



The Regional Municipality of Durham  
To: The Works Committee  
From: Commissioner of Works  
Report: 2012-WR-3  
Date: May 23, 2012

---

**SUBJECT:**

2011 Waste Management Annual Report

---

**RECOMMENDATION:**

THAT this report be received for information.

---

**REPORT:**

**Attachment No. 1: 2011 Waste Management Services Annual Report  
(provided on CD)**

**1. INTRODUCTION**

The attached Waste Management Services Annual Report (Attachment No. 1) highlights activities, accomplishments and program results for 2011. Areas of discussion include:

- Collection, Processing and Disposal
- Communication Programs and Outreach
- Regional Waste Management Facilities, including Landfill Perpetual Care
- Energy from Waste
- Diversion Programs
- Waste Awards
- Tonnage Reports

## 2. DISCUSSION

The Regional Municipality of Durham's (Region) curbside waste diversion programs resulted in the collection of the following tonnages:

<u>MATERIAL</u>	<u>TONNES</u>
Green Bin organics	26,865
Blue Box recyclables	50,354
Yard Waste	22,149

Diversion materials collected at the Region's Waste Management Facilities include:

- Blue Box recyclables 603 tonnes
- Yard Waste 1,595 tonnes
- Reuse materials 7,026 tonnes

In addition, the Region's household hazardous waste and electronic waste special collection events captured 20 and 96 tonnes respectively. The apartment recycling program diverted 2,200 tonnes of recyclables.

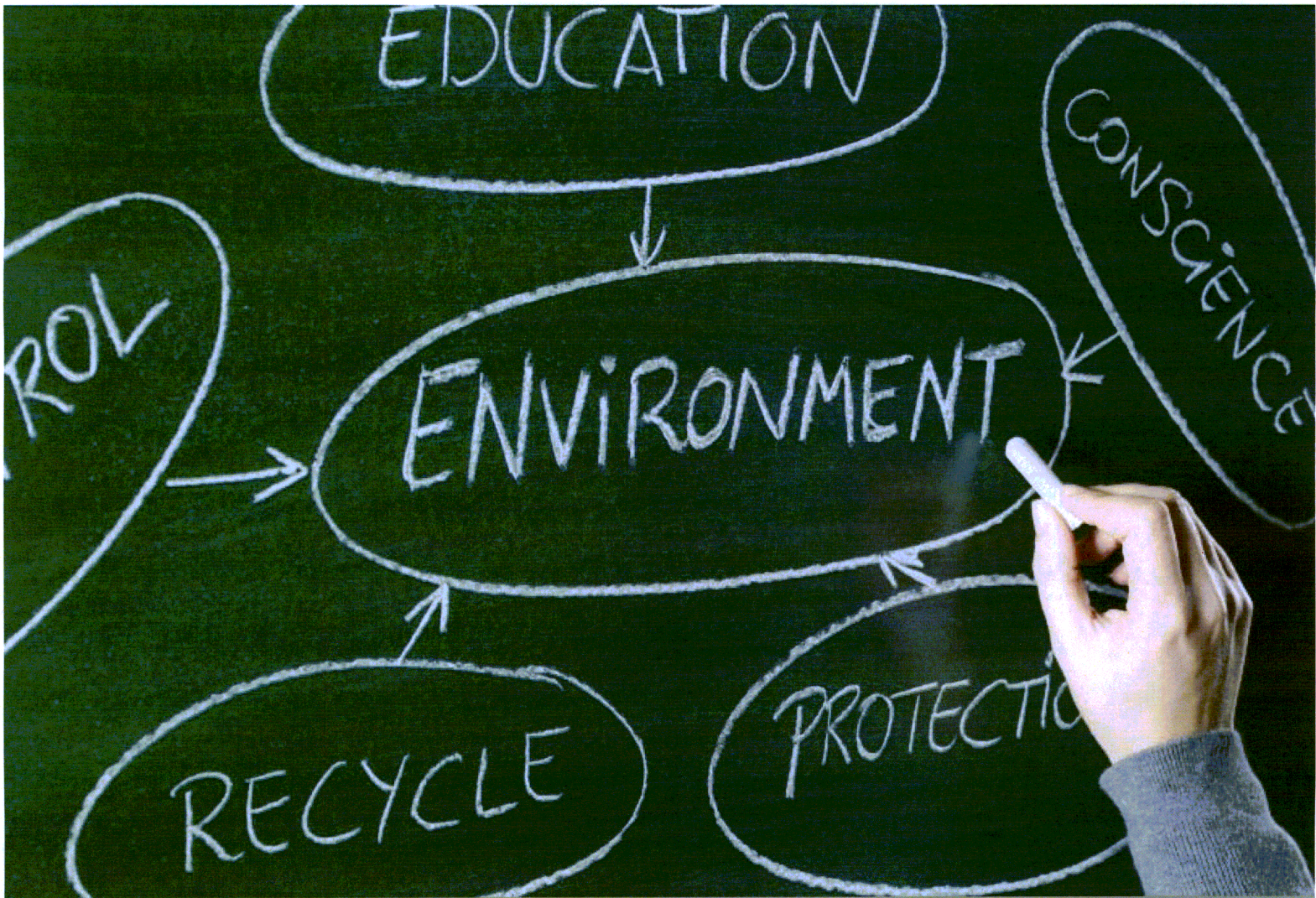
Garbage collected from all sources totaled 107,670 tonnes. Diversion materials totaled 120,878 tonnes from a total waste tonnage of 228,548 tonnes. This translates into an overall waste diversion rate of 53 per cent for the Region.

## 3. CONCLUSION

In 2011, the Regional Municipality of Durham's waste diversion programs and effective promotion and education strategies resulted in an overall 53 per cent waste diversion rate. The Regional Municipality of Durham is actively researching ways to reach its goal of 70 per cent waste diversion. The 2011 Waste Management Services Annual Report (Attachment No. 1) highlights the activities and accomplishments of the Waste Management Division in 2011.

