

WASTE MANAGEMENT

ANNUAL REPORT

2014



Overview

Curbside collection of Blue Box, Green Bin, leaf and yard waste and residual waste is managed by the Region of Durham in Pickering, Ajax, Clarington, Brock, Scugog and Uxbridge. The Region only collects Blue Box recycling in Whitby and Oshawa, but partners with those municipalities to ensure uniform collection programs Region-wide.

All materials are delivered to Regionally owned or contracted facilities for processing or disposal by the Region of Durham. Regional waste management facilities offer residents additional opportunities for waste diversion.

Durham Region educates residents on its waste management programs through various promotion and outreach activities.

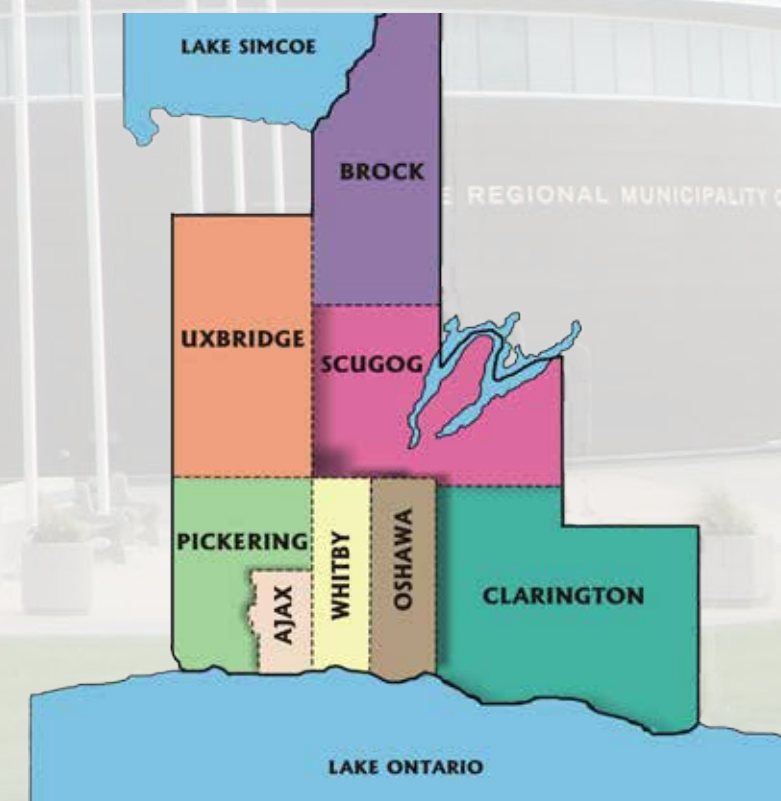
Durham Region is currently completing its annual waste diversion submissions to Waste Diversion Ontario (WDO), the organization tasked by the Province of Ontario to calculate residential waste diversion rates for each reporting municipality, as well as an overall average for the Province of Ontario.

The waste diversion rate is the amount of Blue Box and other divertible materials by weight kept out of landfill as a percentage of the total waste managed and reported to WDO. Diversion data includes the following activities:

- Blue Box recyclables
- Waste Electrical and Electronic Equipment (WEEE)
- Municipal Hazardous or Special Waste (MHSW)
- other recyclables (e.g., scrap metal)
- used tires
- municipally-operated composting activities (e.g., kitchen organics)
- an allowance for provincial deposit systems based on the deposit containers returned from the residential sector
- an allowance for residential on-property management (e.g., backyard composting and grasscycling)
- an allowance for material scavenging
- municipally-operated reuse activities

The Region's waste management portfolio includes:

