# PARTNERSHIPS DRIVING REDUCTION REUSE RECYCLING RECOVERY





The Regional Municipality of York 2013 Annual Diversion Report













## At-a-Glance

York Region and our local municipal partners plan, finance and deliver sustainable waste management programs and infrastructure.

York Region consists of 1,776 square kilometres, from Lake Simcoe in the north, to Steeles Avenue in the south; it borders Simcoe County and Peel Region in the west and Durham Region in the east and Toronto to the south.

Curbside collection of blue box, green bin, yard waste and residual waste is managed by York Region's nine local municipal partners: the Towns of Aurora, East Gwillimbury, Georgina, Newmarket, Richmond Hill, Whitchurch-Stouffville, City of Markham, City of Vaughan and the Township of King.

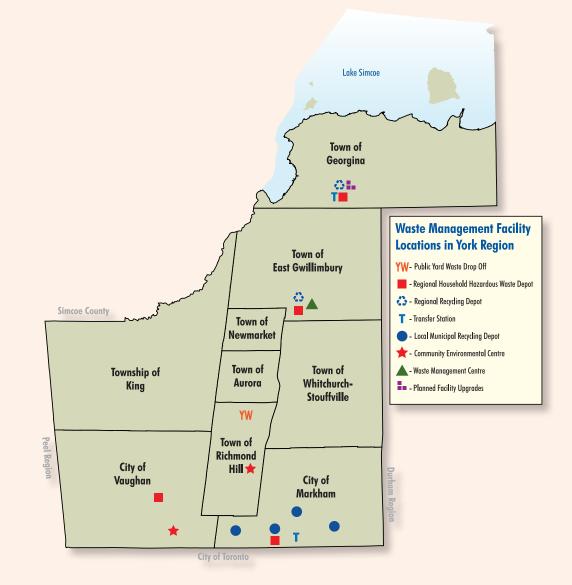
All collected materials are delivered to York Region facilities for processing, energy recovery and/or disposal by external contractors. Regional and municipal depots offer additional opportunities for waste diversion.

The Region's solid waste management infrastructure includes:

- Waste Management Centre material recovery facility to process blue box recyclable materials
- McCleary Court Community **Environmental Centre**
- Elgin Mills Community **Environmental Centre**
- Georgina Waste Transfer Station and Recycling Depot
- Household Hazardous Waste depots in the Towns of East Gwillimbury and Georgina, the City of Markham and City of Vaughan
- Durham York Energy Centre scheduled to be in operation in late 2014
- Partnerships with private contractors for processing source separated organics, as well as processing and disposal of residual waste

#### IN THE YEAR 2031. **ESTIMATES SUGGEST:**

- There will be 1.5 million people living in York Region
- There will be almost 2.5 times as many people over the age of 50, as compared to 2010
- A projection of 446,187 tonnes of waste generated with Integrated Solid Waste Management Master Plan initiatives, lower than the 2031 baseline projection of 476,744 (based on 2012 actual tonnes)





















# **Quick Facts**

In 2013, York Region and our local municipalities diverted 59 per cent\* of collected materials from landfill for disposal

In 2013, York Region and our local municipal partners diverted 87 per cent of collected materials from landfill disposal, including material sent to energy-from-waste facilities.

- 1,130,386 (2013): York Region's population (estimated)
- 298,740: York Region singlefamily residences
- 41,398 apartments (approximate)
- **87,879 tonnes:** Blue box material processed
- **\$8.53 million:** Revenue generated from sale of blue box recyclables
- 94,591 tonnes: Green bin material collected
- 120,260 tonnes: Residual waste collected

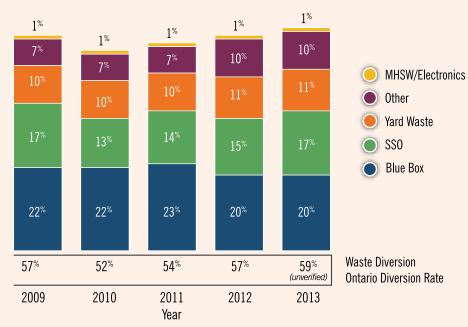
- 40,486 tonnes: Yard waste collected curbside and at public drop-off areas
- 6,297 tonnes: 'Other diversion,' including tires, clean fill, textiles, wood waste, scrap metal and other diversion
- 2,629 tonnes: Household hazardous waste (HHW), waste electronics and electrical equipment (WEEE) collected at depots

