

Solid Waste Management

Solid Waste Management Strategy



2015
5-Year Update
Current Status Report

Glossary of Acronyms

AMO	Association of Municipalities Ontario
CBCRA	Canadian Beverage Container Recycling Association
CIF	Continuous Improvement Fund
CNG	Compressed Natural Gas
CofA	Certificate of Approval
EAA	Environmental Assessment Act
ECA	Environmental Compliance Approval
EFW	Energy from Waste
EPA	Environmental Protection Act
EPR	Extended Producer Responsibility
HHW	Household Hazardous Waste
IC&I	Industrial, Commercial and Institutional
IFO	Industry Funding Organization
IPR	Individual Producer Responsibility
ISP	Industry Stewardship Plan
MHSW	Municipal Hazardous or Special Waste
MMF	Materials Management Facility
MEU	Mobile Education Unit
MOECC	Ministry of the Environment and Climate Change
MRF	Materials Recovery Facility
MWA	Municipal Waste Association
OES	Ontario Electronic Stewardship
OTS	Ontario Tire Stewardship
OPF	Organics Processing Facility
RFP	Request for Proposal
SO	Stewardship Ontario
SSO	Source-Separated Organics
SWANA	Solid Waste Association of North America
WDA	Waste Diversion Act
WDO	Waste Diversion Ontario
WEEE	Waste Electrical & Electronic Equipment

Strategy 5-Year Update Current Status Report

Table of Contents

Summary	1
Introduction	3
Policy	4
Current System	14
Collections	22
Facilities and Fleet	34
Curbside Diversion	38
Facilities Diversion	42
Transfer	52
Recycling Processing	58
Organics Processing	62
Garbage Disposal and Processing	68
Public Education Strategy	76
Current System Performance	82
Moving Forward	89
Map of Waste Management Facilities	91



Summary

This status report will provide the basis for a recommended 5-year review of the County's Solid Waste Management Strategy. The review will be a comprehensive, multi-staged process examining the current state of the County's solid waste management system and performance targets. It will re-establish waste diversion targets and long-term initiatives and examine potential options to achieve these goals and meet long-term processing and disposal requirements. For consideration during this update will be items deferred by County Council – further restrictions on curbside garbage and contingency garbage disposal.

The Strategy was approved by County Council in 2010. It provides a framework for both short- and long-term diversion and waste disposal programs for the next 20 years. It includes a series of initiatives relating to collections, facilities, and waste management planning.

Since 2010, more than 25 of the Strategy's major recommendations have been undertaken – most notably, transition to a single, County-wide curbside collection contract for garbage, organics, and recycling and uniform collection service for leaf and yard waste, bulky goods, and Christmas trees. The waste export policy was re-examined to allow for export of a portion of curbside garbage to preserve landfill capacity within the County. Development continues on two large infrastructure projects – the Organics Processing Facility and Materials Management Facility.

Since 2010, more than 25 of the Strategy's major recommendations have been undertaken.



The County continues to be a leader in diversion with respect to reuse and recycling initiatives at waste management facilities, with 19 innovative, on-site diversion programs now offered. Curbside blue box recycling is equally successful and capture rates of both paper fibres and containers are excellent. It is noted, however, there is decreasing capture of curbside source-separated organics (SSO) and the County's diversion rate has been relatively stagnant (55.7% in 2013) with no significant increase since the inception of the organics program in 2008.

The waste generation rate per capita has increased 18% since 2010 (averaging a 3.6% increase per year), failing to meet the Council-directed performance target of a minimum 1% annual decrease.



Introduction

A waste management system is complex, encompassing many areas such as environmental protection, government regulation, collection of waste, waste reduction and recycling, management of materials, public education, and performance monitoring. The County's Solid Waste Management Strategy (Strategy), provides a blueprint for our waste management system, a guide for current operations and long-term planning.

With a mandate to encourage and increase diversion, more than 25 of the Strategy's major recommendations have been undertaken since its inception, with County Council deferring some initiatives for consideration in 2015 through the periodic review of the Strategy.