Clifford Curtis, P.Eng., MBA  
Commissioner of Works

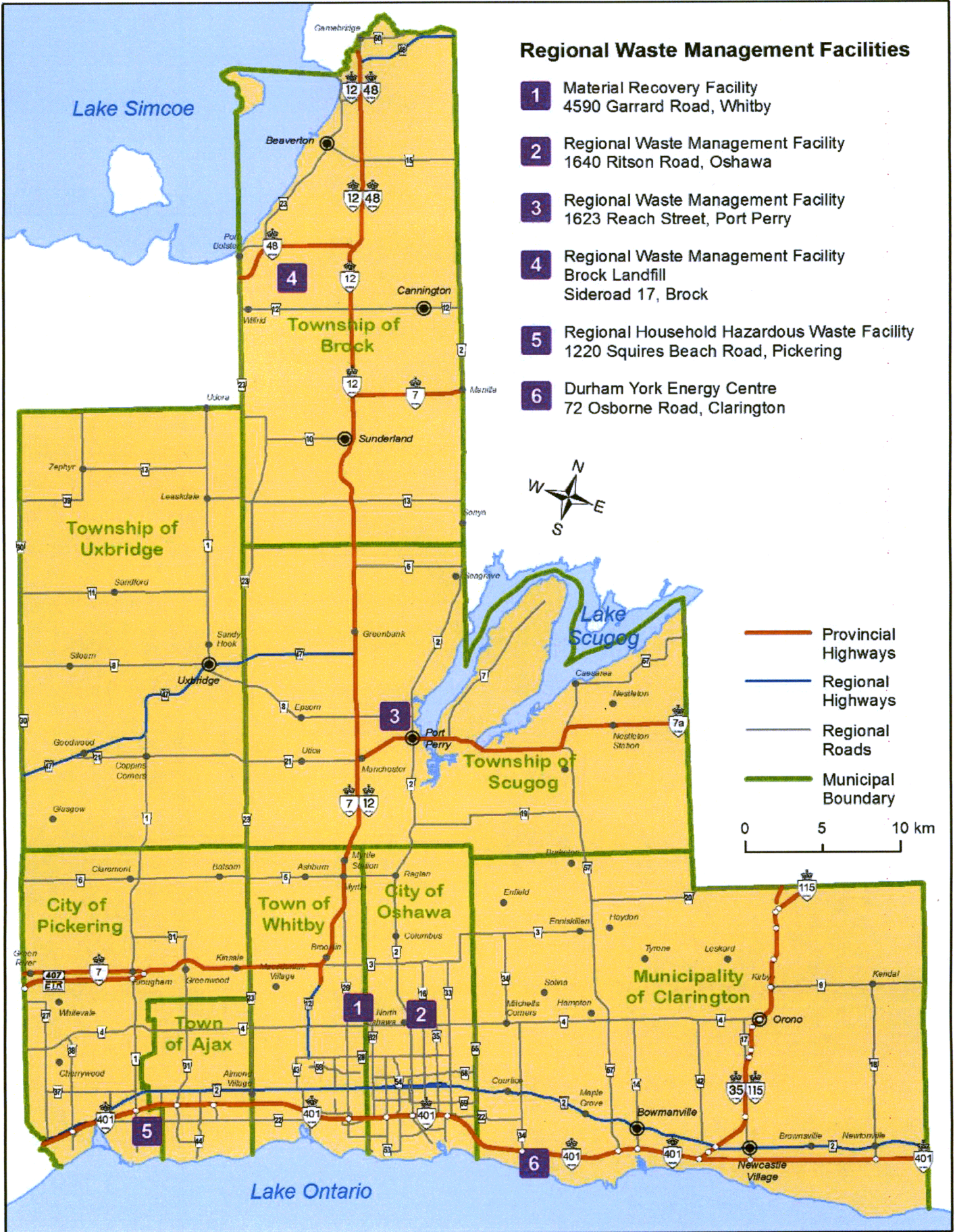
WM3/ms



# Waste Management Services

- 2011 Annual Report -





# CONTENTS

<b>Waste Management Services</b>	<b>Page</b>
Map of the Regional Municipality of Durham	2
2011 in review	4
2011 organizational chart	5
Overview	6
Curbside Residential Collection Services	
Green Bin Collection	8
Blue Box Collection	9
Leaf and Yard Waste Collection	10
Bulky and Metal Goods	10
Residual garbage	11
Multi-residential Collection Services	
Recycling Collection	12
Electronic (e-waste) Collection	13
Garbage Collection	13
Processing and Disposal	
Processing of organics and yard waste	14
Processing of blue box recyclables	14
Disposal of garbage	14
Marketing recyclable materials	15
Energy from Waste Project	16
Regional Waste Management Facilities	18
Diversion Programs at the waste management facilities	19
Waste audit at Oshawa Waste Management Facility	20
Plastic Sign Recycling Program	20
Polystyrene Recycling Program	21
Automotive Fluid Containers Program	21
Porcelain Recycling Program	21
Landfill Perpetual Care Programs	
Brock Landfill Remedial Action Plan	22
Other landfill perpetual care activities	23
Oshawa Landfill Post-Closure and Monitoring Plan	23
Annual Landfill Monitoring Program	23
Communication programs and outreach	
Promotion and education activities	24
Durham Region Waste Management Centre	24
Waste fair	25
Compost give-away events	25
Household hazardous waste collection events	26
Electronic waste collection events	27
Other community activities	28
Awards	29
Table 1: Region of Durham Tonnes of Residential Waste Managed 2011	30



*Material Recovery Facility,  
Whitby*



*Miller Compost Facility,  
Pickering*



*Energy from Waste site,  
Clarington*

In 2011, new waste diversion initiatives supporting the Region's 70 per cent diversion target included the re-launch of the Multi-residential Recycling Program entitled, "Sort it, Bag it, Recycle it!" and the phased in onsite collection service for electronics (e-waste) at multi-residential buildings serviced by the Region.

Following successful pilot programs in 2010, the collection of expanded polystyrene and plastic signs for recycling were added as permanent programs at the Region's waste management facilities. A waste audit undertaken in late 2010 at the Oshawa Waste Management Facility identified that divertible material was being found in bins containing waste destined for landfill. The audit findings spurred new efforts in 2011 to increase source separation by residents at the sites and greater staff oversight of waste disposal by residents when on-site.

Promotion and education of waste diversion programs to residents continued to be a major part of the Waste Management services mandate. Reaching all residents through various media, to ensure understanding of the services offered in the Region, means a coordinated and cost-effective service can be provided.

## Our Vision

To provide cost effective waste collection, processing, composting, re-use and disposal services, quality waste facilities and programs for recycling, composting and disposal, and to educate residents on the benefits of waste reduction, recycling, and composting.

## 2011 Organizational Chart



## Overview

The Region is responsible for all waste collection services in Ajax, Pickering, Brock, Scugog, Uxbridge and Clarington. Blue box and apartment recycling services are a Region-wide responsibility. The Region does not collect waste in Whitby or Oshawa, other than the curbside and apartment Blue Box programs, however, we do partner with those municipalities to ensure some consistency in the basic curbside services offered (i.e., green bin, yard waste and garbage collection).

Durham operates three waste management facilities, three household hazardous waste depots, and one material recovery facility. In addition, contracts are in place with private contractors for three compost facilities, three transfer stations, one household hazardous waste depot, and one landfill for residential waste. The Region also operates one active landfill site, and conducts perpetual care activities at six inactive landfill sites.

In June, Durham received a Ministry of the Environment Certificate of Approval to construct an Energy-from-Waste facility. Construction began early in 2012 in the Municipality of Clarington.

Finally, Durham conducts an extensive public education program to help maximize resident participation in our waste management programs. Outreach initiatives include: special collection events throughout the Region; school and community presentations made upon request; and displays set up at numerous public events and fairs.





## AT A GLANCE...



The Region recycled, composted or reused 53 per cent of the waste it collected in 2011. The waste stream included 228,548 tonnes as follows:

- recycling, composting and reuse programs 120,878 tonnes
- residual waste to landfill 107,670 tonnes

Amount of material collected through curbside and apartment recycling programs: 52,554 tonnes

Revenue earned from the sale of Blue Box recyclables: \$8.7 million

Total amount of organic material collected through Green Bin composting program: 26,865 tonnes

Total amount of residential waste (garbage) collected: 89,292 tonnes

Number of vehicle visits to Region's waste management facilities: 235,722

Total amount of waste collected at the Region's waste management facilities: 18,378 tonnes

# CURBSIDE RESIDENTIAL COLLECTION SERVICES

## Green Bin Collection

The Region is responsible for the collection of organic waste in six area municipalities (City of Pickering, Town of Ajax, Municipality of Clarington, Township of Brock, Township of Scugog, and the Township of Uxbridge). The City of Oshawa and Town of Whitby provide collection of organic waste using their own municipal collection vehicles and staff, then bring it to the Region's contractor for processing.

Green Bin organics are separated from regular garbage and set out for collection each week in 47 litre green bins. Residents are required to use 100 per cent compostable bags, paper liner bags, or wrap contents in newspaper. Acceptable material includes all food waste, soiled paper towels, paper egg cartons, shellfish, pet and human hair, meat and fish bones, nuts and shells, tea bags, coffee grounds, egg shells, tissues, and house plants.

In 2011, 26,865 tonnes of Green Bin organic waste were collected across Durham Region for composting. Compost is an important soil conditioner, used to improve farmers fields and gardens, stabilize slopes, and rehabilitate soccer fields and baseball diamonds.



The Green Bin program represented 12 per cent of the total waste managed by the Region in 2011.

## Blue Box Collection

The Region operates a weekly Blue Box collection program that collects paper fibres separately from recyclable containers. Keeping fibres separated from containers keeps materials clean, maximizing waste diversion and the value of recyclable materials. The Region provides the collection, processing, marketing and sale of all Blue Box recyclable materials from all area municipalities and Regional waste management facilities.

More than 200,000 households in Durham Region participated in the Region's curbside Blue Box Recycling program in 2011. This included single family homes, apartment buildings with less than six units, (in Whitby and Oshawa 12 units and under) and townhouse units on private property. Small businesses who received municipal garbage collection may also participate.

The total amount of recyclables collected through the municipal Blue Box program in 2011 was 50,354 tonnes.



*The Blue Box program represented 23 per cent of the total waste managed by the Region in 2011.*

## Leaf and Yard Waste Collection



Brush, leaf and yard wastes are collected in kraft paper yard waste bags, rigid reusable containers or tied and bundled for outdoor windrow composting and use in the green bin organics composting process. Leaf and yard waste is not garbage. Christmas trees are collected separately during specified weeks in January in each municipality.

In 2011, 22,149 tonnes were collected from curbside programs and 1,595 tonnes were received at the Region's waste management facilities.

*Leaf and yard waste represented 10 per cent of the total waste stream in 2011.*

## Bulky and Metal Goods

Bulky and metal goods are items that are inappropriate for regular curbside collection vehicles due to their size or weight, and that may be divertible from landfill and separated for recycling. Examples include furniture, mattresses, appliances and other large metal items. A limit of two bulky items per collection is permitted.