59%\*

2013 Waste Diversion Ontario diversion from landfill after curbside collection. \*2013 diversion data presented is unverified by WDO at time of printing. 87%

2013 diversion from landfill including energy-from-waste management. York Region's Regional Official Plan target is 90 per cent diversion from landfill (including energy from waste tonnage) by 2016 and 100 per cent by 2020.

#### Annual Waste Diversion, 2009 to 2013



Waste Diversion Ontario (WDO) calculates diversion from landfill after processing of materials and does not include York Region approved energy-from-waste initiatives.



# Partnerships for success

Waste diversion in York Region is a collaboration between all 10 municipal partners

In 2013, York Region residents generated a total of 312 kg of total waste per household, representing the lowest generation rate among our municipal neighbours in the Greater Toronto Area.

#### COLLECTION

A four-day collection schedule was implemented across the Region in 2010, with the exception of Georgina where Monday collection is provided to cottage households along the lakeshore. In addition to curbside collection, both the City of Markham and Town of Richmond Hill have implemented three-stream waste collection in some multi-residential high rise buildings.

#### **PROCESSING**

Processing is accomplished through a combination of Regional processing infrastructure for blue box, externally contracted services for organics processing, energy-from-waste processing and landfill disposal for residual waste.

Each of the local municipalities have chosen to implement some form of pay-as-you-throw program and/or bag limit system, targeting waste reduction in single family households as a means to increase diversion.

Bulky waste and white goods (large appliance) collection is also provided by local municipalities to singlefamily households. In most cases, white goods collection is provided to residents by scheduling a pick up directly with the local waste management service provider.

In addition to curbside collection services, local municipalities also offer opportunities for residents to drop off waste materials within their communities through:

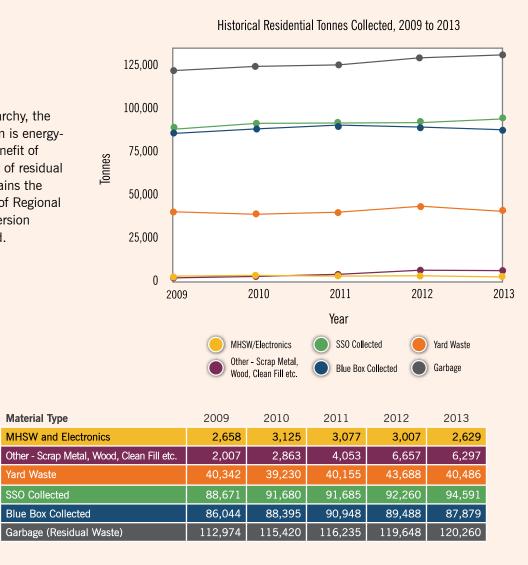
- Environment Days and Waste Reduction Week events
- Public recycling depots
- Special electronic waste collection days, mulch giveaways and community reuse events
- Three-stream waste collection in public spaces and municipal offices
- · Pilot programs for organics and electronics collection in multi-residential buildings in select locations

#### **DISPOSAL**

Within the Region's 4R hierarchy, the preferred disposal destination is energyfrom-waste to receive the benefit of capturing the energy content of residual waste. Landfill disposal remains the last option for management of Regional materials, once all other diversion options have been exhausted.

**Material Type** 

SSO Collected





The SM4RT Living Plan combines traditional approaches and innovative, community-driven programs to maximize long-term benefits.

The Regional Municipality of York SM4RT Living Plan identifies more than 60 initiatives that set the stage for waste management in York Region over the next 25 to 40 years. Starting with 32 of these initiatives within the next five years, the focus will be on the 4Rs: reduce, reuse, recycle and recover.

The SM4RT Living Plan was approved by Regional Council in September 2013 after an intensive and collaborative effort among the 10 municipal partners.

Together, our actions will make a difference.