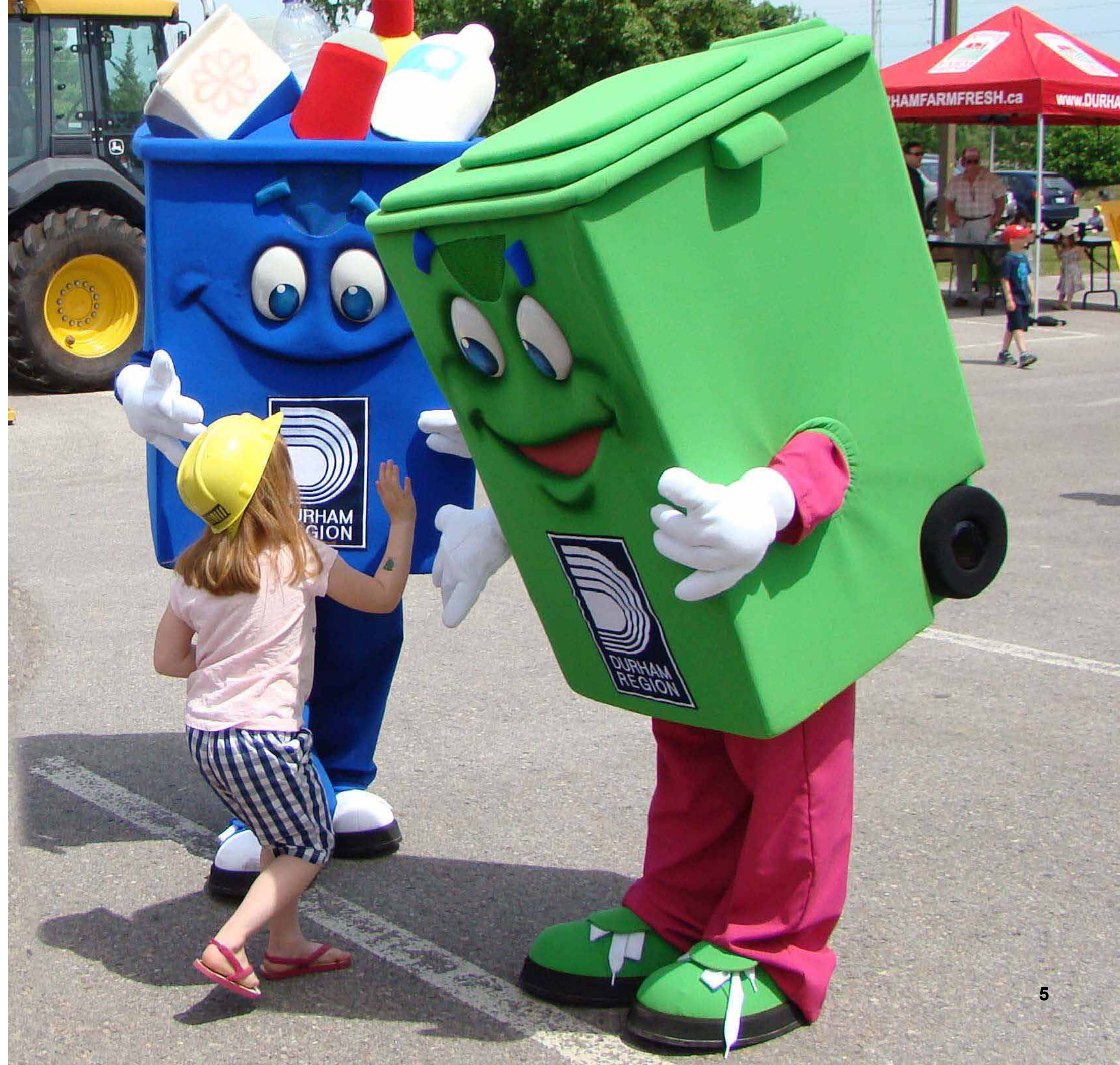
- Material Recovery Facility to process blue box recyclable material
- Waste Management Facilities in Oshawa, Scugog and Brock
- Municipal Hazardous and Special Waste Depots in Oshawa, Scugog, Brock and Pickering
- Processing of source separated organics (SSO) through private contractors
- Collection, processing and disposal of waste through private contractors
- Perpetual care of inactive landfill sites in Whitby, Oshawa, Clarington, Scugog, Uxbridge and Brock
- Management of special waste events
- Curbside battery collection
- Durham York Energy Centre
- Community Outreach programs



Year in Review...

In 2014, waste diversion initiatives supporting the Region's 70 per cent diversion target included:

- Enforcement of solid waste collection programs through the Regional Solid Waste Collection by-law 46-2011.
- Continued roll out of the Multi-residential Waste Electrical and Electronic Equipment (WEEE) recycling collection program.
- Battery Collection program to collect household batteries from single family homes and multi-residential buildings.
- Special waste events to divert additional Municipal Hazardous and Special Waste (MHSW).
- Special waste events to divert additional Waste Electrical and Electronic Equipment (WEEE).
- Reuse Days in partnership with local non-profit/charitable organizations made permanent.
- End of landfill operations at the Brock Landfill.
- Community outreach programs focusing on waste diversion. These are an integral part of the Waste management services mandate. Reaching all residents through various media, to ensure understanding of the services offered in the Region, will assist in the delivery of co-ordinated and cost-effective services.