An update was recommended to be completed at various times throughout the Strategy's planning period as detailed timelines could not realistically be developed beyond a 5-year period. This will be the first review of the County's Strategy, beginning with this report - an overview of the current state of the system and summary of how contracts, operations, and materials managed have evolved since 2010.





**SOLID WASTE
MANAGEMENT**

Policy



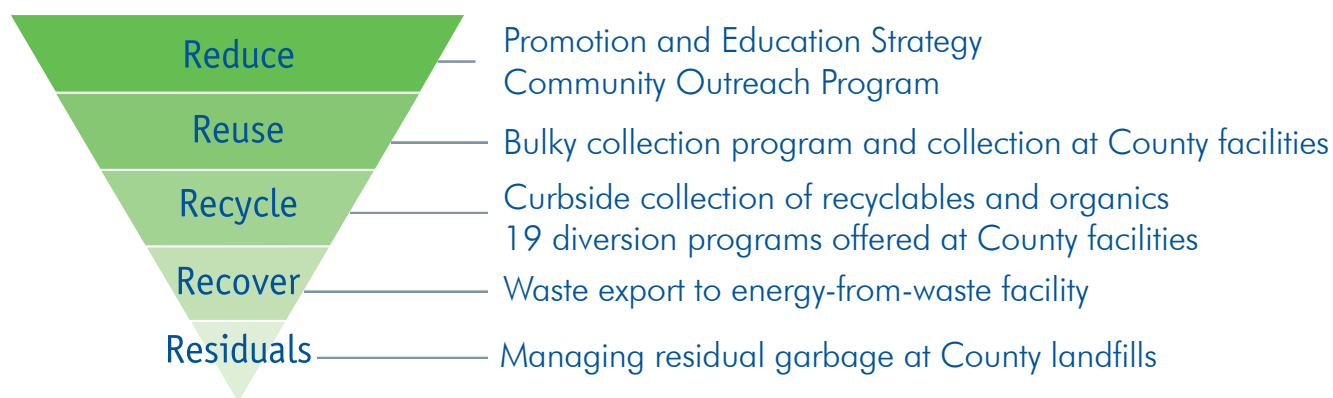
Policy

Through comprehensive public consultation and at the direction of County Council, the County's waste management vision statement was established. The vision emphasizes a commitment to diversion and reducing the demand for disposal of residual waste. In addition, it outlines a mandate to ensure secure and cost-effective long-term processing or disposal capacity.

Outlined within the Strategy are a series of adopted principles which will guide decision-making and waste management operations. These include the province's 'Policy Statement on Waste Management Planning' (June 2007), sustainability, the waste management hierarchy, and principles of zero waste. They provide context and direction for current operations within each area – collections, facilities, and long-term waste management planning.

Waste Management Hierarchy

The waste management hierarchy is considered the accepted guide for prioritizing waste management practices. It ranks the most environmentally-sound strategies for managing municipal solid waste, placing emphasis on reducing, reusing, and recycling. Once considered only the 3Rs – reduce, reuse, and recycle – it now places value on the recovery of energy above residual disposal.



Provincial Legislation

For municipalities,
it is provincial
legislation that
directly impacts waste
management
operations.



Although waste is controlled at all levels of government – federal, provincial, and municipal – it is primarily regulated at the provincial level. In Ontario, waste management is governed by three provincial Acts – the Environmental Protection Act (EPA), the Environmental Assessment Act (EAA), and the Waste Diversion Act (WDA). These Acts, along with the Regulations under them, establish and detail the authority and responsibility of the Ministry of the Environment and Climate Change (MOECC) and the legal requirements for proponents.

Environmental Protection Act (EPA)

The role of the EPA is to provide for the protection and conservation of the natural environment (air, land, and water). Within the EPA, there are specific regulations that mandate how all waste generators in Ontario must manage their waste. These regulations pertain to various aspects of a waste management system – operation of landfills and transfer stations, leaf and yard waste composting, and management of blue box recycling, for example. Key regulations include Ontario Regulation (O. Reg.) 347 – General – Waste Management and O. Reg. 101/94 – Recycling and Composting of Municipal Waste.