#### **impact + success** by 2031

*62,000* 

Per capita waste generation rate reduction per person

Estimated tonnes of waste reused in the first 18 years of the plan

166.000

Estimated tonnes of waste reduced in the first 18 years of the plan

Reduction in the total amount of waste requiring management

S62m

net savings]

Approximate net savings

[\$40 million Regional net savings + \$22 million local municipal

Approximate net savings per household in year 2031 when compared to current baseline projection

Where we've been



#### More than 6,000

points of interaction with residents + stakeholders







Team + committee meetings, events, SM4RTLiving.ca, York.ca, idea workshops, youth forum, SM4RT Living Family Challenge

of York Region households participate in Green Bin and Blue Box Programs.

of materials collected were diverted from landfill in 2013.

## Where we are

The SM4RT Living Plan combines traditional approaches and innovative community-driven programs to maximize long-term benefits.

strategies



#### 60 initiatives



# Where we are going







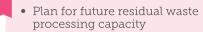
Reduce food waste

- Increase composting
- Purchase 'green' products
- Pilot textile/clothing collection
- Explore 'swap events' • Evaluate attitudes around reuse
- Consider tool sharing



- Explore alternative financing
- \* EFW energy-from-waste

- Influence positive change in waste management
- Plan for growth
- Collect data for multi-residential program development
- Advance Blue Box program development and funding
- Plan for new green bin processing capacity
- Develop long-term strategies for Community Environmental Centres (CECs) and depots



- Policy development and preparation for EFW\*
- Plan for EFW\* expansion

It's about getting the most out of current facilities, protecting investments, engaging community + focusing on reduction + reuse



# Joint Waste Management Summary

	2013 CURBSIDE COLLECTION						2013 OTHER INITIATIVES
	Alternating Week Bag Collection Limit (Cost per Tag) <sup>1</sup>	Weekly Blue Box Collection	Weekly Green Bin Collection	Yard Waste Collection (Frequency)	White Goods Collection Cost Per Item	Bulky Item Collection Cost Per Item	Multi-residential Collection (Details)
AURORA	3						20 buildings serviced weekly     Recyclables collected from carts
	(No tags)			(18/year)	(No fee)	(No fee)	
EAST GWILLIMBURY	2					-	
	(No tags)			(18/year)	(No fee)	(No fee)	
GEORGINA	(\$1 limit					<b>P</b>	One building and 705 apartments (located above retail outlets) serviced weekly     Recyclables from the building placed in a cart, apartments utilize the curbside Blue Box Program
	(\$1, limit 5 items)			(17/year)	(\$1 bag tag)	(\$1 bag tag)	
KING	(\$1, limit						
	5 items)			(17/year)	(\$20 + hst)	(\$10 + hst)	
MARKHAM	(No tags)				(011)	(No fee)	Buildings serviced weekly, recyclables from 91 buildings, recyclables and organics from 47 buildings  Mandatory tri-sorters required in all new buildings  Mandatory internal storage of all containers  White goods collection program (\$11 per item)
	(1.0 (080)			(18/year)	(\$11)	(No fee)	Time 80003 concetion brokram (ATT ber Irein)

 $(^{\rm l}\,\text{Most}$  tags are sold in sheets of five or 10,  $^{\rm l}\,\text{Grass}$  clippings are accepted).



the Region and local municipalities collect a range of waste, recyclable and compostable materials to varying degrees at parks, Regional and municipal facilities and special events. The Region operates Recycling and Household Hazardous Waste Depots and

accept materials collected curbside, as well as materials not currently collected at curbside, such as household hazardous waste. The City of Markham also operates four recycling/reuse depots.



**REDUCE** 

# Community Environmental Centres

True "one stop shop" public drop off facilities offering a convenient outlet for reduction, recycling and disposal

York Region currently has two Community Environmental Centres (CEC): McCleary Court in the City of Vaughan, which opened in 2009 and Elgin Mills in the Town of Richmond Hill, which opened in 2011. Community Environmental Centres provide a convenient outlet for residents to drop-off materials including reusable goods such as clothing, housewares, books, textiles, electronics, home furnishings, appliances, collectibles and building materials for resale by local charities. York Region partnered with Goodwill Industries and Habitat for Humanity York Region to operate and staff the on-site reuse buildings.