In 2011, collection of these materials was managed through a call-in service in the Townships of Uxbridge, Brock and Scugog and the Municipality of Clarington. The City of Pickering and Town of Ajax residents were provided curbside collection bi-weekly that did not require call-in, but was handled separately from garbage.

Residents also have the option of taking these materials directly to any of the Region's waste management facilities.

In 2011, Durham collected 1,802 tonnes of bulky and metal goods.



## Residual Garbage

Garbage is collected every two weeks with a four bag limit per collection per household. Additional bags can be placed at the curb provided each is affixed with an approved bag tag. Bag tags are available at a cost of \$1.50/tag at municipal offices throughout the Region.

All waste materials must be set out at the curb before 7 a.m. on the collection day. All single family homes receive curbside collection of garbage. The total amount of curbside garbage collected in 2011 was 73,776 tonnes.



## Summary

<i>Garbage Source</i>	<i>Tonnes</i>
Curbside Garbage	<b>73,776</b>
Apartment Garbage	<b>13,798</b>
Bulky goods	<b>1,717</b>
Waste Management Facilities	<b>18,379</b>
<b>Total</b>	<b>107,670</b>

Residual waste including bulky and garbage collected from residents represents 47 per cent of the waste managed by the Region in 2011.

## MULTI-RESIDENTIAL COLLECTION SERVICES

More than 23,000 multi-residential units are serviced by the Region of Durham's weekly Apartment Building and Townhouse Complex waste collection program. Both garbage and recycling collection is provided.

To be eligible for this service, buildings and townhouses must meet the Region's Technical and Risk Management Guidelines for Waste Collection Services on Private Property.



### Recycling Collection

Durham Region provides recycling services to 23,025 dwelling units in 344 multi-residential buildings. In 2011, the Region implemented a re-launch of its multi-residential recycling program entitled - "Sort it. Bag it. Tote it. Recycle it" with the intention of increasing program participation and recycling rates from apartments and townhouses.

Every dwelling unit in buildings receiving municipal recycling services received one reusable tote bag, an information brochure, and a fridge magnet. The new tote bag assists residents with storing, sorting and transporting recyclables to the designated areas on their respective properties.

Buildings were also provided updated posters, leaflets, and instruction brochures for property managers and superintendents. Additional recycling containers were provided to any building that required them for the collection of the increased volume of recyclables arising from greater program participation.

It is estimated that this project increased multi-residential recycling tonnage by 3 per cent, or 64 tonnes annually, when comparing 2010 annual recycling tonnages to 2011.

Implementing this initiative cost approximately \$4.16 per dwelling unit. Waste Diversion Ontario's Continuous Improvement Fund contributed \$36,027, which reduced the Region's portion to \$2.59 per dwelling unit for a total approximate cost to the Region of \$59,701.



*In 2011, the Region collected 2,200 tonnes of recyclables from the apartment and townhouse recycling program.*

## Electronics (e-waste) Collection

On December 20, 2011, Durham Region, in partnership with Ontario Electronic Stewardship (OES), launched a recycling collection program for e-waste at multi-unit residential buildings as part of the Region's goal to divert 70 per cent of its waste.

These buildings are provided with specific yellow carts, suited to building size and available space, that are placed in designated recycling areas at each building. Residents of these buildings were provided with promotional materials to advise them of unwanted or broken electronic materials accepted in the program.

The program started in the Town of Ajax in 2011 and will be phased into the City of Pickering, the Municipality of Clarington, and the Townships of Scugog, Uxbridge, and Brock in 2012 at buildings receiving Regional waste collection services.

Acceptable items in this recycling program include, but are not limited to:

- Cellular phones
- Audio & video players
- VCRs/DVD players
- Stereos & receivers
- Computer peripherals
- Printing devices
- Televisions
- PDAs & pagers
- Cameras & radios
- Telephones
- Desktop computers
- Monitors
- Camcorders
- Portable computers



## Garbage Collection

Multi-residential properties generally receive garbage collection on site via bulk lift containers. Property management must apply for collection and receive approval in accordance with the Region's Technical Guidelines for Collection on Private Property. Approval also requires that the building participate in the Region's multi-residential recycling program.

In 2011, a total of 13,798 tonnes of garbage was collected from the 344 properties receiving municipal waste collection services.

## PROCESSING AND DISPOSAL

Disposal of waste is a Regional responsibility. All waste collected by private companies under contract to the Region, as well as waste collected by the Town of Whitby and City of Oshawa municipal forces, is taken to three transfer stations.

### Organics and yard waste

In 2011, a total of 26,865 tonnes of green bin organics and 23,744 tonnes of leaf and yard waste was collected from residents in Durham Region. The processing of this material is handled by two contractors: Miller Waste and All Treat Farms. Miller's composting process mixes organics and yard waste in a 19:6 ratio for processing at their Pickering Compost facility. Remaining yard waste is processed via open windrow at their Courtice location in Clarington. All Treat Farms Ltd., located in Arthur, Ont., processed 6,947 tonnes of organics only in 2011.



Once blended and cured, finished compost from the Miller Waste process is marketed to farmers, landscapers and soil remediation firms. The Region also receives 500 tonnes of compost per year from Miller Waste for distribution back to residents of the area municipalities through the annual compost giveaway events.



### Processing of Blue Box Recyclables

The 6,317 square metre Material Recovery Facility (MRF), which officially opened in December 2007, is owned by the Region of Durham and is privately operated. Located in the Town of Whitby, the MRF can sort, process and prepare for sale to end-markets up to 120,000 tonnes of recyclables each year.

### Disposal of Garbage

A total of 107,670 tonnes of garbage, collected from curbside and multi-residential sources, as well as the three Regional waste management facilities, was landfilled in 2011. This waste was received at three privately operated waste transfer stations and then hauled to the Modern Landfill on a site in the Town of Lewiston, Niagara County, New York. Curbside garbage from Brock Township was delivered directly to the Region's rural landfill site in Brock Township. This landfill is scheduled to be closed in 2014.





## Recycling Commodities Breakdown (materials shipped and sold to market)



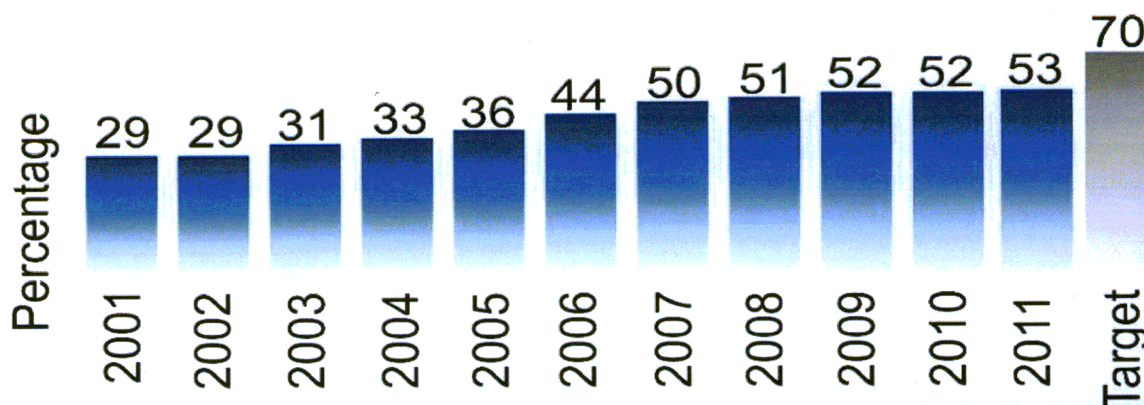
Summary	
Commodity	Tonnes Marketed
Newspaper	25,882
Mixed paper	3,849
Cardboard	5,190
Aluminium	688
Steel	1,741
PETE	2,067
HDPE	885
Tubs and lids	384
Tetra pak and gable	416
Glass	4,641
<b>Total</b>	<b>45,743</b>

### Marketing Recyclable Materials

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.

The total revenue earned by the Region from the sale of blue box recyclables was almost \$8.7 million. Revenue from the sale of recyclables fluctuates depending on market conditions. The Region also received \$4 million as industry's share as part of the provincial Blue Box Program Plan to offset Durham's net recycling cost. The balance of costs is funded by municipal property taxes.

