



Waste Management Annual Report **2018**







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Reduce

Waste reduction or waste prevention is all about minimizing waste at the source, so it is not created in the first place. Waste is often created/generated due to the inefficient use of resources or poor planning. An example would be, using disposable or single-use products or buying food we don't need on impulse or because there's a special offer, and then wasting it. Reducing is always the best waste management option.



Reuse

Reuse means using a product more than once. Repairing products, selling them, or donating them to charity/community groups also creates less waste. Reuse, when possible, is preferable to recycling because the item does not need to be reprocessed before it can be used again.



Recycle

Recycling is an effective way to manage products and packaging after they have been used. It prevents these materials from being sent for disposal and allows for them to be remanufactured into new products.



Recover

After we have reduced, reused and recycled (including composting) as much as possible, the remaining waste can be used to generate energy. This is known as 'recovery'. By recovering the energy from the waste, we are significantly decreasing methane produced by landfills and reducing the consumption of other more polluting fuels to produce energy.

Overview

The Regional Municipality of Durham Waste Management Annual Report 2018 summarizes Durham Region’s integrated waste management system. This report is submitted annually to the Ministry of the Environment, Conservation and Parks to satisfy the Durham York Energy Centre Environmental Assessment condition for diversion reporting.

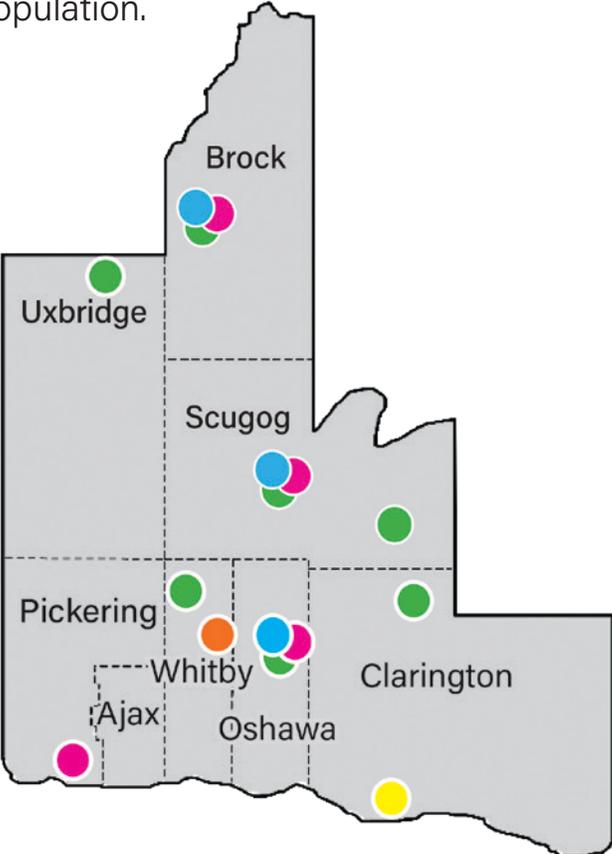
“The Region continues to deliver innovative waste reduction, diversion and disposal programs.”

Durham Region borders the City of Toronto to the east within the Greater Toronto Area and encompasses an area of approximately 2,590 square kilometres (1,000 square miles). The area is characterized by a variety of landscapes and communities. A series of major lakeshore urban communities contrast with a variety of small communities, villages, hamlets and farmland.

As an upper-tier municipal government, Durham Region provides programs and services to almost 220,000 households within eight municipalities: Ajax, Brock, Clarington, Oshawa, Pickering, Scugog, Uxbridge and Whitby. The Region continues to deliver innovative waste reduction, diversion and disposal programs to meet the needs of our growing population.

Waste Management Facility Locations in Durham Region

- Waste Management Facility
- Household Hazardous Waste Depot
- Inactive Landfill Site
- Material Recovery Facility
- Durham York Energy Centre





Roles and Responsibilities

Collection

Durham Region manages curbside collection of recyclables, organics, leaf and yard waste and residual garbage in Ajax, Brock, Clarington, Pickering, Scugog and Uxbridge.

The Region only collects recycling in Whitby and Oshawa, but partners with both municipalities to ensure uniform collection programs region-wide.

Bulky, metal goods, waste electrical and electronic equipment, battery and porcelain collection is also provided to single family homes in Ajax, Brock, Clarington, Pickering, Scugog and Uxbridge by the Region.

In addition to curbside collection services, the Region, in partnership with local municipalities, offers local waste reduction initiatives such as:

- spring compost events; one in each municipality.
- special waste electrical and electronic equipment drop-off events and household hazardous waste drop-off events.
- reuse drop-off events held from March to October, in partnership with local charities.

- Almost 400 multi-residential buildings and townhouses are also serviced by the Region of Durham's weekly waste collection programs.
- Onsite collection services offered in the buildings include recyclables, garbage, battery, electronics and textiles collection.

Processing

Following collection, the processing of recyclables, organics, yard waste and garbage is handled by Durham Region. This is accomplished through a combination of Regional blue box processing, external contracts for the treatment of organics and yard waste and energy-from-waste recovery for residual waste. The processing of electronics, household hazardous waste, textiles and porcelain is also done with industry partners.

Disposal

Durham Region manages disposal of residual garbage from all eight of its lower tier municipalities.

Within the Region's 4R hierarchy (reduce, reuse, recycle, recover), the preferred final disposal destination is energy-from-waste to maximize the benefit of capturing energy from residual waste.