Quick Facts

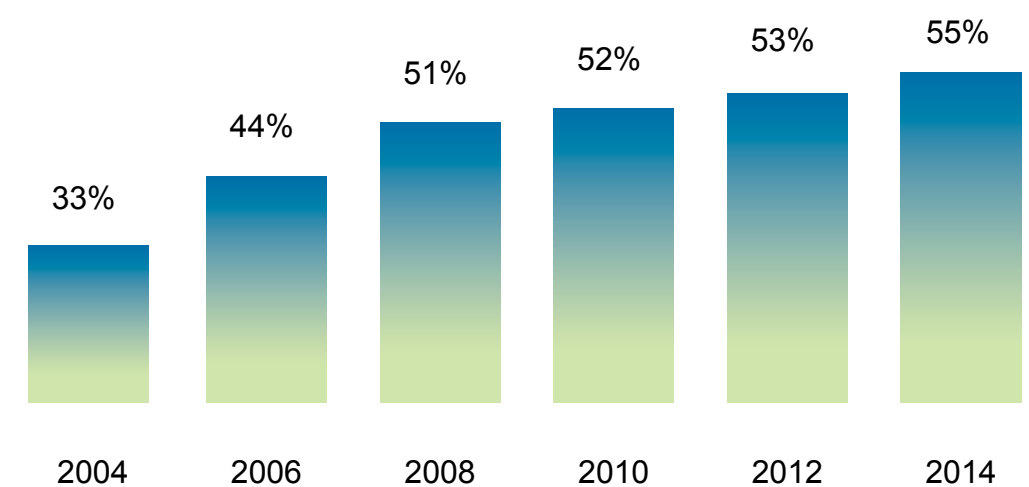
In 2014, Durham Region diverted 55 per cent of materials from landfill.

- **652,790 (2014):** Durham Region's population (estimated)
- **195,690:** Durham Region's single family residences
- **23,880** multi-residential residences
- **49,532 tonnes:** Blue Box material collected
- **5.3 million:** Revenue generated from sale of blue box recyclables
- **27,007 tonnes:** Green bin material collected curbside
- **92,682 tonnes:** Residual waste collected curbside
- **30,033 tonnes:** Yard waste collected curbside
- **1,093 tonnes:** Municipal hazardous and special waste collected at the Region's waste management facilities and special events
- **5,923 tonnes:** Other diversion programs at the Region's waste management facilities (including tires, drywall, bale wrap, polystyrene, etc.)

IN THE YEAR 2031, ESTIMATES SUGGEST THERE WILL BE:

- **960,000** people living in Durham Region
- **356,610** households
- **350,000** jobs

Annual Waste Diversion, 2004 to 2014





Reduce



Waste reduction/minimization or waste prevention is all about reducing waste at source so it is not created in the first place. Excessive waste is often 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.

Waste minimization reduces the amount of waste we create in the first place. In terms of waste management, reducing is always the best option.



DONATIONS

Reuse



Reuse means using a product more than once. Repairing products, selling them, or donating them to charity/community groups also reduces 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 waste materials. It prevents waste from being sent to landfill and allows for its remanufacture into new goods or products.

DURHAM YORK
ENERGY CENTRE

Recover



After we have reduced, reused and recycled (including composting) as much as possible, the remaining waste can be used to generate power. This is known as 'recovery'. By recovering the energy from the waste, we are significantly decreasing our disposal of waste in landfills while offsetting the need to consume other fuels to produce energy.



Reuse

Reuse Days Events

Since 2012, the Region has operated events for the collection of reusable goods at the Durham Waste Management Centre at 4600 Garrard in Whitby in partnership with local charitable organizations: Habitat for Humanity, the Salvation Army Thrift store, Goodwill, and the Canadian Diabetes Association. The events were generally held on the third Saturday of each month.

In the first two years, 1,177 vehicles delivered a total of 53 tonnes of reusable material which

was diverted from landfill disposal. The charities have advised that they see a substantial benefit from this partnership with the Region, which was recognized in 2014 with a Gold Award from the Recycling Council of Ontario.

In 2015, eight events are scheduled from March to October. These events will continue to enhance the Region's waste diversion efforts by providing a convenient drop off location for reusable items.

Recycle

Blue Box

More than 200,000 households in Durham Region participate in the Region's curbside Blue Box recycling program. This includes single family homes and apartment buildings with less than six units (in Whitby and Oshawa 12 units or less), or small businesses receiving municipal garbage collection.

The Region of Durham has a two-stream recycling program which requires that containers and paper materials be separated into separate Blue Boxes. Materials set-out at the curb for collection are delivered to the Region's Material Recovery Facility (MRF) for sorting and marketing.

Approximately 98 per cent of the material collected for recycling in Durham Region is marketed. The Region's materials are sold to brokers, mills and manufacturers locally and across North America. Materials collected and marketed are re-manufactured into a wide variety of products, preserving valuable natural resources. Also, revenues from the sale of recyclables offset the net cost of Durham's waste management programs.

The total amount of recyclables collected through the curbside Blue Box program was 46,799 tonnes.

This tonnage in addition to 2,156 multi-residential and 577 tonnes at Waste Management Facilities results in a total of 49,532 tonnes of blue box recyclable materials.



Recycle Green Bin



Durham residents separate Green Bin organics from regular garbage and set them out at along the curb each week in 47 litre Green Bins. Residents are required to use certified, 100 per cent compostable bags, paper liner bags, or wrap contents in newspaper before putting their organic materials in the Green Bin for collection.

In 2014, the Region collected 27,007 tonnes of Green Bin organic material for composting.