### Solid Waste Diversion Rates

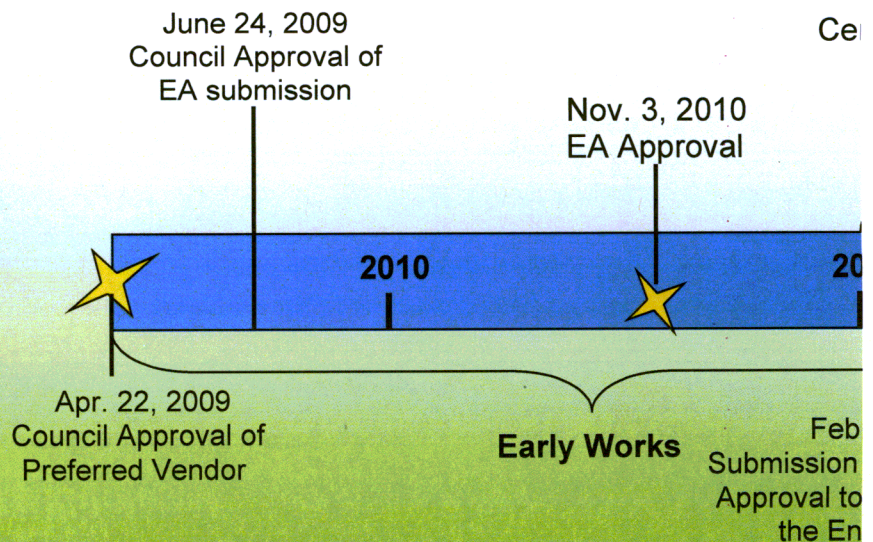


In 2011, approximately 53 per cent of waste collected from Durham Region residents was diverted from landfill through the Region's waste diversion programs.

# ENERGY-FROM-WASTE PROJECT

In 2011, Durham and York Region Councils signed the Notice to Proceed for the Energy-from-Waste (EFW) project. The following timeline highlights the activities and approvals related to the EFW facility:

- January 20:** First meeting of the EFW Advisory Committee (EFWAC). The purpose of this committee is “to ensure that concerns about the design, construction and operation of the undertaking are considered and mitigation measures are implemented where appropriate”. At this meeting the committee adopted a Terms of Reference and approved the Complaint Protocol (EA Condition 6).
- March 4:** The MOE approved the Terms of Reference for the EFWAC.
- June 15:** The Co-owner’s Agreement between Durham and York Regions was approved by Regional Council
- June 28:** The MOE issued the Certificate of Approval (C of A) for the Durham York Energy Centre (DYEC) that will process 140,000 tonnes of residual waste from Durham and York Regions.
- July 13:** The MOE approved the Complaint Protocol.
- August 17:** Covanta receives Notice to Proceed.
- October 14:** MOE approved the Groundwater and Surface Water Monitoring Plan.
- December 7:** The Region hosted a public open house where Durham Region and Covanta Energy Corporation showcased displays on the design and construction of the DYEC, and on the Region’s Integrated Waste Management Program with staff present to answer questions.

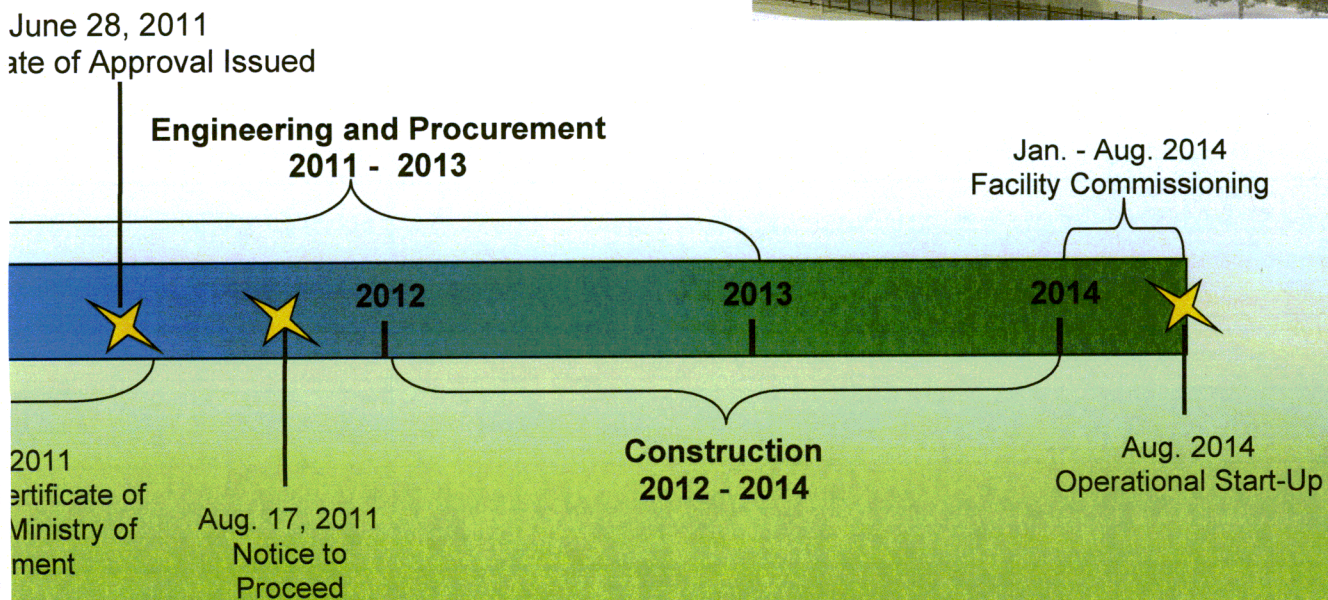
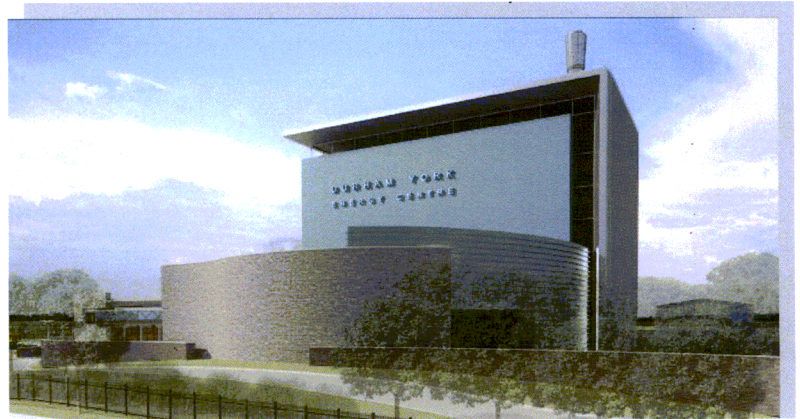


As part of the Clarington Host Community Agreement, the Energy from Waste - Waste Management Advisory Committee (EFW-WMAC) was created. The EFW-WMAC is comprised of Durham residents and acts in an advisory capacity to the Regional Works Committee on issues or concerns which arise with waste diversion, waste management, and environmental performance and monitoring of the EFW facility. The first meeting of the EFW-WMAC was held following the public open house.

**December 8:** The MOE approved the third Party Auditor. "The role of the Independent Auditor is to provide a snap-shot evaluation of the undertaking to confirm that the activities are conforming to legislative requirements, requirements of approvals and permits, commitments made in the Environmental Assessment (EA).

Covanta awarded the Architect/Engineering component to Sigma Energy Solutions in October to be the lead designer for the facility. Procuring major facility components such as the boiler and the air pollution control equipment are underway.

**December 21:** Covanta awarded the General Contractor work to construct the facility to Courtice Power Partners. The site was secured with perimeter fencing. Construction activities are scheduled to begin in early 2012.



## REGIONAL WASTE MANAGEMENT FACILITIES

The Region operates three waste management facilities located in Oshawa, Port Perry in Scugog Township, and near Cannington in Brock Township. These facilities are open Tuesday to Saturday from 8 a.m. to 4 p.m. The Oshawa Waste Management Facility is the busiest of all those managed by the Region and averages 82 vehicles hourly.

In 2011, a total of 235,722 vehicles used the Region's waste management facilities. The vehicle counts were as follows: 172,880 in Oshawa, 48,251 in Port Perry and 12,517 in Brock Township.

The Region also has a household hazardous waste depot operated in cooperation with Miller Waste at their site in Pickering. In 2011, 2,074 vehicles used this privately owned site to divert household hazardous waste (HHW) material.

<b>Summary</b>		
<b>Waste Management Facility</b>	<b>Tonnes of Reuse Material Collected</b>	<b>Tonnes of HHW Material Collected</b>
Brock	1,217	59
Scugog	1,214	191
Oshawa	3,454	680
Pickering (HHW only)	n/a	200



Material that is either recyclable, or is considered hazardous waste and requires special handling, is diverted from landfill through source separation at all three waste management facilities. In 2011, porcelain bathroom fixtures, shingles, and automotive fluid containers were added to the list of materials diverted at the waste management facilities. Loads containing only household hazardous waste, electronic waste, tires, bulky polystyrene packaging material, and agricultural bale wrap are accepted at no charge. Fees apply to other waste as delivered by residents.