In 2016 the province passed the Waste Free Ontario Act to replace the Waste Diversion Act. *The Waste Free Ontario Act* contains two individual Acts: *The Resource Recovery and Circular Economy Act* that is meant to move Ontario to full extended producer responsibility and the *Waste Diversion Transition Act* that regulates current diversion programs until full extended producer responsibility is implemented. Full extended producer responsibility means that the producers of materials like tires, paper and packaging and electronics are responsible for the material from the time it is manufactured until it is discarded at end of life. Instead of municipalities and taxpayers paying for end of life recycling or disposal, the producers will become responsible for end of life management of their products and packaging. It is a big change for Ontario and will take several years to implement. Since most of the changes will involve how municipalities manage divertible materials, Durham staff have been, and continue to be, involved in shaping how extended producer responsibility will look in Ontario.



Waste Free Ontario Act, 2016
Resource Recovery and Circular Economy Act

New full extended producer responsibility programs for tires, blue box, electronics, household hazardous waste and other materials designated by the Ministry.

Waste Diversion Transition Act

Existing diversion programs for tires, blue box, electronic and household hazardous waste are being phased out.

Diversions Achievements

Durham Region submits an annual datacall to the province through the Resource Productivity and Recovery Authority (RPRA) to receive funding from producers to assist with costs of operating the Blue Box Program. The datacall is the source of data used to confirm municipal diversion rates across the province. The following are Durham Region’s annual waste diversion rates since 2014:

RPRA Annual Waste Diversion

2014 – 55%

2015 – 54% 1st for Urban Regional Municipalities

2016 – 55% 1st for Urban Regional Municipalities

2017 – 65%* 1st for Urban Regional Municipalities, 3rd Overall in the Province

2018 – 63%** Pending verification

All values are rounded.

RPRA diversion numbers from landfill after curbside collection does not include Durham Region’s approved energy-from-waste initiatives.

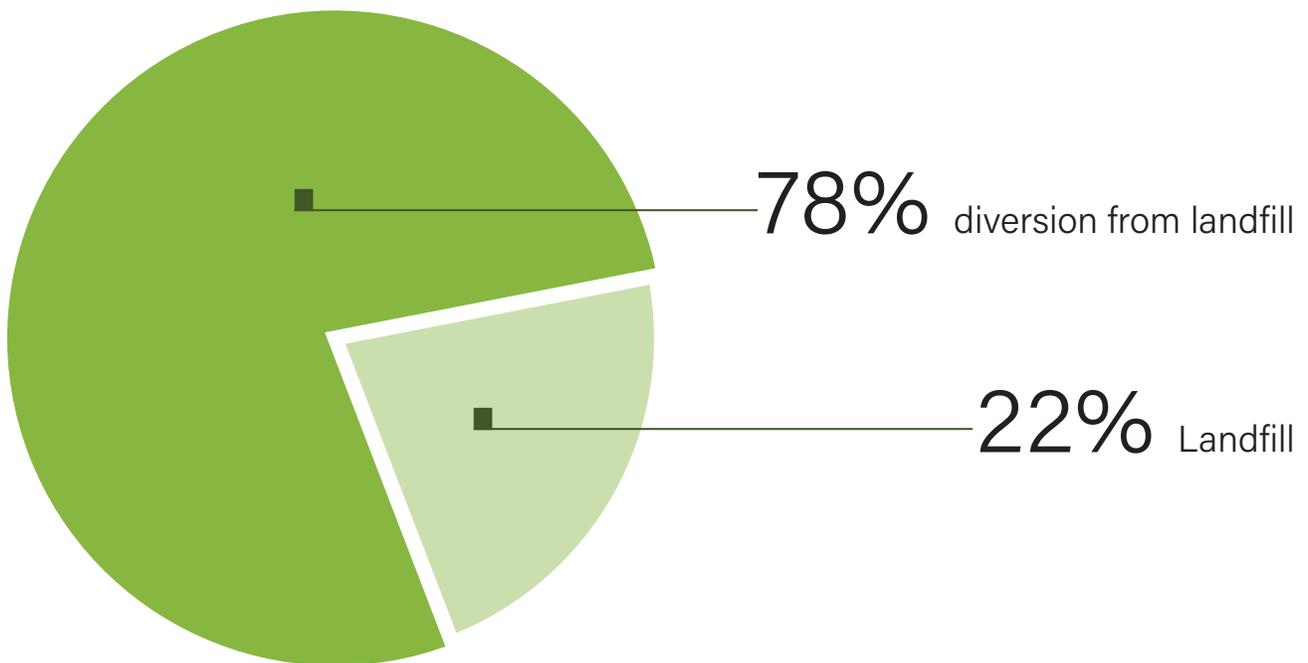
*Updated from 55 per cent to reflect finalized 2017 RPRA diversion rate.

**2018 diversion data presented is unverified by RPRA at time of printing.

Tonnes Collected

Material Type	2014	2015	2016	2017	2018
Garbage	110,417	110,498	107,887	115,271	119,716
Organics	27,007	26,796	27,612	28,318	28,446
Blue Box	49,531	48,254	47,923	47,839	43,139
Leaf & Yard Waste	32,123	27,554	24,730	25,082	27,330
Other Diversion	6,296	7,231	10,837	6,887	6,707
Total	225,374	220,333	218,989	223,397	225,338

Durham Region's diversion rate in 2018 was 63 percent. This is because Ontario considers the incoming waste received at the Durham York Energy Centre (DYEC) as disposed waste. However, the DYEC recovers energy from waste reducing the overall weight of waste sent to landfill by up to 70 percent. In 2018, the DYEC extracted 102,090 megawatts of electricity from the waste it processed from the regions of Durham and York. This reduced the waste's weight from about 140,000 tonnes to only about 41,190 tonnes in ash which was sent to the Walker Environmental landfill in Niagara Falls, Ontario for use in the landfill's operation as daily cover. When this weight reduction is taken into account, Durham's diversion rate from landfill increases from 63 percent to 78 percent.