Durham Region contracts composting of its organic materials to two privately-owned facilities; Miller Compost with locations in Pickering and Courtice, Ont. and All Treat Farms Ltd. in Arthur, Ont. These facilities produce the highest grade of compost in Ontario and provide Durham Region with sufficient processing capacity to meet its needs for the next several years.



Recycle

Leaf and Yard Waste

Brush, leaf and yard waste are collected in kraft paper yard waste bags, rigid reusable containers or tied and bundled for outdoor windrow composting and as a material supplement in the green bin organics composting process. Christmas trees are collected separately in each municipality during specified weeks in January.

Additionally, residents may drop off yard waste materials at any of the Region's waste management facilities—disposal rates do apply.

Yard waste is not collected in plastic bags as the bags are not compostable and create unwanted odour and litter.

Early in 2014, the Region offered several special yard waste collections for residents dealing with large volumes of waste following the ice storm of December 2013, such as downed trees and branches on their property. Residents also had the ability to drop off ice-storm related yard debris free of charge at the Region's waste management facilities in Oshawa and Brock.

In 2014, 32,123 tonnes of yard waste material was collected from curbside programs and Regional waste management facilities.

Recycle

Multi-Residential Recycling

Approximately 24,000 multi-residential units are serviced by the Region of Durham's weekly apartment, townhouse and condominium waste collection programs. Onsite collection services offered in the buildings includes recyclables, battery collection and e-waste collection.

In six of the eight municipalities, garbage collection is also managed by the Region. To be eligible for this service, buildings and townhouse complexes must meet the Region's "Technical and Risk Management Guidelines for Waste Collection Services on Private Property" which allows the Region's contracted vehicles to access the properties.

The Region of Durham continued to operate a Waste Electrical and Electronic Equipment (WEEE) recycling program in partnership with Ontario Electronic Stewardship in 51 of the high-rise buildings and townhouse sites that receive Regional waste collection services. This recycling service provides residents with a convenient way to recycle their end-of-life or unwanted electronics in their building free of charge.

In 2015, Durham Region will continue to expand the program into buildings that receive municipal waste collection services.

Since 2013 the Region has expanded its multi-residential battery program and now offers this program at 54 buildings. Collection of batteries is undertaken in partnership with Raw Materials Company (RMC). Drums and pails are available to the buildings and residents are able to drop off used batteries for collection in a convenient location. Once full, the pails or drums are shipped to RMC in Port Colborne, Ontario, for recycling at no charge to the residents or the Region. Expansion of this program is planned again for 2015.

A total of 2,156 tonnes of blue box recyclables, 10.7 tonnes of electronic waste, and 280 kilos of batteries were collected in 2014 from Durham's multi-residential recycling programs.





Recycle

Curbside Battery Collection

In 2012, Durham Region initiated a one-year curbside battery recycling pilot program. The pilot consisted of two curbside collection services—one in November 2012 and another in March 2013.

Based on the success of the pilot program, Regional Council adopted this waste diversion program and made it permanent on September 18, 2013.

In addition to providing residents with a more convenient and accessible option for proper household battery disposal, the program aims to eliminate mercury, cadmium, and other heavy metals from being dispersed into the environment.

Instead, they are actively managed in Ontario and recycled responsibly through proper processing and conservation of valuable resources. Collected batteries are sent to Raw Materials Company where zinc, manganese, potassium and steel are recovered and recycled safely.

Today, more than thirty (30) Ontario communities are now offering and/or planning to offer this convenient collection option for spent batteries to their residents.

Year	Season	Collection period	Net weight (Tonnes)	Net weight (Kilograms)	Total tonnes collected to date
2012	Fall	Nov. 12 to 16	22.46	22,462	22.46
2013	Spring	Mar. 18 to 22	13.71	13,709	36.17
2013	Fall	Nov. 4 to 8	10.19	10,191	46.36
2014	Spring	Apr. 21 to 25	14.04	14,037	60.40
2014	Fall	Nov. 3 to 7	18.04	18,040	78.44

Recycle

Electronic Waste



All unwanted electronic equipment is classified as electronic waste (e-waste). Under normal usage, e-waste poses little to no hazard to human health. However, many electronic products contain materials such as lead, cadmium, mercury, bromine and other hazardous materials that pose environmental impacts when disposed of improperly.

In February 2012, the Region implemented a standardized call-in curbside collection program for Waste Electronics and Electrical Equipment (WEEE) in Pickering, Ajax, Scugog, Uxbridge, Brock and Clarington.

In 2014, 27 tonnes of curbside WEEE materials were collected.



Recycle

Porcelain Program

In February 2012, the Region tested a standardized call-in service for the residential curbside collection of porcelain bathroom fixtures as part of an expanded curbside recycling pilot. The service is now permanent and is offered in Pickering, Ajax, Clarington, Brock, Scugog and Uxbridge, and at the Region's Waste Management Facilities (WMF) in Oshawa, Port Perry and Brock.