Bulky recyclables, construction and demolition materials are diverted from landfill through the CECs, while items that cannot be diverted are disposed of safely as residual waste. In 2013, 18,762 tonnes of materials were collected at the CECs:

- Goodwill and Habitat for Humanity\* collected 280 tonnes of reuse materials (two per cent)
- Blue box, shredded paper, electronics, tires, scrap metal and polystyrene accounted for 1,194 tonnes (nine per cent)

\*The Habitat for Humanity donation areas operating at Community Environmental Centres closed in March 2014.

- Construction and demolition materials, including wood, drywall, clean fill, concrete and rubble represented 4,980 tonnes (27 per cent)
- Residual waste was 11,740 tonnes (63 per cent)

Residual Waste

Recyclables

Construction
and Demolition

As of August 2013, the used cooking oil collection program became available at all Regional public drop off depots including the Elgin Mills CEC. The integration of Household Hazardous Waste (HHW) facilities into both CECs is also scheduled to be completed by 2015.

It is anticipated these additions will improve convenience and increase site usage as users become increasingly familiar with all services available at the CECs.



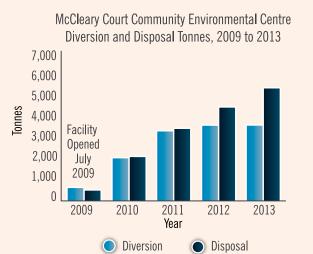
#### **DID YOU KNOW?**

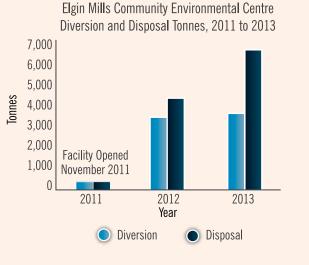


In 2013, more than 6,297 tonnes of scrap metal, tires, textiles, wood and clean fill was collected at the Region's CECs and Georgina Transfer Station.



About one-third of waste in Canada is paper and paperboard. Another third is yard and kitchen waste. The rest is divided among glass, metals, plastics, textiles, wood and other materials. (Environment Canada)







## Blue Box

# York Region blue box participation rates among highest in GTA

Blue box materials are separated into individual commodities and shipped to markets internationally for conversion into new products. High participation in the blue box program results in creation of new products using recycled materials, therefore saving both energy and resources by avoiding extraction and depletion of natural resources. Producers contribute slightly less than 50 per cent of blue box program costs to partially offset collection, processing and marketing their products and packaging.

Residents and small businesses may drop off recyclables free of charge at the McCleary Court and Elgin Mills CECs, East Gwillimbury HHW and Recycling Depot and the Georgina Transfer Station.

In 2013, the blue box made up 22 per cent of the total materials captured and processed in York Region. Despite population growth, total tonnes remain relatively unchanged. This is mainly due to changing composition of blue box materials. There is an increase in lightweight and high volume materials such as plastic and polycoat and a decrease in the heavier, dense materials like glass and printed paper.

York Region's Material Recovery
Facility provides sufficient blue box
processing capacity to address the
influences of continued population
growth, improved promotional efforts,
new materials in the waste stream
and expansion of recycling services
to multi-residential dwellings.

#### Blue Box Historical Tonnes Collected and Marketed, 2009 to 2013





#### **U** DID YOU KNOW?

Recycling one tonne of glass saves approximately 34 litres of fuel oil. (Recycling Council of Ontario)



Nearly 55 per cent of every aluminium can is made from recycled aluminum.

(American Recycler)

#### **RECYCLE**

# Organic Waste

Processing source separated organic waste is a key component of waste diversion

Processing organic waste into compost, a beneficial agricultural growing media supplement, currently represents one-third of the Region's overall diversion achievement. In 2013, York Region residents generated approximately 94,591 tonnes of source separated organics and 40,486 tonnes of yard waste. The amount of organics collected province-wide has outpaced the establishment of reliable compost processing capacity. Operational challenges and odour problems have also plagued the organics processing industry.