Major Waste Activities

Blackstock Landfill Mining

Landfilled waste poses long-term environmental impacts in the form of greenhouse gas and leachate plumes that harm groundwater quality. Landfill mining activity began in October of 2018 at the Region's Blackstock landfill site in the Township of Scugog as a test of how Durham could eliminate these hazards and return an old landfill to its pre-landfill state. Waste was excavated and placed into a rotating trommel screen for mechanical separation of waste and soil. Landfilled metal and concrete was sorted and set aside for recycling. Screened combustible waste was transported to the Durham York Energy Centre (DYEC) for energy recovery.

A total of 4,796 tonnes of waste was excavated from the site: 2,849 tonnes of "combustible" waste was processed at the DYEC and 1,947 tonnes of "non-combustible" waste was sent to the Twin Creeks Landfill for disposal.

Concrete and metal picked from the excavated waste and from the demolition of the old transfer station infrastructure at the site totaled 257.88 tonnes: 160 tonnes of concrete and 97.88 tonnes of metal was recycled. Final grading of the site will be completed in the spring of 2019 to bring the site back its to original condition.

Landfill mining presents an opportunity to reduce greenhouse gas emissions and leachate impacts on groundwater quality, divert material not previously separated for recycling, recover energy from reclaimed waste, and eliminate the need for long-term groundwater monitoring. This project will provide valuable information for future remediation plans at the Region's six other closed landfill sites.



Waste was excavated and placed into a rotation trommel screen to mechanically separate waste from soil.

Blue Box Litter Pilot

In 2018, Regional Council directed the waste management staff to investigate ways to help prevent litter caused by the Blue Box program on windy days.

Four neighbourhoods have been chosen to test and evaluate options to prevent blue box litter. Each area will test one of the following anti-litter options providing each residence with an additional blue box to prevent recycling from overflowing the blue boxes; providing each residence enhanced promotion and educational material about managing bins during windy days; and supplying tools, including a new prototype lid. The pilot project began in October 2018 and continues into 2019. The results will be analyzed and reported to Regional Council in 2019.

Reuse Days

Reuse Days are eight annual drop-off events hosted by Durham in partnership with three local charities; Habitat for Humanity Durham, Salvation Army and Diabetes Canada. Residents are encouraged to drop-off reusable items, including renovation material, household goods and textile material at the monthly events.

In 2018, a notable change was made to the Reuse events. Events previously occurred on the third Saturday of every month from March to October at the Region's Recycling Centre located at 4600 Garrard Road, in the Town of Whitby. In 2018, four of the Reuse Day events were moved from the Recycling Center and combined with the regularly scheduled co-collection events for Waste Electronic and Electrical Equipment and Household Hazardous Waste that are held in local municipalities. This was done to expand the access of the Reuse events to Durham residents and to increase the efficiency of operating the events.

Four co-collection events were held in the Town of Ajax, the Township of Uxbridge, the Municipality of Clarington and the City of Pickering. The remaining four Reuse Day events were held at the Region's Recycling Centre in the Town of Whitby. Although the participation numbers were higher at the

“Residents are encouraged to drop-off all reusable items, including renovation material, household goods and textile material at the monthly events.”



2018 events than in 2017, the weight of material collected for re-use in 2018 dropped by 23.5 per cent over the previous year to 13 tonnes. The Region will review the 2019 results to determine if joining Reuse events with co-collection events will continue in 2020.

Compost Giveaways

In 2018, the Region, in partnership with the area municipalities, organized eight spring Compost Giveaways, in combination with blue box, green bin sales and exchanges. Backyard composters were also available to purchase. One event was held in each of the eight municipalities. The amount of compost distributed in each municipality varied from 92 to 160 tonnes of compost per event. The leftover compost material was made available to the municipalities for use on their gardens and public parks. Collectively, these compost events attracted 3,835 vehicles. The compost is a nutrient-rich, natural soil amendment and is made from the organics collected through Durham's curbside Green Bin and Leaf and Yard Waste Diversion Programs.

Blue Box

Durham Region has a two-stream recycling program in which containers and paper materials are collected in separate blue boxes. Materials set-out at the curb and collected from multi-residential buildings are delivered to the Region's Material Recovery Facility (MRF) in Whitby for sorting and marketing.

Despite population growth, total recycling tonnes have decreased over the years. This is mainly due to changing composition of blue box materials. There has been a substantial increase in lightweight and high-volume materials such as plastic and polycoat containers and a decrease in heavier, dense materials like paper.