This program diverted 387 tonnes of material from landfill in 2014, comprised of 187 tonnes collected through the curbside collection and an additional 200 tonnes collected at the WMFs.



Recycle

Tires and Scrap Metal Recycling

Tire Recycling

The Used Tires program, launched on Sept. 1, 2009, is operated by the Ontario Tire Stewardship, and is funded by the tire industry. The program covers the collection, transportation and recycling of all used tires including those of cars, commercial trucks and off-road vehicles.

All used or scrap tires can be disposed of at the Region's waste management facilities. There is no cost if you are dropping off tires only.

In 2014, the Region diverted 283 tonnes of tires.

Scrap Metal Recycling

Durham Region residents can bring their scrap metal including appliances for recycling to any one of the Region's waste management facilities.

Metal goods are also collected at the curb by appointment only in Ajax, Pickering, Clarington, Scugog, Uxbridge and Brock.

Recycle

Sign Recycling and Bale Wrap Recycling

Sign Recycling

This program recycles all temporary signs made of corrugated plastic, plastic film and paperboard to help keep these materials out of landfill. All signs are accepted including election and real estate signs made from these materials. Wooden stakes and wire mounts are also recycled. Signs may be dropped off free of charge at any Durham Region Waste Management Facility if delivered separately from other waste.

Bale Wrap Recycling

Since 2005, Regional waste transfer stations have been accepting white agricultural bale wrap from local farmers in an effort to divert more waste from landfills. This voluntary waste diversion initiative was established in co-operation with the Durham Agricultural Advisory Committee (DAAC), Think Plastics Inc. and the Ontario Federation of Agriculture (OFA).

As a result of the program, Regional farmers have diverted a total of 41 tonnes of bale wrap material from landfills and burn barrels since 2005.



Recycle

Drywall, Mercury and Polystyrene

Drywall Recycling

The Region's drywall recycling program recycles all clean drywall including offcut material. In 2014, this program diverted almost 200 tonnes of material from landfill.

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 further 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.

Mercury Recovery Program

The Mercury Recovery Program pilot was launched in October 2012 to divert items that contain mercury from the residential waste stream. Mercury containing items have always been accepted as part of the Region's Municipal Hazardous and Special Waste Program (MHSW). The focus of the pilot program is to increase awareness of this hazardous substance and to divert more liquid mercury from landfill disposal.

To date a total of 851 mercury containing items have been collected.