In 2013, York Region shipped 57,296 tonnes of source separated organic waste to Orgaworld in London, Ontario and 15,898 tonnes to Lafleche in Moose Creek, Ontario for processing. As Lafleche was expanding its composting facility capacity, the remaining 17,033 tonnes of organics was managed through Covanta, an energy-from-waste facility in New York State, and 3,479 tonnes was sent to landfill disposal in Ontario. The remaining tonnes were managed through approved leachate treatment facilities in Ontario.



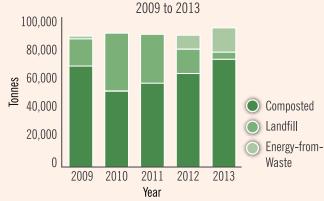
#### DID YOU KNOW?

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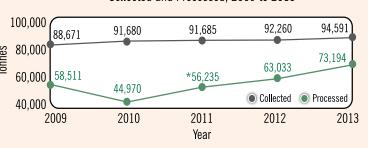
Canadians produce approximately seven million tonnes of organic waste each year. (Recycling Council of Ontario)

As directed by our 4R hierarchy, energy-from-waste management is a preferred disposal method to landfill disposal and is included in the Region's diversion from landfill calculation.

#### Source Separated Organics Management by Destination (outbound)



#### Source Separated Organics Historical Tonnes Collected and Processed, 2009 to 2013



\*2011 tonnage updated to reflect the 2,661 tonnes disposed.



## Leaf and Yard Waste

Composted leaf and yard waste enhance soil conditions

York Region's local municipal partners offer residents a seasonal curbside leaf and yard waste collection program. Curbside leaf and yard waste programs are offered bi-weekly from spring to fall. In 2013, leaf and yard waste represented 11 per cent of the total curbside waste stream.

Additionally, residents may drop off yard waste materials at two facilities in York Region – the Georgina Transfer Station and the Miller Waste Bloomington Road Facility (contracted with the Region and owned/operated by Miller Waste).

In 2013, 40,486 tonnes of yard waste were managed at the Miller Bloomington Yard Waste site, including yard waste from the Asian Long Horned Beetle infestation zone. As a result of the severe ice storm in December 2013, it is anticipated there will be an increase in yard waste tonnages in 2014 due to clean-up efforts.

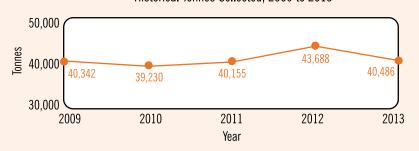
#### ASIAN LONG HORNED BEETLE

In 2005, the Canadian Food Inspection Agency (CFIA) confirmed an infestation of the Asian Long-Horned Beetle (ALHB) in the City of Vaughan. All yard waste from this regulated area required pretreatment to meet CFIA specifications prior to being composted at the Miller Bloomington Site. The ALHB restriction was lifted in April 2013 as no new findings of the ALHB were reported. In 2013, 2,385 tonnes of yard waste material was managed at the site in accordance with Canadian Food and Inspection Agency standards. The ALHB site was closed June 30, 2013 in accordance with a closure plan approved by the Ministry of the Environment (MOE) and CFIA in partnership with the City of Vaughan.

#### **EMERALD ASH BORER**

The Emerald Ash Borer (EAB) was discovered in York Region in 2008. It is an invasive insect that poses no risk to human health, but kills all types of ash trees and poses a significant threat to our forests and street trees. York Region Forestry has confirmed infestations in all local municipalities within the Region and is working with local municipalities, local conservation authorities, the CFIA and the Ontario Ministry of Natural Resources to co-ordinate efforts to monitor and manage EAB's impacts in the Region. As part of York Region's approved Emerald Ash Borer Management Plan, the Region will continue to monitor the spread of the Emerald Ash Borer.

