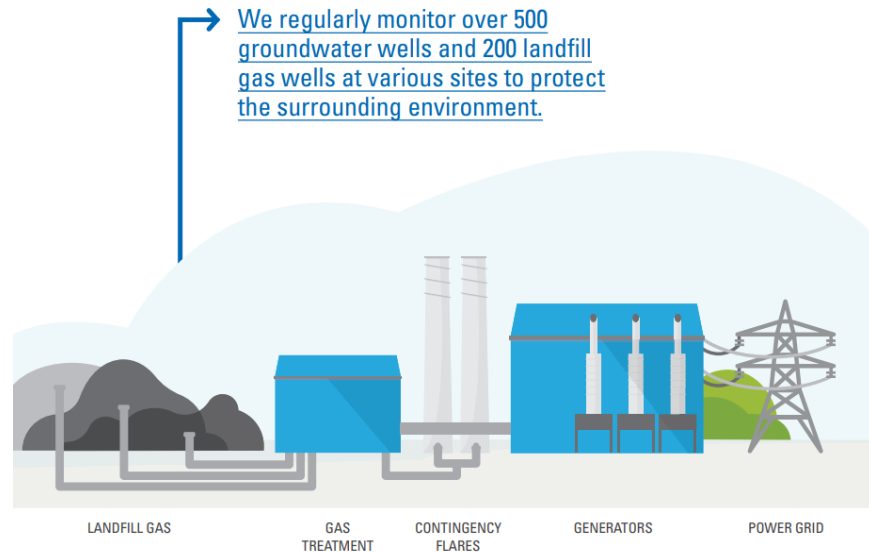
### Landfill Gas Collection Systems at our sites

When organic waste in the landfill (food, paper 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 systems designed into the landfills are an efficient way collect landfill gas before it is released into the atmosphere, reducing the impact of greenhouse gases while providing a reliable source of renewable energy. The Region’s Cambridge and Waterloo landfills are two of only 120 or so in Canada that collect landfill gas and use it to generate renewable energy.

The total electricity generated from the Waterloo landfill site is 37 million kWh. Currently, between 4,000 and 6,000 houses are provided with electricity from this renewable power source. The gas collected from the closed Cambridge landfill is used to help power a steel recycling plant next to the site.

In 2021, a major multi-year project to expand the gas collection system at the Waterloo site was completed. This expansion increases the ability for gas collection and prepares the site infrastructure for the next 25 to 30 years of landfilling. Continuous improvements to the gas collection system help control odours, minimize subsurface gas migration and maximize gas capture.

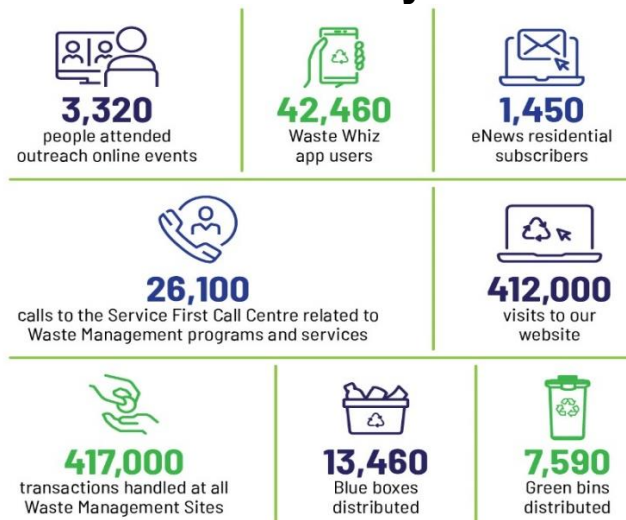
## Landfill gas wells:



## What Comes Next?

We need a plan when the landfill is full and our 2013 Waste Management Master Plan considered the options. Regional Council endorsed exploring technologies that manage and treat waste in order to recover energy known as Energy from Waste or EfW. There is no immediate need for an active EfW plan; we'll continue to monitor developments, provincial waste legislations, and our own waste programs.

## Keeping you informed: Community education and engagement



With the COVID-19 pandemic continuing into 2021, many of our public event events were cancelled including our two highly popular landfill tours held to celebrate April's Earth Week and October's Waste Reduction Week. Waste education focused on online education resources and virtual presentations to schools and the community. Residents continue to increase their use of the Waste Whiz app for collection schedules and how-to-sort information.

## Our budget

The cost to the average household through regional property taxes in 2021 totalled about \$166 (or \$3.20 per week per household) for all waste programs and services – the rough equivalent of a coffee or two a week.

In 2021, the Region’s Waste Management Division spent a total of \$65 million on program and service delivery.

Our largest expense was curbside collection that accounted for 42 per cent of our total costs. Other expenses include the costs to operate and construct the landfill and transfer stations including the environmental monitoring and reporting (22 per cent), and the waste diversion programs such as receiving facilities, hauling and processing of green bin, yard waste and blue box materials (14 per cent).

Funding to pay for these costs comes from many sources. Approximately 70 per cent of the funding received was from property taxes. Other funding was from the sale of the blue box recyclables (9 per cent), landfill gas royalties, user fees and Expended Producer Responsibility (EPR) funding.



## For more information:

- Visit our Waste [website](#)
- Ask the [Waste Whiz](#) for sorting and preparation help.
- Download the [Waste Whiz app](#) to get collection reminders and service alerts. Print your personalized collection schedule and more!
- Follow us on social media:
  - Facebook @ROWWasteManagement
  - Twitter @WasteWR
- Subscribe to the [Waste e-newsletter](#)

## For customer service:

- Use the online [Report A Collection](#) Issue form
- Call our 24 hour Customer Service Call Centre: 519-575-4400
- Deaf and hearing impaired TTY: 519-575-4608
- To request an alternate format of this document, call 519-575-4400