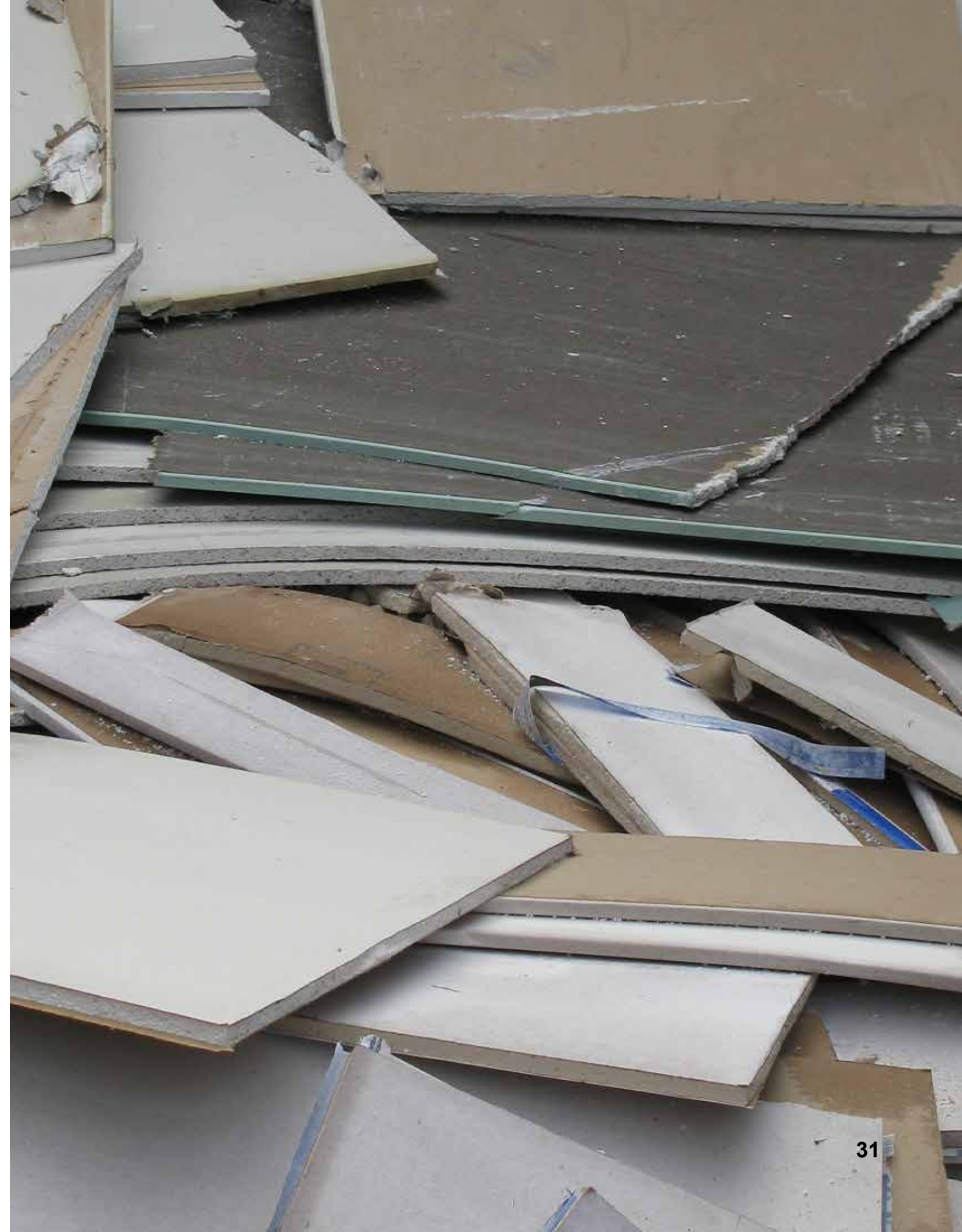
Polystyrene Collection Program

In January 2012, the Region executed a five-year agreement with Grace Canada Inc. (Grace) to expand the polystyrene (EPS) recycling program to all three waste management facilities (WMF).

The EPS recycling program includes white expanded polystyrene foam packing only. Loads containing this foam cushion packaging are accepted at all Durham WMFs free of charge.

Grace, based in the Town of Ajax, collects the material from the Region and recycles it to produce fire-resistant commercial insulation products.

Through this program, a total of 4 tonnes of polystyrene was diverted from landfill in 2014.



Recycle

Household Hazardous and Special Waste

The Region provides residents with a network of facilities and special events where residents can drop off municipal hazardous and special waste (MHSW). Through specialized contract services at these locations, MHSW is recycled, or treated and disposed of in an environmentally secure fashion.

Collection, processing and disposal of MHSW is partially funded by brand owners and first importers of these products.

Current MHSW drop-off locations include the waste management facilities in Oshawa, Port Perry and Brock. The Region also has an MHSW depot operated in co-operation with Miller Waste at 1220 Squires Beach Rd. in Pickering.