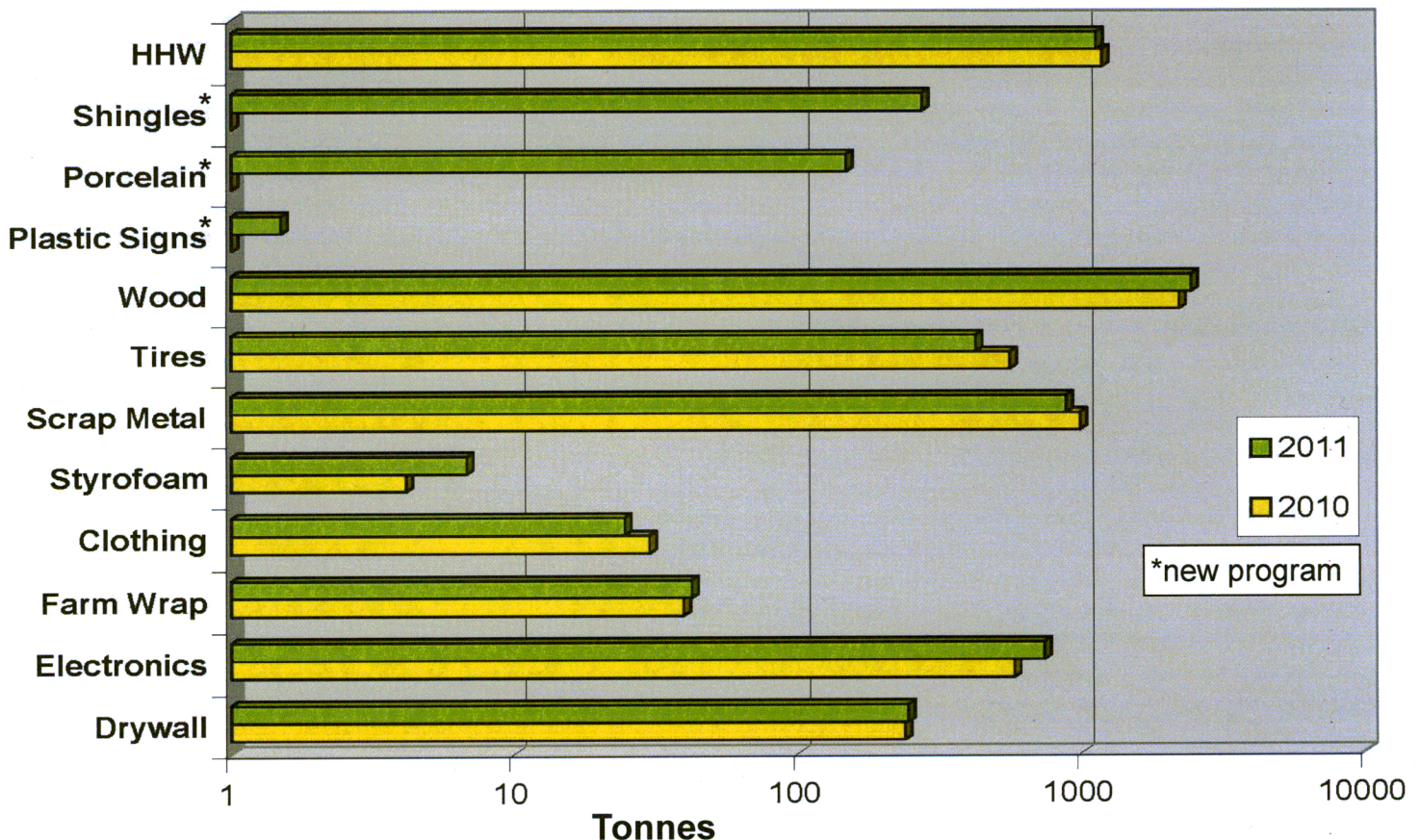


In 2011, 7,015 tonnes of material was diverted from landfill through diversion programs at these facilities. Some of this material such as clothing, and paint was also sent for reuse.

### Diversion Programs at the Waste Management Facilities

Several options for diversion of material from landfill are available at the waste management facilities. Bins and designated areas are used to sort material. In 2011 shingles, plastic signs and porcelain were added to the reported tonnage shipped to recyclers. There was a notable decrease in tonnage reported of scrap metal, HHW, and tires in 2011. This decrease may be related to other disposal options available to residents in Durham Region through the private sector. This private sector tonnage collected is not recorded or reported by the Region.

Reusable or recyclable material diverted from landfill by type



# REGIONAL WASTE MANAGEMENT FACILITIES

## Waste Audit at Oshawa Waste Management Facility

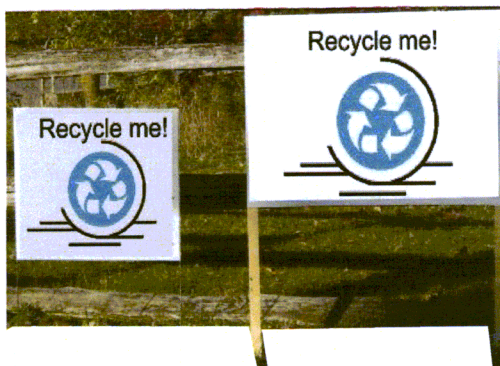
In late 2010, the Region conducted an audit at the Oshawa Waste Management Facility. Over a one week period, waste material was sorted, weighed and categorized by type. In addition, traffic was recorded as residents made their way through the inbound weigh scales. Type of vehicle used by residents, whether they are residents or small business operators, and traffic flow throughout the site was monitored.

The information gathered from the week-long audit was compiled and analysed to help the Region determine the next steps to increase waste diversion and site efficiencies at these facilities. In 2011, new practices were put into place based on the results of the audit.



## Plastic Sign Recycling Program

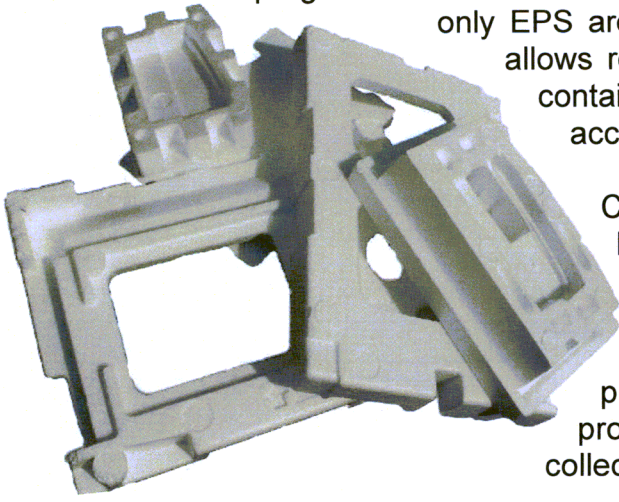
In April 2011, Regional Council approved implementation of a permanent recycling program for plastic signs at the Region's Waste Management Facilities. This program will provide an ongoing opportunity for election candidates, residents and local municipalities to recycle signs they no longer need. It is anticipated this program could divert up to 15 tonnes of material from landfill every year. The Region also promotes the "reuse" of election signs, when possible.



Durham Region's Plastic Sign Recycling Program has encouraged candidates, real estate agents, local municipalities and residents to recycle used signs and create awareness of the waste these signs previously created. These signs are being recycled locally and since the program commenced in 2010, just under 8 tonnes have been diverted.

## Polystyrene Recycling Program

Durham extended its white foam polystyrene cushion packaging (EPS) collection program to all three waste management facilities in 2011. Loads containing only EPS are accepted free of charge. This recycling program allows residents to drop off EPS foam packing only. Food containers, packing peanuts and rigid polystyrene are not accepted.



Commonly referred to as Styrofoam™, EPS is a non-biodegradable plastic resin frequently used as a protective product packaging for consumer goods. Grace Canada Inc., a local company, collects the material from the Region and recycles it in their production of fire-resistant commercial insulation products. A total of 6.8 tonnes of polystyrene was collected in 2011.

## Automotive Fluid Containers Program

The Region has always accepted empty automotive fluid containers as part of its Household Hazardous Waste program. Beginning in May 2010, these containers were collected separately from other HHW materials, and were sent for recycling. To date, this program has diverted almost 30 tonnes of these containers from landfill.