Under O. Reg. 347, operations at County waste management facilities are set out in Environmental Compliance Approvals (ECAs), specific to each site. An ECA outlines rules of operation for the storage, transportation, or disposal of waste. They are intended to protect the natural environment and are legally enforceable.

Policy

Environmental Assessment Act (EAA)

The Ontario EAA is a provincial statute that sets out a planning and decision-making process to evaluate the potential environmental effects of a proposed undertaking. Key components of an environmental assessment include consultation with government agencies and the public, consideration and evaluation of all reasonable alternatives, and the mitigation and management of potential negative environmental effects.

In March of 2007, O. Reg. 101/07 – Waste Management Projects Regulation, was enacted under the EAA. The purpose of this regulation was to bring greater clarity to what waste projects are designated as an undertaking under the EAA. Also, it establishes new environmental assessment requirements for waste projects consistent with the potential significance of such projects.

Waste Diversion Act (WDA)

The role of the WDA is to promote the reduction, reuse, and recycling of waste and to facilitate the development, implementation, and operation of waste diversion programs. This Act established Waste Diversion Ontario (WDO), a non-crown agency, as the primary mechanism for achieving the Act's purpose.

In June 2013, the proposed Waste Reduction Act (Bill 91) was introduced into the provincial legislature. This bill was intended to replace the existing WDA and establish individual producer responsibility (IPR) requirements.

The role of the
Waste
Diversion Act
is to facilitate the
development,
implementation, and
operation of waste
diversion programs.



Extended Producer Responsibility

Extended Producer Responsibility (EPR) legislation is intended to make producers responsible for the end-of-life management of designated materials, ultimately shifting the cost of diversion away from municipalities and consumers. This potential provincial legislation would further efforts to prevent and minimize waste beyond the jurisdiction of local municipalities.

It was recommended in the Strategy that the County, through organizations such as Association of Municipalities Ontario (AMO), review and comment on proposed initiatives by the province for increased EPR. It was anticipated that changes to the WDA would be forthcoming and the County would support additional EPR legislation.

Waste Reduction Act (Bill 91)

The Waste Reduction Act (Bill 91) was intended to stimulate both reduction and recycling of waste and outline IPR for the end-of-life management of certain designated materials. It was also intended to shift the cost of diversion away from the municipal tax base to producers.

The County supported Bill 91 by attending a MOECC information and feedback session and hosting a special municipal session by the Municipal Waste Association (MWA) and the MOECC. As directed by County Council, comment and support for the draft documents was submitted through the Environmental Bill of Rights registry.

This legislation effectively died when the provincial election was set for June 12, 2014. It is anticipated, however, that new legislation will be introduced in 2015.

Policy

Existing Provincial Stewardship Programs

In Ontario, producer responsibility in its current form was established by the WDA. The Act empowers WDO to develop, implement, and monitor the effectiveness of various waste diversion programs in the province. Brand owners and first importers of products that become designated as wastes, namely Stewards, can join together to create an Industry Funding Organization (IFO), which determines the funding requirements to be paid to program operators, such as municipalities. In order to offset those costs, Stewards are entitled to transfer that fee onto the consumer by raising the cost of the product.

Current program plans – Blue Box Program, Municipal Hazardous or Special Waste Program (Orange Drop), Used Paints and Coatings, Waste Electrical and Electronic Equipment Program, and Used Tires Program – vary considerably in terms of funding levels, reporting and operational requirements. The plans are complex and continue to change.



Blue Box Program

Blue box recycling programs operated by Ontario municipalities as a requirement of O. Reg. 101/94, are partially funded under the WDA. Stewardship Ontario (SO) is the IFO for the Blue Box Program.

Qualifying program costs include recyclables collection, transfer, haulage, and processing. Funding is apportioned based on results of the annual Municipal Datacall completed by municipalities. Through a complex funding formula, municipalities are eligible to receive up to 50% of overall annual net system costs. A portion of the overall funding available, however, is not paid out directly but allocated to the Continuous Improvement Fund (CIF). Further, the newspaper industry provides in-kind advertising space rather than a monetary contribution to the overall funding. The percentages allocated to each municipality are further adjusted based on their performance within their municipal group and the municipality's responses to a series of best practice questions.