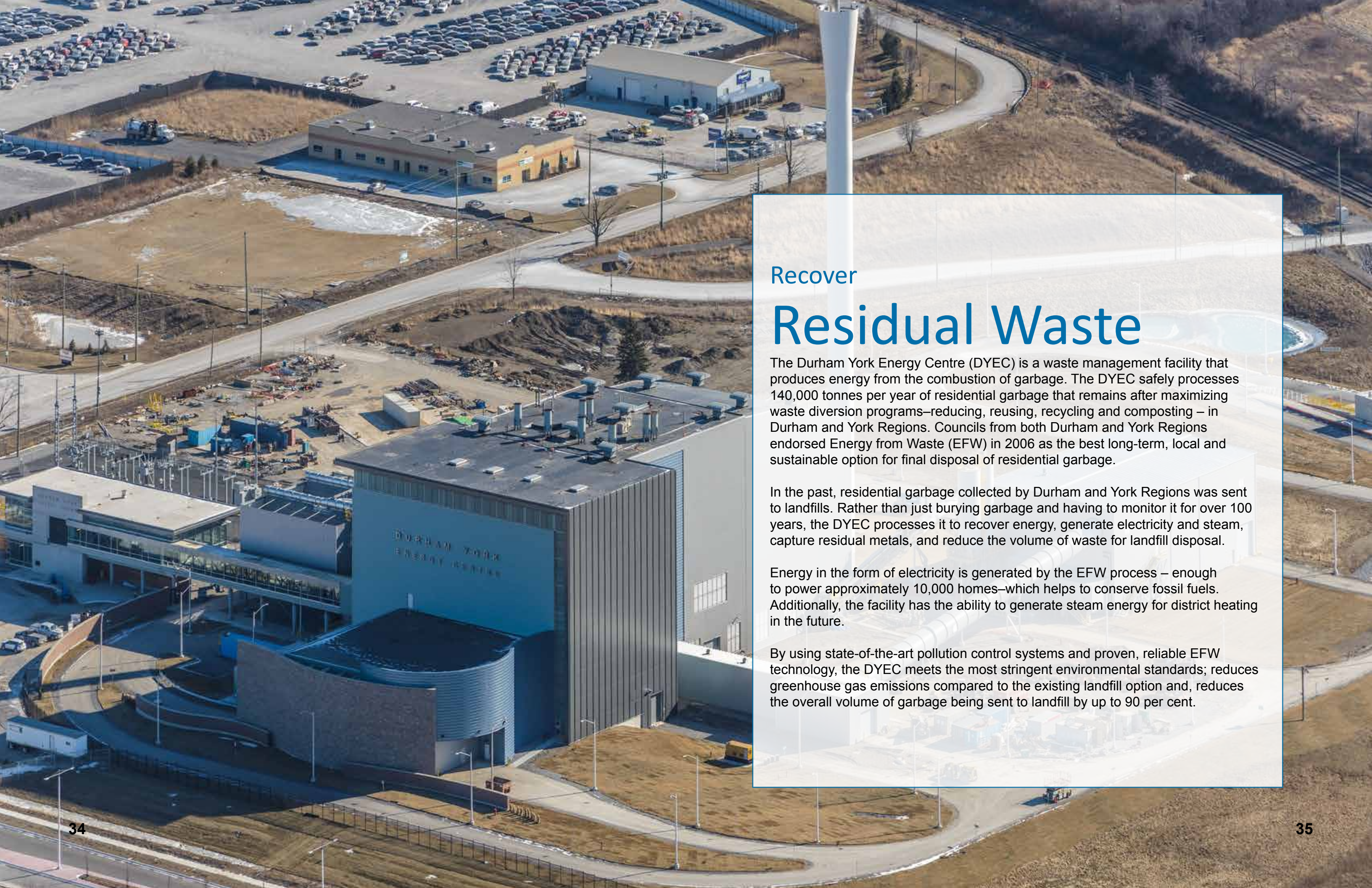
Recycle

Special Events

In 2014, four municipal hazardous and special waste (MHSW) collection events, eight compost give-aways and nine Waste Electrical and Electronic Equipment (WEEE) collection events were hosted across the Region.

The MHSW collection events diverted 13 tonnes of household hazardous waste while the WEEE collection events diverted 30 tonnes of end-of-life electronics for recycling. Together, 43 tonnes of diversion waste was received from 1,721 vehicles.

The compost give-away events are held in combination with blue box, green bin, and backyard composter sales and exchanges. These events allow Durham Region to return high quality compost made from its Green Bin and Leaf and Yard Waste programs to Durham residents. Any remaining compost is shared with local area municipalities to use on public gardens and parks.



Recover

Residual Waste

The Durham York Energy Centre (DYEC) is a waste management facility that produces energy from the combustion of garbage. The DYEC safely processes 140,000 tonnes per year of residential garbage that remains after maximizing waste diversion programs—reducing, reusing, recycling and composting—in Durham and York Regions. Councils from both Durham and York Regions endorsed Energy from Waste (EFW) in 2006 as the best long-term, local and sustainable option for final disposal of residential garbage.

In the past, residential garbage collected by Durham and York Regions was sent to landfills. Rather than just burying garbage and having to monitor it for over 100 years, the DYEC processes it to recover energy, generate electricity and steam, capture residual metals, and reduce the volume of waste for landfill disposal.

Energy in the form of electricity is generated by the EFW process—enough to power approximately 10,000 homes—which helps to conserve fossil fuels. Additionally, the facility has the ability to generate steam energy for district heating in the future.

By using state-of-the-art pollution control systems and proven, reliable EFW technology, the DYEC meets the most stringent environmental standards; reduces greenhouse gas emissions compared to the existing landfill option and, reduces the overall volume of garbage being sent to landfill by up to 90 per cent.

Landfill Perpetual Care Programs

Brock Landfill

The construction of the engineered final cover system was completed at the Brock Township Landfill in September of 2014. The purpose of the final cover is to limit the production of leachate by diverting surface water from the waste fill area. The engineered cover was constructed of a general fill soil layer on top of the waste, followed by a geo-membrane liner, a sand drainage soil layer, and another layer of general fill topped with a vegetated topsoil layer. The total surface area of the engineered cover is approximately 68,000 m².

Landfill operations at the site have ceased. Residual waste that is collected at the Brock WMF will be transferred to the Durham-York Energy Centre (DYEC) for energy recovery.

The Brock Waste Management Facility will continue to accept recyclable and residual waste from Brock residents for transfer to the Material Recovery Facility or the DYEC, respectively.

Oshawa Landfill

In addition to ongoing monitoring of landfill gas, groundwater and surface water, Regional staff initiated several maintenance activities at the Oshawa Landfill site in 2014.

A pilot project was completed to see if the active gas system was still functioning or if it should be decommissioned. A consultant report with recommendations on how to proceed is being finalized.

Investigations of surface water drains, surface water flow causing erosion and several low lying areas within the landfill cap due to settlement are being evaluated to develop an overall plan on managing surface water flow at the site.

A post-closure care and monitoring plan was completed for the Oshawa Landfill site in 2013. The report's findings and recommendations are being used to plan maintenance activities and capital projects in 2015 in accordance with the recommendations provided by the Region's landfill consultants.