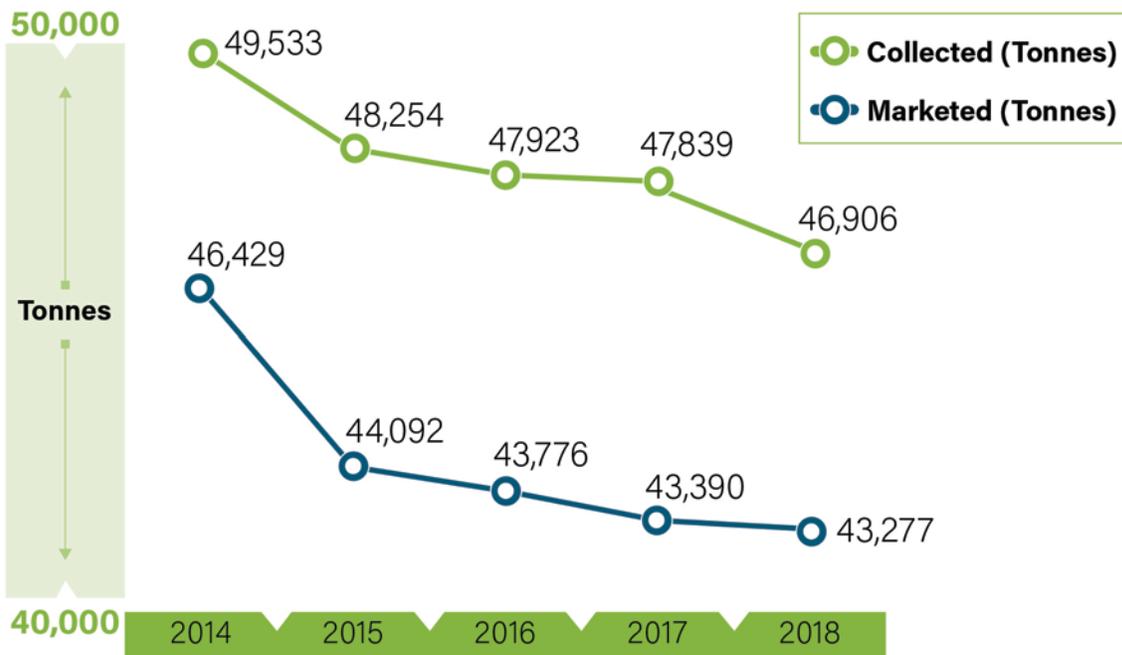
With the 2016 Resource Recovery and Circular Economy Act, the Province started moving toward full extended producer responsibility (EPR) for the printed paper and packaging materials that are collected in municipal Blue Box Programs. This initiative means that soon, companies that make or import products or packaging into Ontario that are managed by the Blue Box Program will replace municipalities as the responsible party for managing the Blue Box Program.

In 2017 the Association of Municipalities of Ontario (AMO) created M3RC with the support and participation of Durham Region. This initial purpose of M3RC in 2017 was to work with producers to transition the blue box programs. The transition to full producer responsibility for the blue box is complex and will take several years. Durham Region will continue to participate in municipal efforts like M3RC to ensure the blue box changes have minimal impact on its residents.

In addition to transition discussions, significant changes in recycling markets occurred in 2018. The most significant change was China implementing its National Sword Policy in January 2018 which banned the import of most plastics and placed strict contamination limits on imports of paper for recycling. Since China was the world's largest recycling market, this action has caused significant disruption to the international recycling market. Impacts on Durham are mitigated by its two-stream curbside recycling system which keeps the materials clean and relatively free of contamination, and by recent investments to improve the performance of the Region's MRF.

While Durham is still marketing its recyclables successfully because of its cleaner recycling collection program and the improvements to our MRF, Durham is now receiving significantly less revenue for its recycling commodities and this trend is expected to continue into the near future.

Blue Box Collected and Marketed



Green Bin

Durham residents separate green bin organics from regular garbage and set them out at the curb each week in green bins. Residents are required to use certified, 100 per cent compostable bags, paper liner bags, or wrap contents in newsprint before putting their organic material in the green bin for collection.

Durham Region composts its green bin waste at facilities in Pickering and Courtice. The majority of collected green bin waste was processed and marketed to farmers, landscapers, and soil remediation firms.

Processing green bin organics into compost currently represents 12 per cent of the Region’s overall diversion achievement. In 2018, Durham Region residents generated 28,446 tonnes of source separated organics.

The Region continues to explore integrated waste management options for a long-term organics management plan which include the presorting of organics and recyclables from the garbage and the anaerobic digestion of organic materials to produce a renewable natural gas and soil amendments.

“The Region continues to explore integrated waste management options”

Green Bin Collected



In November 2017, Ontario released a draft Food and Organic Waste Framework as part of its commitments under the Strategy for a Waste-Free Ontario. The proposed Framework aims to reduce the amount of food and organic waste disposed by Ontarians. Part of the framework includes municipalities increasing the amount of food, leaf and yard waste collected for recycling and an eventual ban on organics from disposal.

The work the Region is already conducting on a long-term organics management plan will support meeting the new diversion requirements of the Food and Organic Waste Framework.

Leaf and Yard Waste

Durham Region offers residents seasonal curbside leaf and yard waste collection with 24 collections per year from April to and after December, two Christmas tree collection weeks in January—70 per cent of leaf and yard waste is collected in the fall each year.

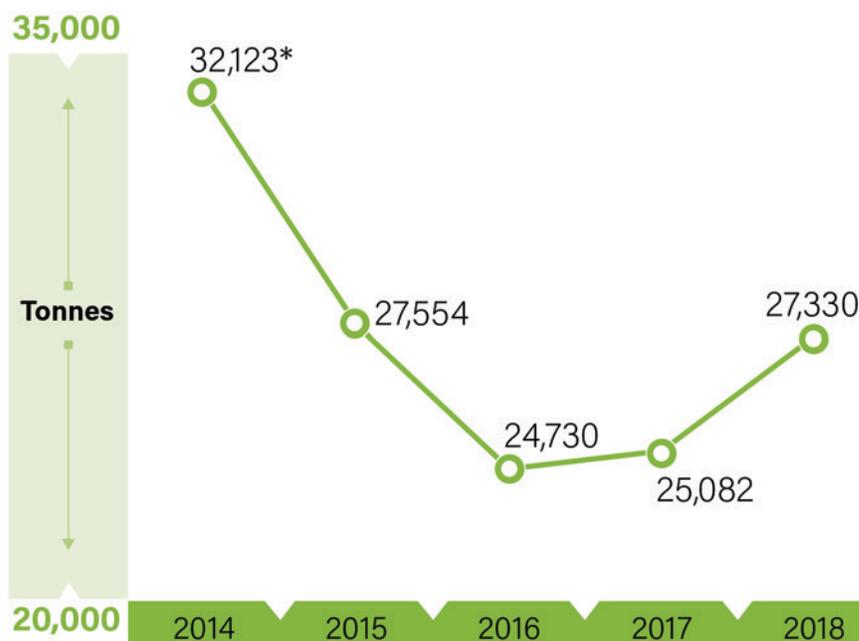
Residents can also drop off leaf and yard waste at any of the Regional Waste Management Facilities—disposal rates apply. All yard waste collected in the Region is processed at facilities in Pickering and Courtice.