Curbside Yard Waste and Asian Longhorned Beetle Historical Tonnes Collected, 2009 to 2013



#### **RECYCLE**

## Waste Electronics

Network of drop off depots support reuse and recycling of waste electronics

York Region provides its residents with a network of drop off facilities for waste electronics, including Georgina Transfer Station, East Gwillimbury HHW and Recycling Depot, Markham HHW Depot, Vaughan HHW depot, as well as McCleary Court and Elgin Mills CECs. In 2009, the Waste Electrical and Electronic Equipment (WEEE) program was developed by Waste Diversion Ontario (WDO) in co-operation with Ontario Electronic Stewardship. Waste Electrical and Electronic Equipment material has been designated under the Waste Diversion Act and collection. processing and disposal of this material is funded by brand owners and first importers of these products.

In 2013, 1,503 tonnes of WEEE materials were collected at York Region depots. The decrease in amount of WEEE collected at depots is a result of newer, lightweight electronics in the marketplace coupled with increased special WEEE community events and retail take back locations available to York Region residents through RecycleYourElectronics.ca website sponsored by Ontario Electronic Stewardship.

While electronic materials can contain harmful substances such as mercury, lead and cadmium, which require special handling, there are also valuable and limited resources in electronics, such as steel, copper, aluminum and other precious metals; recycling these materials helps reduce the need for new raw materials. These components are valuable in the marketplace, resulting in service providers paying the Region for electronics collected at municipal depots.

Waste Electrical and Electronic Equipment Historical Tonnes Collected, 2009 to 2013





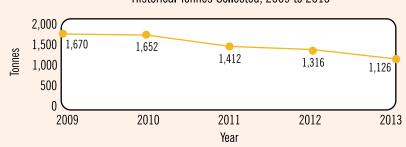
# Household Hazardous Waste

Protecting the environment by safely managing and diverting municipal hazardous and special wastes

York Region provides its residents with a network of facilities where they can drop off municipal hazardous or special waste (MHSW) including the Georgina Transfer Station, East Gwillimbury HHW and Recycling Depot, Markham HHW Depot and the Vaughan HHW Depot. The Region is currently working on integrating the Vaughan HHW Depot into the McCleary CEC operation and a new HHW Depot into the Elgin Mills CEC operation by 2015. Through specialized contract services at these locations, these materials are recycled or treated and disposed in an environmentally responsible manner.

In 2013, the amount of MHSW materials collected at Regional depots declined from previous years as retail take-back programs increased capture. Both municipal depots and retail take-back programs ensure materials are safely managed to end-of-life and divert harmful substances from landfill, waterways and forests. In addition, 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.

Municipal Hazardous and Special Wastes Historical Tonnes Collected, 2009 to 2013



RECYCLE

# Tires, Scrap Metal and Cooking Oil

Depot based recycling programs offer further diversion opportunities

#### TIRE RECYCLING

York Region collects used tires at Elgin Mills and McCleary Court CECs, as well as the Georgina Transfer Station. Residents can drop off up to four residential tires per visit, including car and passenger vehicle tires, heavy truck tires or farm tractor tires. These tires are recycled into new products such as rubber mulch, playground surfacing and rubber bricks. This program is funded by tire stewards through the Used Tire Program and supported by Tire Stewardship Fees levied on each new tire supplied in Ontario. These fees are collected by Ontario Tire Stewardship. In 2013, the Region diverted 145 tonnes of tires through our facilities.

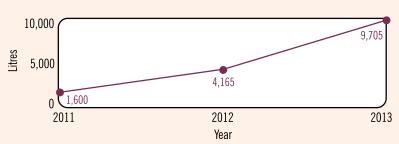
#### **METAL RECYCLING**

York Region residents can bring their scrap metal including metal appliances for recycling to the East Gwillimbury HHW and Recycling Depot, the Georgina Transfer Station or the Elgin Mills or McCleary Court CECs. Some examples of acceptable scrap metal include appliances, metal sinks, bicycles unfit for reuse and metal furniture unfit for reuse. In 2013, York Region collected 1,178 tonnes of scrap metal for recycling.

### USED COOKING OIL DROP-OFF AND RECYCLING

Prior to 2011, cooking oil was managed through the Region's MHSW program. An increase in the volumes collected and the opportunity to recycle cooking oil, lead to the development of this program. Collection of used cooking oil for recycling was initiated in 2011 at the McCleary Court Community Environmental Centre and has been extended to a permanent program due to high resident satisfaction. The Region expanded this program to all HHW Depots and the Elgin Mills CEC in 2013. York Region has partnered with Sanimax, a company that collects used cooking oil and processes it into high quality materials such as pet food, soaps and biodiesel. In 2013, York Region collected 9,705 litres of used oil for recycling.