Blue Box Program funding is apportioned based on results of the annual Municipal Datacall.

Policy

Municipal Hazardous or Special Waste Program (Orange Drop)

Stewardship Ontario is also responsible for implementing and managing the Municipal Hazardous or Special Waste (MHSW) program. MHSW materials are currently broken out into three phases as follows:

Phase 1 materials (for which the County receives 100% funding of post-collection costs)

- paints and coatings, solvents, oil filters, oil containers (30 litres or less), single-use batteries, antifreeze, pressurized containers, lawn fertilizers and pesticides

Phase 2 materials

- rechargeable batteries, portable fire extinguishers, florescent light bulbs and tubes, mercury containing devices, pharmaceuticals, sharps and syringes

Phase 3 materials

- flammable, corrosive, toxic, reactive, caustic or oxidizing materials, leachate toxins, and peroxides



The MHSW program has undergone several changes since the County first entered into a shared responsibility agreement in 2008; the most significant change being the elimination of funding for Phase 2 materials, which came into effect in October 2014. The County continues to fully fund the collection of Phase 2 and Phase 3 materials in order to prevent these materials from ending up in landfill sites.

In late 2014, the WDO approved the Product Care Association (Product Care) Industry Stewardship Plan (ISP) for paint and coatings. Going forward, Product Care will assume the management of paint, one of the nine MHSW materials currently managed by SO.

Waste Electrical and Electronic Equipment Program

Ontario Electronic Stewardship (OES) is the IFO that develops, implements, and manages the Waste Electrical and Electronic Equipment (WEEE) Program in the province. Eligible materials under this program include computers, printers/fax machines, televisions, telephones, cameras, game consoles, and audio visual equipment. The County undertook a procurement process in 2014, securing an OES-approved processor that provides funding to the County directly for the collection of eligible materials.

Ontario Tire Stewardship Program

Ontario Tire Stewardship (OTS) is responsible for the collection of fees from Stewards and monitoring the effectiveness and efficiency of the program, which includes the collection of:

- on-road passenger/light truck tires
- motorcycle, ATV, and medium truck tires
- off-road tires including golf cart, forklift, bobcat/skid steer, free-rolling farm, and agricultural drive tires
- all sizes of off-road tires and solid industrial tires

The County operates under the program plan as both a collector and as a transporter, receiving funding for both activities.



Policy

Mandatory Diversion Bylaw

The Strategy recommended the County investigate amending its current waste bylaw to require system users to source-separate recyclable and organic materials from the waste stream. While a mandatory diversion bylaw would have some potential benefits, a high degree of enforcement would be necessary.

In June 2013, County Council deferred implementing any further curbside garbage restrictions, including a mandatory diversion bylaw, until the next Strategy review in 2015.





Current System



Managed Tonnages and Direct Diversion Rates - 2010 to 2014

Material	2010	2011	2012	2013	2014
Curbside Garbage	38,395	39,285	39,035	38,470	38,575
Curbside Diversion Tonnes Total	39,780	38,420	41,190	40,980	41,840
Total Curbside Tonnes Collected	78,175	77,705	80,225	79,450	80,415
Direct Curbside Diversion Rate	51%	49%	51%	52%	52%
Facility Garbage	15,405	14,760	19,475	18,100	16,485
Facilities Diversion Tonnes Total	32,590	25,260	29,800	30,500	36,020
Total Facilities Tonnes Collected	47,995	40,020	49,275	48,600	52,505
Direct Facilities Diversion Rate	68%	63%	60%	63%	69%

Note:

All material categories are inclusive of residuals (where applicable), residual percentages are reported and applied for the WDO Datacall process.