Brush, leaf and yard waste are collected in kraft paper yard waste bags, rigid reusable containers or tied bundles for outdoor windrow composting and as a supplement in the Green Bin Program.

The Region also receives high quality AA compost for distribution back to residents at annual compost giveaway events held in each municipality every spring.

In 2018, Durham Region residents generated 27,330 tonnes of leaf and yard waste, representing 12 per cent of the total waste stream. Leaf and yard waste tonnes are influenced by changing weather patterns. Yard waste tonnes typically increase after severe winds or ice storms as we encountered in 2014.

Yard Waste Collected



*The increased yard waste tonnages in 2014 were due to the ice storm clean-up.



**Batteries dead?
Recycle Instead!**
Collection November 3-7, 2014 ONLY
Collection April 20-24, 2015 ONLY

1-800-667-5671
durham.ca/battery

If the information is required in an
accessible format, please contact
the number above.

**Batteries dead?
Recycle Instead!**
Collection November 3-7, 2014 ONLY
Collection April 20-24, 2015 ONLY

**Batteries dead?
Recycle Instead!**
Collection November 3-7, 2014 ONLY

PAPERS ONLY
Please no containers

- ✓  Printed paper
- ✓  Magazines, phone books
and soft cover books
- ✓  Envelopes and flyers
- ✓  Newspaper

Curbside Battery Collection

Durham’s curbside battery collection program continues to maximize the capture of batteries, while keeping mercury, cadmium, and other heavy metals out of the waste stream. Household batteries are recycled responsibly through proper processing and conservation of valuable resources.

Durham’s battery processing vendor recovers the steel, zinc and manganese from each battery giving these materials another chance to be recycled. They provide feedstock to the local steel industry and micro-nutrients to the local agricultural industry for biofuel crop production. This battery technology is capable of recycling and recovering up to 92 per cent of components found in spent household batteries.

Since the first battery collection in November 2012, Durham Region has diverted more than 205 tonnes (204,730 kilograms) of household batteries from the waste stream. It has also served as a catalyst for curbside recycling throughout Ontario with over 60 municipalities starting or considering their own programs.

Durham Region is proud to have pioneered this successful diversion initiative. Waste staff continue to engage, educate and promote the curbside battery program with Durham residents, including its enhanced partnership and messaging timed with the local Fire Departments check smoke detector/ change battery campaign to keep the program to Departments.

Year	Tonnes
2012	22.46
2013	23.90
2014	32.08
2015	33.74
2016	33.37
2017	31.33
2018	27.85
Total tonnes to date	204.73

Electronic Waste

Unwanted electronic such as laptops and fax machines are classified as waste electronic and electrical equipment (WEEE). While electronic materials can contain harmful substances such as mercury, lead and cadmium, which require special handling, there are also valuable and scarce resources in electronics, such as gold, copper, aluminum and other precious metals; recycling these materials helps reduce the need for new raw materials.

“Durham Region provides residents with a network of drop-off facilities for waste electronics”

Durham Region provides residents with a network of drop-off facilities for waste electronics, including Oshawa, Scugog and Brock Waste Management Facilities.

The Region also provides a call-in curbside collection program for waste electronics in Pickering, Ajax, Scugog, Uxbridge, Brock and Clarington.

In 2018, 394 tonnes of WEEE materials were collected at Durham Region waste management facilities and 21 tonnes through the call-in curbside program. Additionally, the Region organized four WEEE recycling special events in 2018. These special events combined with Durham Region’s drop-off depots provide for the safe recycling of WEEE materials.

The Ministry of Environment, Conservation and Parks has begun the process to transition the electronics recycling program to full producer responsibility. Region staff are providing input to the government on the requirements for this program. Full transition is not expected to occur until 2020.

2018	
WEEE Source	Tonnes
WMF	394.44
Curbside Collection	21.45
Community Events	16.88
Total	432.77

Porcelain Bathroom Fixtures

In February 2012, the Region tested the residential curbside collection of porcelain bathroom fixtures as part of an expanded curbside recycling pilot. The porcelain program is now permanent and is offered in Pickering, Ajax, Clarington, Brock, Scugog and Uxbridge, as well as the Region's Waste Management Facilities (WMF) in Oshawa, Scugog and Brock. The Town of Whitby also collects porcelain.

This program diverted 426 tonnes of material from disposal in 2018, comprised of 202 tonnes collected through the curbside collection and an additional 224 tonnes collected at the WMFs.



Multi-residential Program

Durham Region's multi-residential sector continues to grow. Waste, recycling and other diversion programs are now provided to 398 buildings in Durham Region, representing over 25,000 dwelling units. To be eligible for municipal collection apartments, townhouses and condominium properties must first meet the Region's "Technical and Risk Management Guidelines for Waste Collection Services on Private Property".

Multi-residential residents are encouraged to participate in the Region's various diversion programs. Residents dispose of their waste either through garbage chutes on each floor of their buildings, or by dropping off material into a waste bin located at a designated garbage collection point at each property. Dual stream recycling, like the Region's curbside program, with clearly marked 95-gallon totes is also available. Residents separate their recyclables into two-streams; one for paper products and packaging, and one for plastic, metal and glass products and packaging. Specially marked recycling totes provided by the Region facilitate this separation of materials and promote resident participation.