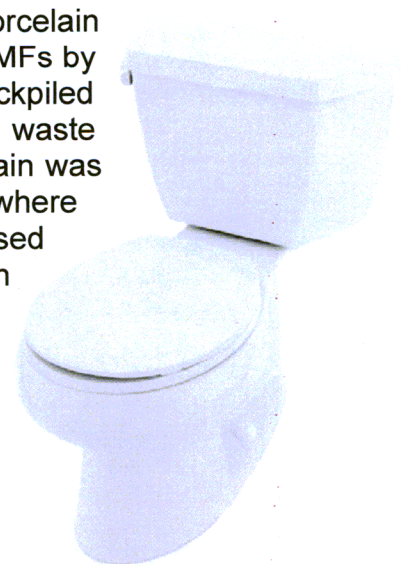


## MATERIALS COLLECTED FOR REUSE/RECYCLING AT DURHAM'S WASTE MANAGEMENT FACILITIES:

- Drywall
- Electronics (e-waste)
- Bale wrap
- Clothing
- Styrofoam™
- Scrap metal
- Tires
- Wood
- Plastic
- Shingles
- Porcelain bathroom fixtures
- Household hazardous waste
- Blue box recyclables

## Porcelain Recycling Program

Starting in June 2011, any porcelain fixtures brought to the Region's WMFs by residents were separated and stockpiled at the Oshawa and Scugog waste management facilities. The porcelain was then transferred to Brock landfill where the material was crushed and used as road base material and as an aggregate substitute in the construction of a leachate recirculation system. This recycling initiative diverted 148 tonnes of material from landfill in 2011.



# LANDFILL PERPETUAL CARE PROGRAM

## Brock Landfill Remedial Action Plan

As part of the Brock Landfill Remedial Action Plan, construction of a third segment of the leachate collection system was completed at the site in 2011. The system is designed to intercept leachate before it moves off site. The intercepted leachate is pumped to an on-site infiltration pond for further attenuation. The pump will operate on an as required basis.

The Region has submitted a Closure Plan to the Ministry of Environment (MOE) for approval to cease waste disposal operations at the site in 2014. Under the Plan, a soil cover will be applied in 2012 over the inactive eastern area of the landfill, while additional waste is imported from other municipalities in 2012, 2013, and 2014 to the active western area of the landfill in order to reach the required pre-cover contours by 2014.

Waste placement for the active western section of the landfill will be divided into four stages. When Stage 1 and 2 reach their pre-cover contours, an engineered final cover will be applied while waste disposal continues on Stages 3 and 4. When a final cover is applied over Stages 3 and 4, there will be no further waste disposal at the site. Phasing of the application of the final cover will reduce leachate production at the landfill by decreasing rainwater infiltration into the waste.

As proposed in the Closure Plan, the site will continue to operate as a Waste Management Facility to receive recyclable and reuseable material from residents, after waste disposal operations cease in 2014.



## Other Landfill Perpetual Care Activities

The Region operates the active Brock Landfill site and maintains six other closed landfill sites. These sites are inspected annually, and maintenance activities such as monitoring, well additions or replacements, and cover assessments or repairs, are conducted as identified.

An unused building at the Darlington Landfill was demolished and removed in 2011. Materials from the building were segregated and reused or recycled, and items such as fluorescent light tubes were taken for proper hazardous waste disposal.

## Oshawa Landfill Post-Closure and Monitoring Plan

In 2011 the Region undertook the construction of an additional passive landfill gas venting system at the southwest corner of the Oshawa Landfill site. The completion of this work will help ensure that all properties adjacent to the southern limits of the landfill are protected by a combination of passive landfill gas venting systems and buffer land.

Durham also completed a gas probe maintenance program. The gas probe maintenance program involved repairing, decommissioning, and replacing a number of old gas probe monitors at the site. Two new gas probes were also installed to assess the performance of the recently installed passive gas venting systems. All new probes have been incorporated into the annual monitoring program.



## Annual Landfill Monitoring Program

The annual landfill gas, surface water and groundwater monitoring programs continue at all Regional landfill sites. Water quality monitoring is conducted at all landfill sites, with gas monitoring conducted only at the closed landfill site in Oshawa.

The Region continues to monitor the quality of residential well water from residents living near the Brock Township Landfill Site. Samples are collected from eight residential wells and lab results continue to indicate that there are no impacts on these wells from the Brock Landfill site.

# COMMUNICATION PROGRAMS AND OUTREACH

## Promotion and Education Activities

In 2011, the Region continued to actively promote the benefits of the 4Rs - Reduce, Reuse, Recycle and Recover. Key methods of promotion of the Region's waste management messages included use of conventional media (print, radio and television), the Region's web site, through the Durham Works Newsletter, social media tools, public space advertising, hosting special waste events (compost give away, special e-waste and household hazardous waste collection), participation in community fairs and home shows, public open houses and presentations to school and community groups.

School presentations were made throughout the Region to 12 Continuing Education classes, and 5,662 students from grades JK to 12 in 30 schools across the four school boards.

Public space advertising on roadside billboards, buses, arena rink boards, retail and medical waiting rooms, and movie theatres was used to promote diversion programs in 2011. A special door-to-door promotion initiative in multi-residential units was undertaken to re-launch the blue bag recycling program.



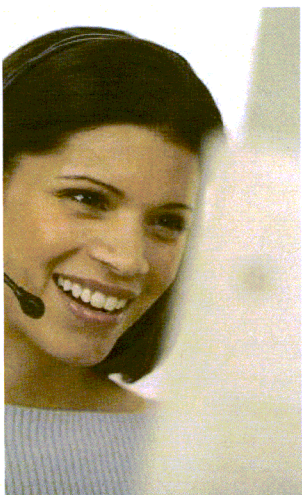
Durham.ca/waste website received over 158,000 unique visitors inquiring about the programs and services in the Region. The site was upgraded and enhanced with videos in 2011, and a new online game created by the University of Ontario Institute of Technology Gaming Program students called "Salvage Frenzy" was added. A new on-line calendar, launched in the spring of 2011, provided residents with a new option to access the Regional Waste Management Calendars.

The 2011/12 Waste Management Calendars were delivered by Canada Post in November to residents in the City of Pickering, the Town of Ajax, The Municipality of Clarington, and the townships of Uxbridge, Brock and Scugog. The Region also distributed printed material through water billing inserts, fact cards given out at home shows, and in the new residents kits that are ordered through our Call Centre.

## Durham Region Waste Management Centre

The Durham Region Waste Management Centre is a stand-alone service located at 4600 Garrard Rd., in Whitby. At this location, residents are able to purchase backyard composters, blue boxes and green bins, as well as obtain replacements for damaged blue boxes and green bins free of charge.

In 2011, over 5,000 new resident kits were sent out and the Call Centre handled 57,641 phone calls and answered questions related to residential waste.



## Waste Fair

The Waste Fair, held in March 2011 at Garnett Rickard Recreation Complex in Clarington, offered residents the opportunity to learn about all of the waste management programs provided by the Region. There were extensive educational materials, tabletop displays and staff available to discuss waste issues with members of the community. The Energy-from-Waste project team and representatives of Covanta were also available to answer questions. Family attractions at the fair included the Durham Region mascots, face painting and crafts.



## Compost Give-Away Events

Each spring, the Region offers compost created from materials collected through our green bin and yard waste programs free of charge to Durham residents. Compost giveaway events are a means of rewarding residents for their commitment to composting and encouraging continued participation in organic materials diversion programs.

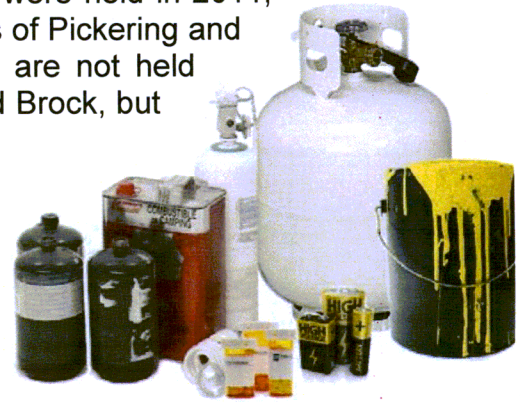
In 2011, the Region held eight Compost Give-Away Events, one in each municipality, in combination with blue box and green bin sales and exchanges. Any remaining compost was made available to the local municipalities to use on their gardens and public parks. Collectively, 2,378 residents came to the Compost Give-Away events and picked up approximately 670 tonnes of compost. The Region also coordinated food drives during these events to support local food banks within our community.