Darlington Landfill

2014 work included additional erosion control measures to mitigate washouts in the area of the 2013 cap enhancement project, as well as road re-alignment and improvements, and repairs/replacement of monitoring wells.

Scugog, Scott and Whitby Landfills

Repairs and replacements of monitoring wells and landfill cap maintenance activities occurred at these sites as necessary.





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 over 30 different events and activities in 2014:

- Eight spring compost events, one in each municipality.
- Nine special Waste Electronic Equipment drop-off events and four municipal hazardous and special waste drop-off events.
- Promotion of waste diversion programs during National Public Works Week.
- Two large educational campaigns focusing on the Green Bin program and municipal hazardous and special waste. Both of these campaigns featured a social media component.

- A community open house was held in Brock celebrating the end of landfill operations at the Brock Landfill.
- In September 2014, the Region held its third community Waste Fair in the Municipality of Clarington. Approximately 400 residents attended the event and the feedback received (written and verbal) was very positive. The Waste Fair is a free, family-friendly event focused on educating the public about responsible waste management and services provided by the Region.
- Durham Region celebrated “Waste Reduction Week” in October promoting waste reduction and diversion options for residents.
- Six reuse drop-off events were held from April to October, partnering with local charities.
- Articles written by Waste staff on the Green Bin, Blue Box programs and the Durham York Energy Centre (DYEC) were included in “Durham Works”, the Works Department’s external newsletter that is distributed twice yearly to 210,000 households in the Region.

Awards

The Region thanks residents in Durham for their continued support in reducing waste. As a result of this support the Region has been honoured with numerous awards this year.

Greenfield Development Leadership Award

Waste Management Division received international recognition for its waste management practices, when it was recognized at the North American Waste-to-Energy Conference (NAWTEC). The Region received the Greenfield Development Leadership Award.

SWANA Public Education Silver Excellence Award

Durham won the 2014 Solid Waste Association of North America (SWANA) Public Education Silver Excellence Award for its communication campaign promoting the new 3-7 plastics added to the Blue Box Program.

Recycling Council of Ontario Awards

Waste Management Division was recognized in 2014 with the Recycling Council of Ontario's (RCO) Gold Municipal Combined Programs Award, as well as the Gold Partnerships Award for Reuse Days Program.

Minister's Award for Environmental Excellence

The Region of Durham was also recognized with the 2014 Minister's Award for Environmental Excellence for the Curbside Battery Program. The Minister's Award for Environmental Excellence recognizes and encourages environmental excellence, fosters innovation and raises awareness about the importance of protecting the environment.

Durham Environment Advisory Committee

The Region's Waste Management division received special recognition from the Durham Environment Advisory Committee in the following categories:

Eric Krause Innovative Plans/Policies/Initiatives Award for the "Batteries Dead? Recycle Instead!" program,

George A. Scott Stewardship Award for the Materials Recovery Facility's Recycling Clean-Up System,

Irene Kock Education/Communication Award for the 3-7 Plastics GTA Joint Campaign, and the

Jessica Markland Partnerships Award for the Reuse Events Pilot.



**REGION OF DURHAM
TONNES OF RESIDENTIAL WASTE MANAGED (2014)**

Descriptions	Curbside Garbage	Apartment Garbage	Bulk/Other Goods	Curbside Recycling	Apartment Recycling	Food Composting		Leaf & Yard Composting	Composter Credits	Grasscycling Credits	Other Diversion Programs	Total Waste	Waste Diversion
						Composting	Composting						
1 Curbside & multi-residential wastes													
sub-totals	77,350	13,626	1,706	46,799	2,156	27,007	30,033	5,832	4,505	310	209,324	56%	
		92,682		48,956		57,040		10,337					
2 Regional waste disposal sites													
sub-total	0	0	17,734	577	0	0	2,090	0	314	5,923	26,639	33%	
3 Special Events													
sub-total	0	0	0	0	0	0	0	0	0	61	61	100%	
4 Summary													
municipal residents	77,350	13,626	1,706	46,799	2,156	27,007	30,033	5,832	4,505	310	209,324	56%	
Regional waste sites	0	0	17,734	577	0	0	2,090	0	314	5,923	26,325	33%	
Special Events	0	0	0	0	0	0	0	0	0	61	61	100%	
sub-total	77,350	13,626	19,440	47,376	2,156	27,007	32,123	5,832	4,819	6,295	235,710		
Total Tonnes, with credits		110,417		49,532		59,130		10,650		6,295	236,024		
Total Tonnes, managed		110,417		49,532		59,130		6,295			225,374		
Percentages of Total	33%	6%	8%	20%	1%	11%	14%	2%	2%	3%	100%		
Waste diversion rate	53%												April 7, 2015



**Waste Management Division
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Whitby, Ontario, Canada
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1-800-667-5671

www.durham.ca/waste

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