Special recycling programs created for multi-residential buildings have proven successful in diverting special wastes. These include: Waste and Electronic and Electrical Equipment (WEEE) collection; batteries collection; and textiles collection. These programs are offered in partnership with special collection providers at no cost to the Region and are managed by property managers. In 2018, participating properties collected the following material: WEEE collection 21.12 tonnes; batteries collection 1.97 tonnes; and 30.85 tonnes of textiles.

Multi-residential diversion rates are typically much lower than single family rates for a variety of reasons. While Durham's overall diversion rate in buildings serviced by the Region 2018 was 63 percent, the multi-residential sector averaged 13 percent.

Property management companies and building owners work with the Region's waste staff to actively encourage and promote diversion. In 2019 the Region will continue to develop and promote diversion programs and other plans to increase the multi-residential diversion rate.

Household Hazardous Waste

The Region provides residents with a network of facilities and special events where residents can drop off household hazardous waste (HHW). Drop-off locations include the waste management facilities in Oshawa, Scugog and Brock. The Region also has an HHW depot at 1220 Squires Beach Rd. in Pickering. HHW is recycled or treated and disposed of in an environmentally responsible manner through specialized contract services.

Durham Region collected 1167.57 tonnes of HHW materials at Regional depots and events.

Both regional depots and retail take-back locations ensure HHW materials are safely managed at end-of-life and keep harmful substances from entering the environment. Many of these items contain materials that can be recovered, refined and reused in the manufacturing of new products, reducing the need for virgin resources.

The Ministry of Environment, Conservation and Parks has begun the process to transition the household hazardous waste recycling program to full producer responsibility. Region staff are providing input to the Province on the requirements for this program. Full transition is not expected to occur until 2020.



Other Diversion Programs

Used Cooking Oil

Durham Region’s Sewer Use By-law Enforcement Program educates residents on how to safely dispose of fats, oils and grease (FOG).

Although it may be in liquid form when disposed of it, once it enters the cold sanitary sewer system, it solidifies and accumulates inside the sewer. When FOG meets other items in the sanitary sewer system that should not be flushed (such as rags and wipes), it can form large clumps or balls, causing major clogs.

Used cooking oil should never be poured down the drain. It can be dropped off for recycling at all of Durham Region’s waste management facilities free of charge. In 2018, Durham Region collected 17.63 tonnes of used cooking oil that was processed.

“Paper removed from the gypsum wallboard is processed and recycled in a variety of applications.”

Drywall

The Region’s drywall recycling program diverts all clean drywall including off-cut material. In 2018, this program diverted almost 303 tonnes of material from disposal.

Drywall, also known as gypsum wallboard, is recycled in a closed-loop process where gypsum material is returned to the drywall manufacturer to re-enter the manufacturing process.

The paper removed from the gypsum wallboard is processed and recycled in a variety of applications including shipment to farms for use as animal bedding.

Acceptable material may be dropped off at any of Durham Region’s waste management facilities.

Used Tires

Durham Region collects used tires at all Waste Management Facilities. Residents can drop off up to four tires per day, including passenger, light and medium truck and farm tractor tires. In 2018, Durham collected 189 tonnes of tires. Used tires are recycled into new products including rubber bricks, playground surfacing and rubber mulch.

The Ministry of Environment Conservation and Parks has issued a new regulation governing the collection and recycling of used tires. Most of the changes required by the new regulation are behind the scenes and the tire recycling experience for the consumer is mostly unchanged. To find a retail drop-off location that may be more convenient, residents can search by postal code for other tire collection sites: rpra.ca/programs/tires/collectionsites.



Garbage

After all waste diversion efforts have been utilized, Durham Region manages its remaining residual garbage primarily through energy recovery at a facility in the Municipality of Clarington. The facility began commercial operations in January 2016 and is owned by the regional municipalities of Durham and York.

The Durham York Energy Centre (DYEC) is a waste management facility that produces energy from the combustion of garbage. The DYEC generates enough electricity to power approximately 10,000 homes a year, captures residual metals and reduces the volume of waste going to landfill by 90 per cent.