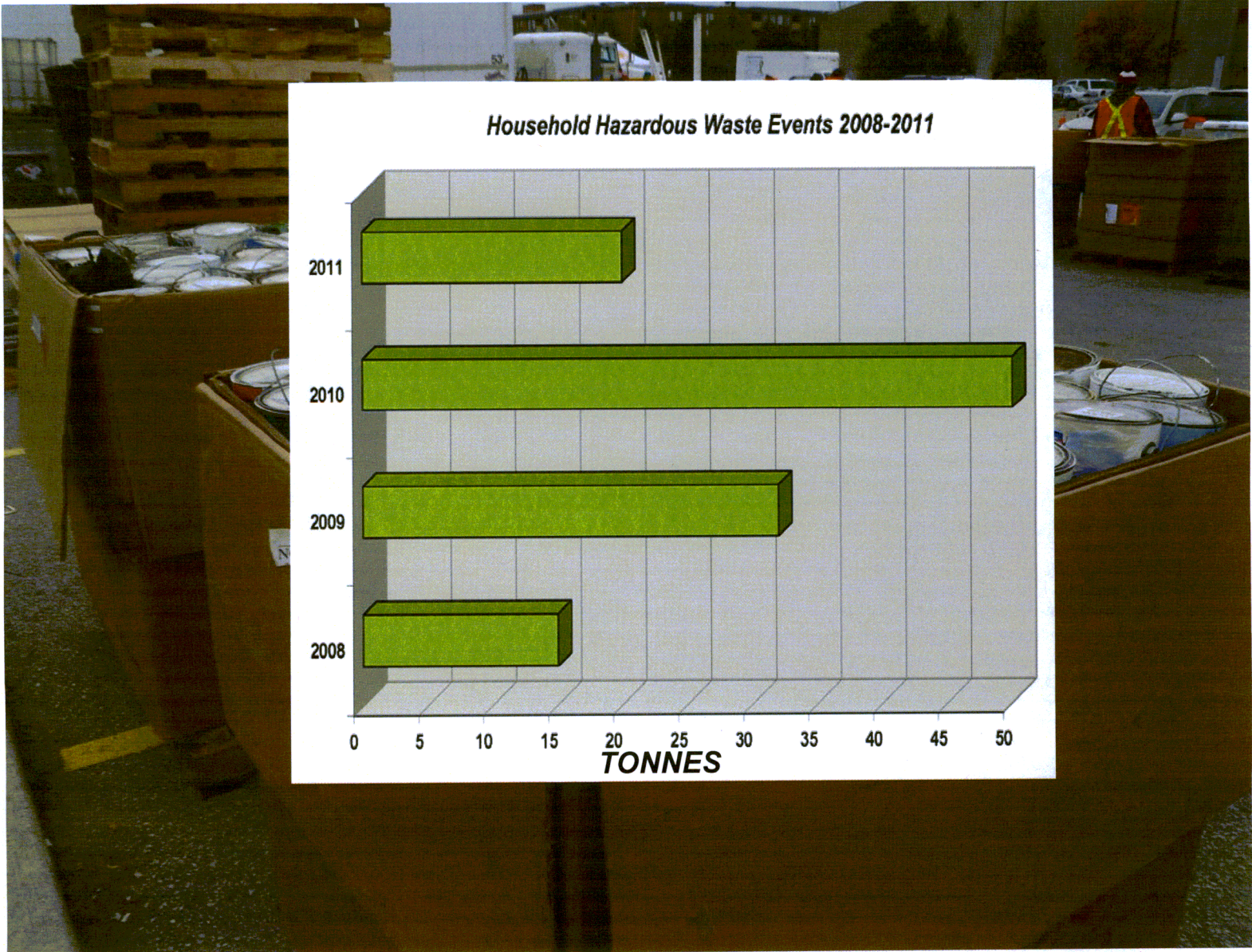
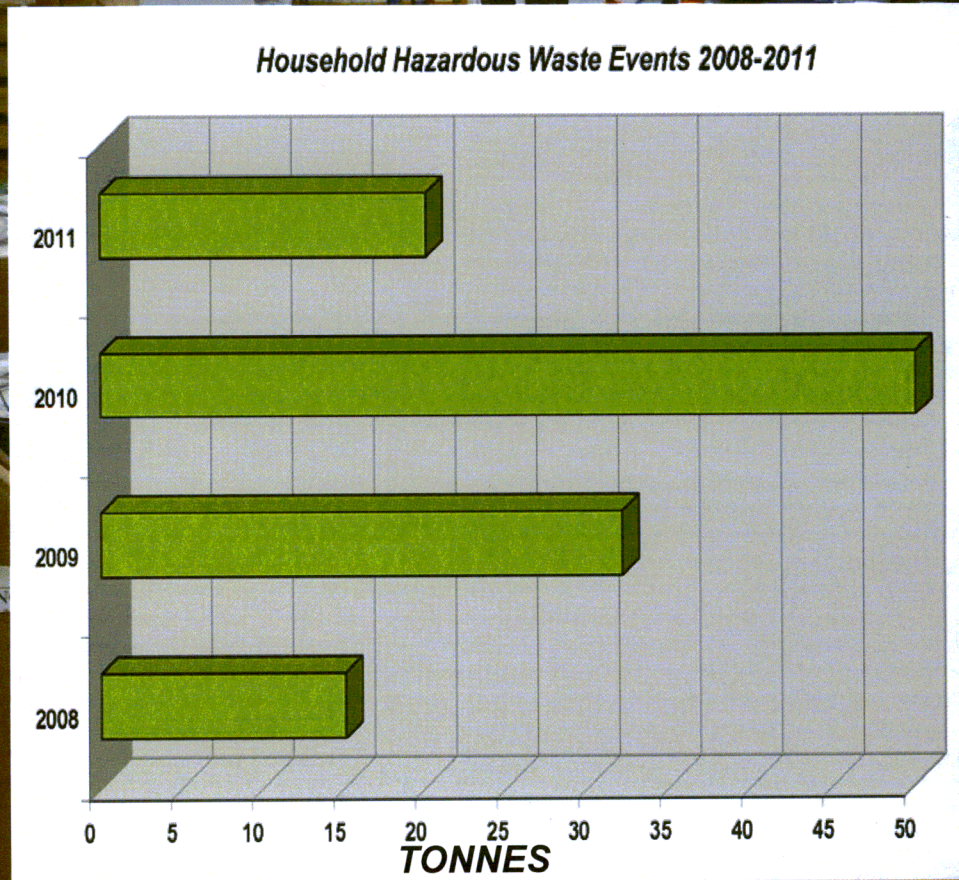
## Household Hazardous Waste Collection Events

Five Household Hazardous Waste (HHW) collection events were held in 2011, one in each of the townships of Scugog and Brock, the Cities of Pickering and Oshawa, and the Municipality of Clarington. These events are not held yearly in the communities of Pickering, Oshawa, Scugog and Brock, but every other year.

A total of 655 vehicles participated this year, a 44% reduction from 1,180 vehicles in 2010. The amount of HHW that was collected at these events decreased to 20 tonnes from the 50 tonnes collected at 2010 events. The decrease in resident participation and volume of material collected in 2011 may be attributable to the fact that four of the five 2011 HHW collection events were held in communities with Regional waste management facilities that are open five days per week to accept HHW materials.



The following table outlines the tonnage of HHW material collected since 2008.