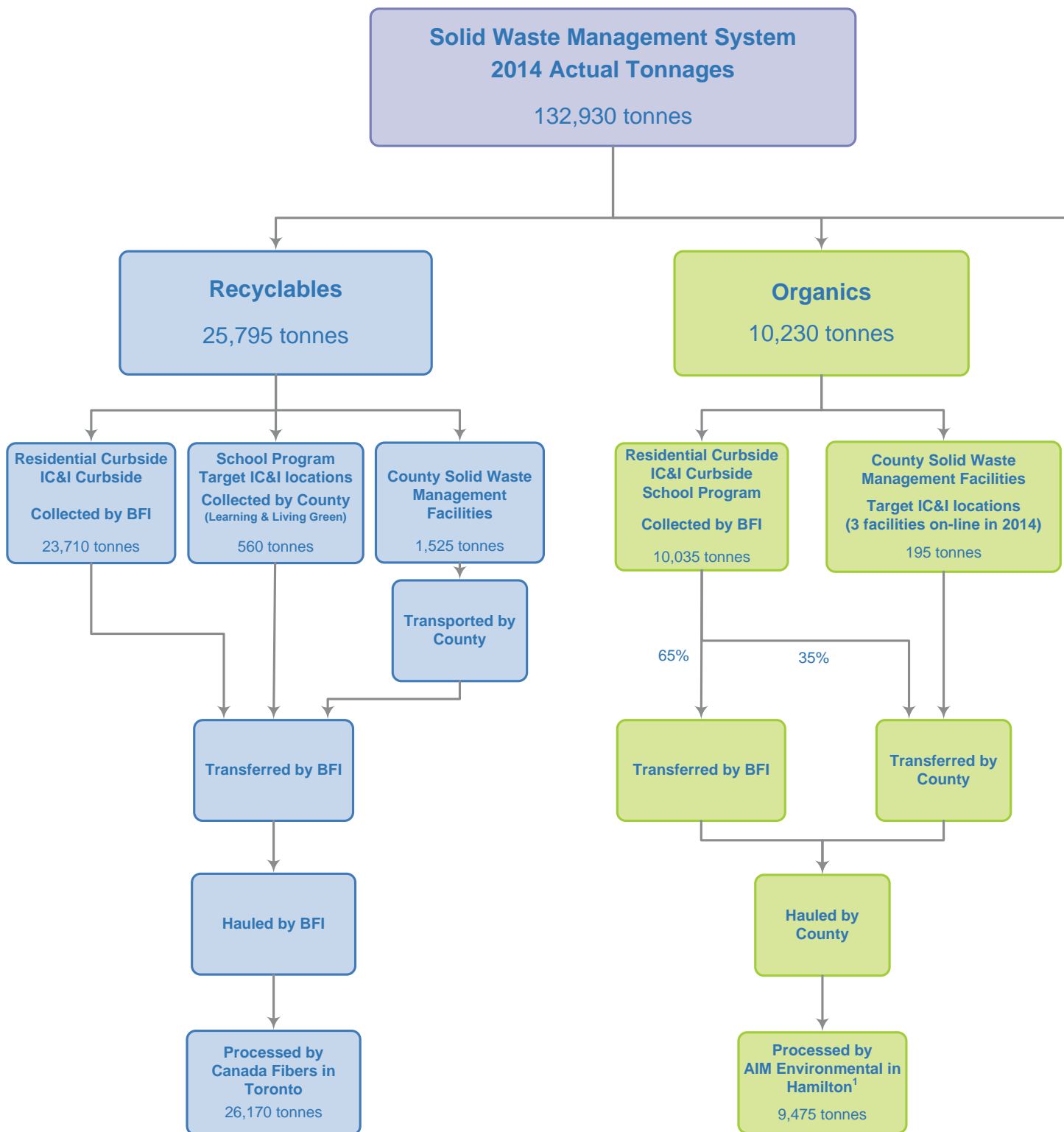
The County of Simcoe offers a wide range of waste management services within an integrated system, serving approximately 293,500 residents in 137,500 serviced residential and commercial units.