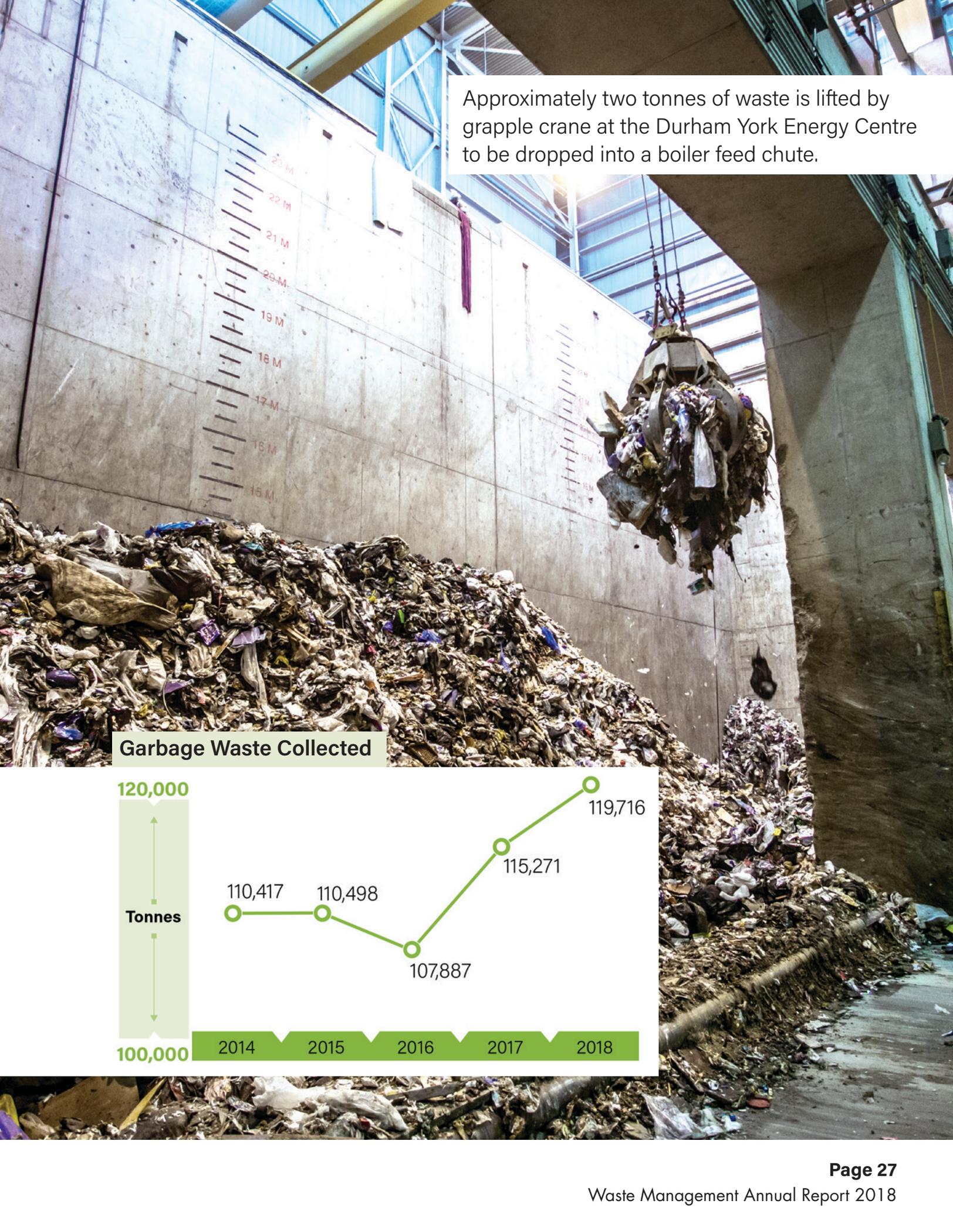
The DYEC is permitted to safely process 140,000 tonnes per year of non-hazardous residential garbage that remains after maximizing waste diversion programs; reducing, reusing, recycling and composting in Durham and York Regions. Of the 140,000 tonnes of processing capacity at the DYEC, 110,000 tonnes is assigned for Durham's use.

In 2018, the facility processed 140,000 tonnes of garbage, while recovering approximately 3,848 tonnes of metal and generating approximately 102,090 MWh of electricity for sale to the provincial grid.

By using state-of-the-art pollution control systems and proven, reliable energy from waste technology, the DYEC meets the most stringent environmental standards and significantly reduces greenhouse gas emissions compared to the existing landfill options.

In addition to continuous emissions monitoring, in 2018 independent stack tests to monitor all emissions from the stack occurred in the months of May, June and September. Results from both testing periods demonstrate the facility is currently operating well within the DYEC environmental compliance approval requirements.

Approximately two tonnes of waste is lifted by grapple crane at the Durham York Energy Centre to be dropped into a boiler feed chute.



Garbage Waste Collected



Landfill Perpetual Care

Oshawa Landfill

A post-closure care and monitoring plan was completed for the Oshawa Landfill site in 2013. The report's findings and recommendations were used to plan maintenance activities and capital projects in 2017. Erosion and slope stability issues have historically occurred in the northern end of the landfill.

The Region performed a detailed stream evaluation in 2015 to identify impacts from surrounding creeks and surface water flow causing erosion around the landfill and prioritize the areas of concern and the appropriate solutions.

Filtersoxx media – long tubes of fine mesh filled with compost and native seed mixture – to act as a final cover and introduce vegetation to reduce erosion.”

In 2015, a slope stabilization project was undertaken, involving re-alignment of the adjacent creek, re-grading of underlying soils and placement of a sand filter layer to reduce the severity of the slope. The area was then covered with Filtersoxx media – long tubes of fine mesh filled with compost and native seed mixture – to act as a final cover and introduce vegetation to reduce erosion. The Filtersoxx was used in this area to test the effectiveness of the product before being used in other areas of the site.

Filtersoxx were successful and three more areas were rehabilitated in 2018. The designs were site specific but used elements of the 2015 project that as found to be successful in establishing vegetation.

Scugog Landfill

Durham's goal for the long-term use of the Scugog landfill is to provide beneficial habitat for native wildlife in the area. On October 13, 2018 the Region hosted a TD Tree Day event in partnership with Kawartha Conservation. Over 300 trees and shrubs were planted in several areas of the landfill and the neighbouring Nonquon Water Pollution Control Plant. There were 43 volunteers that attended the event. This initial planting will enable the Region to monitor the planting areas and study the survival rate of the different plant species that were chosen for this unique area.



A tributary off Oshawa Creek that is being remediated to repair the erosion of the banks. The stone and logs assist in stabilizing the creek and also provide fish habitat.

Other Landfill Perpetual Care Activities

The Region maintains seven closed landfill sites. All sites are monitored regularly and inspected at least twice a year and maintained as needed. Maintenance activities includes groundwater monitoring well repairs, soil erosion control, and site grading and landscaping. All sites have individual monitoring programs for groundwater, surface water and landfill gas that are tailored for each site. Annual reports are prepared and submitted to the Ministry of Environment, Conservation and Parks for review.