Used Cooking Oil Collected in Litres at York Region Drop Off Depots,  $2011\ to\ 2013$ 





## Residual Waste

#### Sustainable residual management through energy recovery

York Region manages its residual waste primarily through energy recovery, with landfill disposal remaining as the final and least preferred option. Residual waste refers to waste not captured by any of the Region's recycling programs.

In 2013, Dongara processed 54,641 tonnes of Region residual waste. Following the closure of Dongara in 2013, additional contract capacity was secured to replace 75,000 tonnes of residual waste previously managed by Dongara. New capacity includes energy-from-waste contracts with Covanta in Niagara Falls, New York and Algonquin Power in Brampton, Ontario.

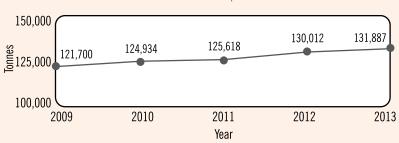
The Durham York Energy Centre, being built in Clarington, is scheduled to be operational in late 2014. Once in service, York Region will ship 30,000 tonnes of residual waste for energy recovery annually. Once this facility is operational, most of the Region's residual waste will be processed to recover energy.

For managing bulky materials, the Region has landfill contracts with the City of Toronto at their Green Lane Landfill in St. Thomas, Ontario and Niagara Waste Landfill in Thorold, Ontario.

This residual waste management plan represents a sustainable approach to management of York Region's residual

waste, deriving a beneficial use from York Region's residual waste while providing security and resiliency through a diverse roster of treatment

#### Residual Waste Generation including Blue Box Residue Historical Tonnes, 2009 to 2013



facilities and disposal options.

# Waste Promotion and Education

#### Continued promotion and outreach activities drive participation success in waste diversion programs

Objectives of York Region's Promotion and Education programs are:

- Promoting participation in waste diversion programs
- Encouraging correct participation in waste diversion programs
- Ensuring compliance with municipal and Regional waste management policies

The Region strives for regular communication among the nine municipal partners, recognizing the importance of consistent messaging to minimize confusion among residents and leverage economies of scale wherever possible.

The Region actively promotes its waste diversion programs through an extensive communication and education program. Local municipalities also provide extensive education and information through their own initiatives, including waste collection calendars that are produced and distributed annually to all York Region residents.

#### YORK REGION PARTICIPATED IN THE FOLLOWING COMMUNITY **OUTREACH INITIATIVES IN 2013:**

- Attended 51 special events to distribute waste information
- Conducted 26 presentations / Material Recovery Facility tours to students and community organizations, a total of approximately 1,700 attended
- Co-ordinated 24 Greener Home and Garden Seminars with 830 residents in attendance. Topics presented supported 4R messages, including seminars reinforcing SM4RT Living Plan, waste reduction and reuse initiatives
- Continued promotion of both the McCleary Court and Elgin Mills Community Environmental Centres (CECs) through new "Take Back your Space" campaign featuring print advertising, online advertising, social media, flags onsite, billboards and mobile signs throughout the year
- Published yard waste fee reminders for users of the Georgina Transfer Station through print advertising, brochures and signage

- Launched multi-year Blue Box Contamination campaign, in an effort to educate residents on the items that do not belong in the blue box, as well as other blue box best practices
- Continued promotion of certified compostable bags for use in the Green Bin Program through print ads, online advertising, brochure distribution and social media
- Contributed to a multi-municipality "Recycle More" plastics campaign across the Golden Horseshoe in partnership with Stewardship Ontario including billboards, print ads, radio ads and point-of-sale digital ads
- Promoted the new, used cooking oil recycling program at the Elgin Mills CEC, as well as all the other York Region public drop-off depots through distribution of a flyer at Richmond Hill municipal locations, print ads in Richmond Hill and Markham, and mobile signs.
- Co-ordinated production of two promotional videos for educational purposes, detailing the Green Bin and Blue Box programs