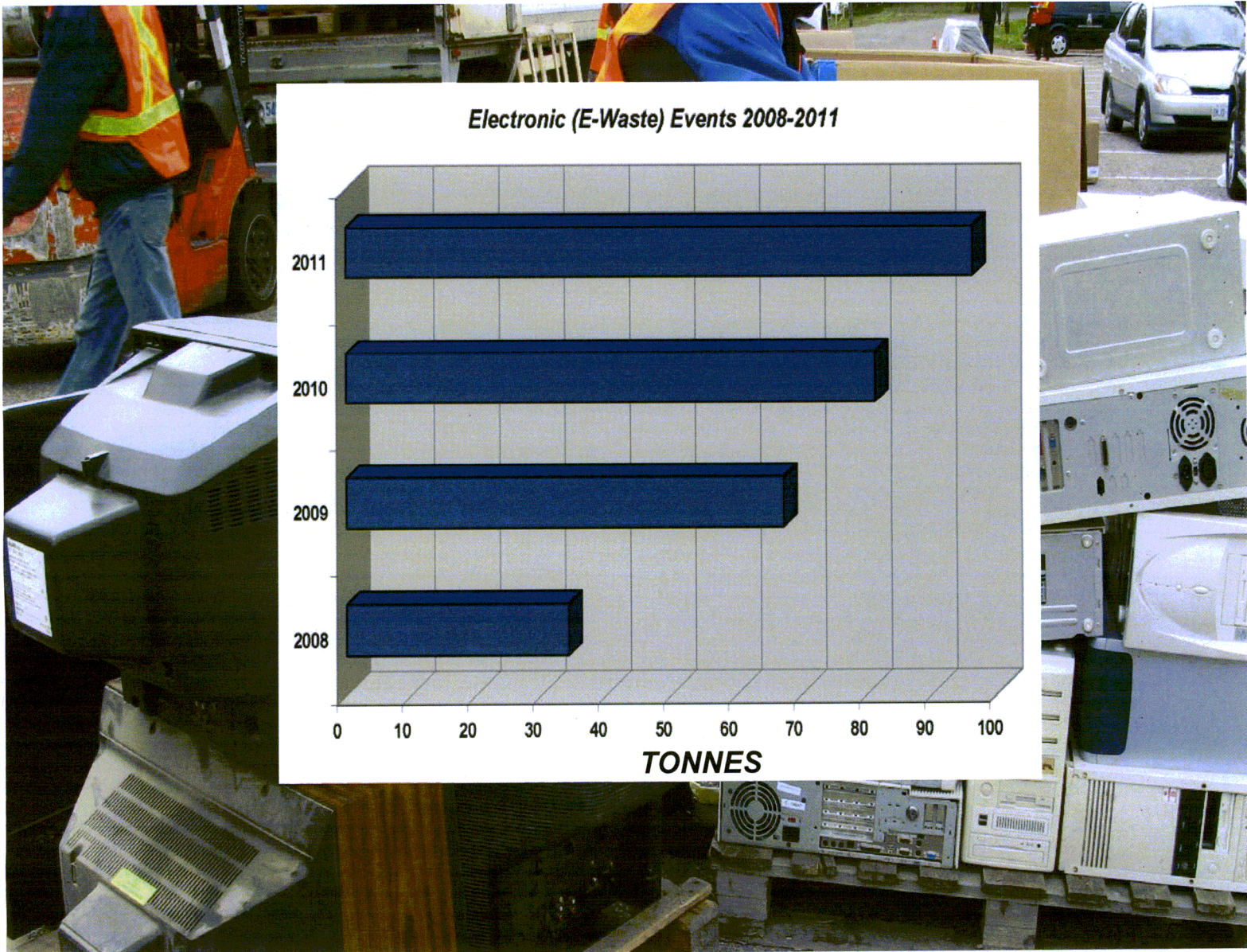
## Electronic Waste Collection Events

In 2011, the Region held eight successful Saturday Electronic (e-waste) Collection Events, one in each of the eight area municipalities.

For the first time, the Region also hosted a Winter E-waste Collection Event, to take advantage of the post-Christmas increase in e-waste at this time of year.

This Winter E-waste Collection Event, held on January 8, 2011 at the Waste Management Centre (4600 Garrard Road, Whitby) collected 26 tonnes of electronics in just four hours. Collectively, the nine E-waste Collection Events attracted 2,151 vehicles and recovered 96 tonnes of material for recycling.

The following table outlines the e-waste tonnages collected since 2008.



## COMMUNICATION PROGRAMS AND OUTREACH

### Other Community Activities

“National Public Works Week” is an annual event held each May in support of public works professionals across the country. It includes mall displays over the weekend and tours at three Works Department facilities. The Material Recovery Facility in Whitby hosted tours of the recycling facility by waste staff, children's face painting, information displays, live on-air coverage and a barbeque sponsored by Durham Radio.



Durham Region celebrated “Waste Reduction Week” in October promoting waste reduction and diversion options for residents. Advertising of waste programs was distributed throughout the Region through the local paper and at Regional headquarters, events and displays were set up to encourage the 1,500 employees to encourage participation. Displays at headquarters included a disposal bin for used batteries, an e-waste collection bin, a donation bin for gently used clothing, and a used book bin. The books were sold at the end of the week, with money donated to United Way agencies.

The new Waste Management By-law, approved by Regional Council in June 2011, consolidated all of Durham Region’s residential waste management programs under one single regulation. This provides a foundation for the Region to move forward with its goal of reusing, recycling or composting 70 per cent of residential waste.

The Region’s By-law Compliance Officers focus on building awareness of the Waste Management By-law in the community and encourage compliance through education and outreach. Residents who are not setting out their waste properly may at first receive a “Friendly Reminder” door hanger outlining the problem with their waste set out. The by-law also allows for additional enforcement measures if issues are not addressed.



## Awards

The Region's Waste Management division once again received recognition for its waste management practices, with the Platinum Award from the Recycling Council of Ontario. The RCO's Municipal Diversion Award recognizes the "best of the best" in government and other organizations that have diverted a significant percentage of waste from disposal (landfill or energy from waste). This diversion is accomplished through systematic and strategically planned reduction, reuse and/or recycling initiatives. The Platinum award is the most prestigious of all the RCO awards.



The Municipal Waste Association presented Durham Region the Bronze Award for Digital Based Promotion and Education Tool. This award recognizes the work undertaken by the Region's waste staff and the UOIT Capstone students who created Salvage Frenzy, an online waste sorting game.



The Municipal Waste Association presented Durham Region the Bronze Award for a Promotion and Education Tool - Other. This award recognizes the work undertaken by the Region's waste and information technology departments for their creation of Durham's online Waste Calendar.



**REGION OF DURHAM  
TONNES OF RESIDENTIAL WASTE MANAGED (2011)**

Descriptions	Curbside Garbage	Apartment Garbage	Bulky/Other Goods	Curbside Recycling	Apartment Recycling	Food Composting	Leaf & Yard Composting	Composter Credits	Grasscycling Credits	Reuse Programs	Total Waste	Waste Diversion
<b>1 Curbside &amp; multi-residential wastes</b>												
Pickering	11,071	931	246	7,262	239	4,317	3,288	825	608	1	28,788	57%
Ajax	12,806	1,632	217	8,381	227	5,567	3,242	707	600	0	33,379	56%
Whitby	13,054	2,698	548	11,075	528	6,351	5,471	1,186	1,012	0	41,924	61%
Oshawa	18,238	8,112	225	11,719	1,206	5,457	5,468	1,692	1,012	0	53,128	50%
Clarington	11,065	84	319	7,046	0	3,186	2,875	639	532	39	25,784	56%
Scugog	2,929	203	53	1,797	0	801	822	325	152	17	7,099	55%
Uxbridge	2,811	139	69	1,845	0	799	703	267	130	17	6,779	55%
Brock	1,803	0	39	1,230	0	387	279	149	52	11	3,949	53%
sub-totals	73,776	13,798	1,717	50,354	2,200	26,865	22,149	5,789	4,097	85	200,830	56%
		89,292		52,554		49,013		9,887				
<b>2 Regional waste disposal sites</b>												
Oshawa	0	0	12,088	369	0	0	1,241	0	0	4,134	17,831	32%
Scugog	0	0	4,079	170	0	0	355	0	0	1,405	6,009	32%
Pickering	0	0	0	0	0	0	0	0	0	200	200	100%
Brock	0	0	2,211	64	0	0	0	0	0	1,275	3,550	38%
MRF	0	0	0	0	0	0	0	0	0	11	11	100%
sub-total	0	0	18,378	603	0	0	1,595	0	0	7,026	27,602	33%
<b>3 Special Events</b>												
HHW	0	0	0	0	0	0	0	0	0	20	20	100%
E-Waste	0	0	0	0	0	0	0	0	0	96	96	100%
sub-total	0	0	0	0	0	0	0	0	0	116	116	100%
<b>4 Summary</b>												
municipal residents	73,776	13,798	1,717	50,354	2,200	26,865	22,149	5,789	4,097	85	200,830	56%
Regional waste sites	0	0	18,378	603	0	0	1,595	0	0	7,026	27,602	33%
Special Events	0	0	0	0	0	0	0	0	0	116	116	100%
sub-total	73,776	13,798	20,095	50,957	2,200	26,865	23,744	5,789	4,097	7,226	228,548	
<b>Total Tonnes, with credits</b>		107,670		53,157		50,609		9,887		7,226	228,548	
<b>Total Tonnes, managed</b>		107,670		53,157		50,609				7,226	218,662	
<b>Percentages of Total</b>	32%	6%	9%	22%	1%	12%	10%	3%	2%	3%	100%	
<b>Waste diversion rate</b>											53%	March 20, 2012



Notes:



## Durham Region Waste Management

[www.durham.ca/waste](http://www.durham.ca/waste)  
1-800-667-5671

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