Community Outreach

The Region actively promotes its waste diversion programs through an extensive communication and education program. Key objectives include:

- Promoting participation in waste diversion programs.
- Encouraging an understanding of correct participation in programs.
- Promoting compliance with Regional waste management policies and by-laws.

Durham Region participated in the following community outreach initiatives in 2018:

- Eight spring compost events, one in each municipality.
- Four special waste electrical and electronic equipment drop-off events and household hazardous waste drop-off events.
- Eight reuse drop-off events were held from March to October, partnering with local charities.
- Promotion of waste diversion programs during National Public Works Week and Waste Reduction Week.
- “Durham Works”, the Works Department’s external newsletter is distributed twice annually to approximately 220,000 households in the Region. In 2018 it featured information on the Durham Region waste app, Green Bin and Blue Box Programs and waste management facilities.
- Exchanged 5,650 Blue Boxes, 896 kitchen food waste containers and 5,367 curbside Green Bins for new boxes, containers or bins due to damage.
- Sold 2,635 new Blue Boxes, 806 kitchen food waste containers, 714 curbside Green Bins and 128 backyard composters.
- Responded to more than 53,063 telephone calls and 15,831 emails regarding waste programs.
- Almost 50,000 Durham Region Waste app downloads with 66,000 weekly waste setout reminders.
- Extensive social media campaigns to educate and engage residents on proper waste management.

In 2018, 4,750 people were reached through delivery of educational programs in Durham's communities. Most programs were delivered to children and youth from Kindergarten to Grade 12 via the School Outreach Program. Overall, 41 schools were visited throughout Durham Region.

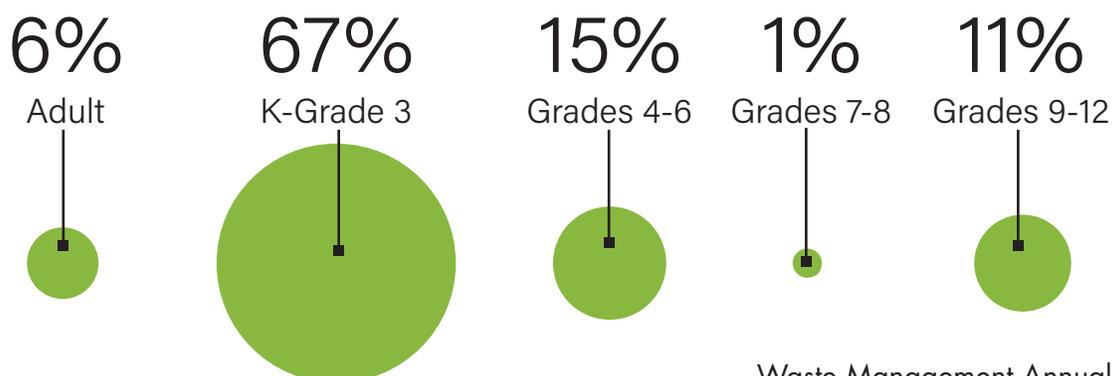
School Curriculum Program

In addition, Durham Region's Waste Management staff participated at some school board events and partnered with the 2018 Durham Children's Watershed Festival to deliver an interactive activity centre to approximately 1,200 students.

2018 Participation in Durham Region Waste Education Programs

Organization	Number of Schools Visited	Number of Participants
Durham District School Board	22	1,894
Durham Catholic District School Board	12	1,120
Kawartha Pine Ridge District School Board	3	199
Peterborough, Victoria, Northumberland and Clarington Catholic District School Board	3	275
Conseil Scolaire de District Catholique Centre-Sud	1	5
Community Groups	n/a	57
2018 Durham Children's Watershed Festival	n/a	1,200
Total	41	4,750

2018 Participation in Durham Region Waste Education Programs by Grade/Age Category



Summary

The Region of Durham demonstrates leadership in waste reduction and reuse strategies, while managing garbage effectively. The Region's programs have demonstrated the following:

- 78 per cent diversion from landfill
- 63 per cent Resource Productivity and Recovery Authority diversion rate (verification pending)
- Convenient access to curbside and waste management facility diversion programs
- Marketed 43,277 tonnes of recyclables
- Composted 55,776 tonnes of green bin organics and leaf and yard waste
- Ensured the safe and responsible recycling of 1,168 tonnes of household hazardous waste, 454 tonnes of electronics and 30 tonnes of batteries.
- Processed 119,716 tonnes of garbage through energy-from-waste recovery generating approximately 102,090 MWh of electricity for sale to the provincial grid
- Actively promoted our waste diversion programs through an extensive community outreach program

The Region thanks residents in Durham for their continued participation in reducing waste.



Durham Region Waste Management
905-579-5264
www.durhamregion.ca



A FRIENDLY REMINDER

Dear resident:

The Region of Durham is committed to working with residents to reach the goal of diverting 70 per cent of residential waste from disposal.

Under the Waste Management By-law 46-2011, there is an issue(s) with the set out of your waste.

Please review the reverse side of this notice and take the actions required to bring your curbside waste into compliance.

Please refer to your waste collection calendar or visit www.durhamregionwaste.ca for more guidance and information.

Thank you for your co-operation.
Durham Region Works Department
Waste Management Services

If this information is required in an alternate format, please contact the Waste Management Call Centre at 1-800-667-5671.



E. REUSE, RECYCLE
reverse for



If you need more information about any of the Region of Durham's waste management programs or services, contact us:

Tel: 905-579-5264 or 1-800-667-5671

Email: waste@durham.ca

Website: durham.ca/waste

If you require this information in an accessible format, please call 1-800-667-5671.