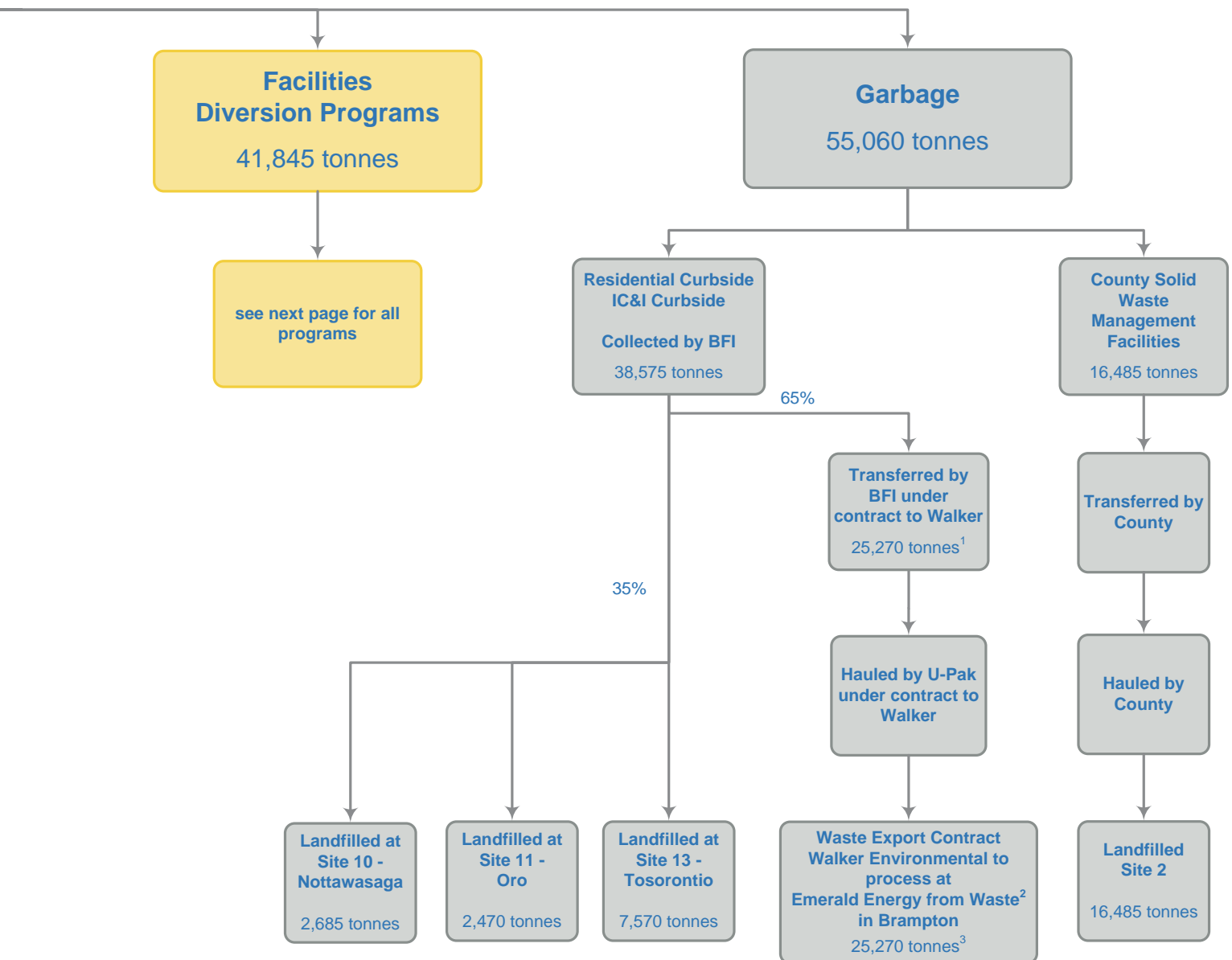
In addition, there are currently eight waste receiving facilities (including four active landfill sites), four permanent household hazardous waste (HHW) depots, and five composting facilities for leaf and yard waste. The County is also responsible for the management of 32 closed landfill sites.

Diverted material and garbage are processed or disposed at various facilities both within and outside of the County, facilitated by County and contracted transfer and haulage operations.



2014 Solid Waste Management System

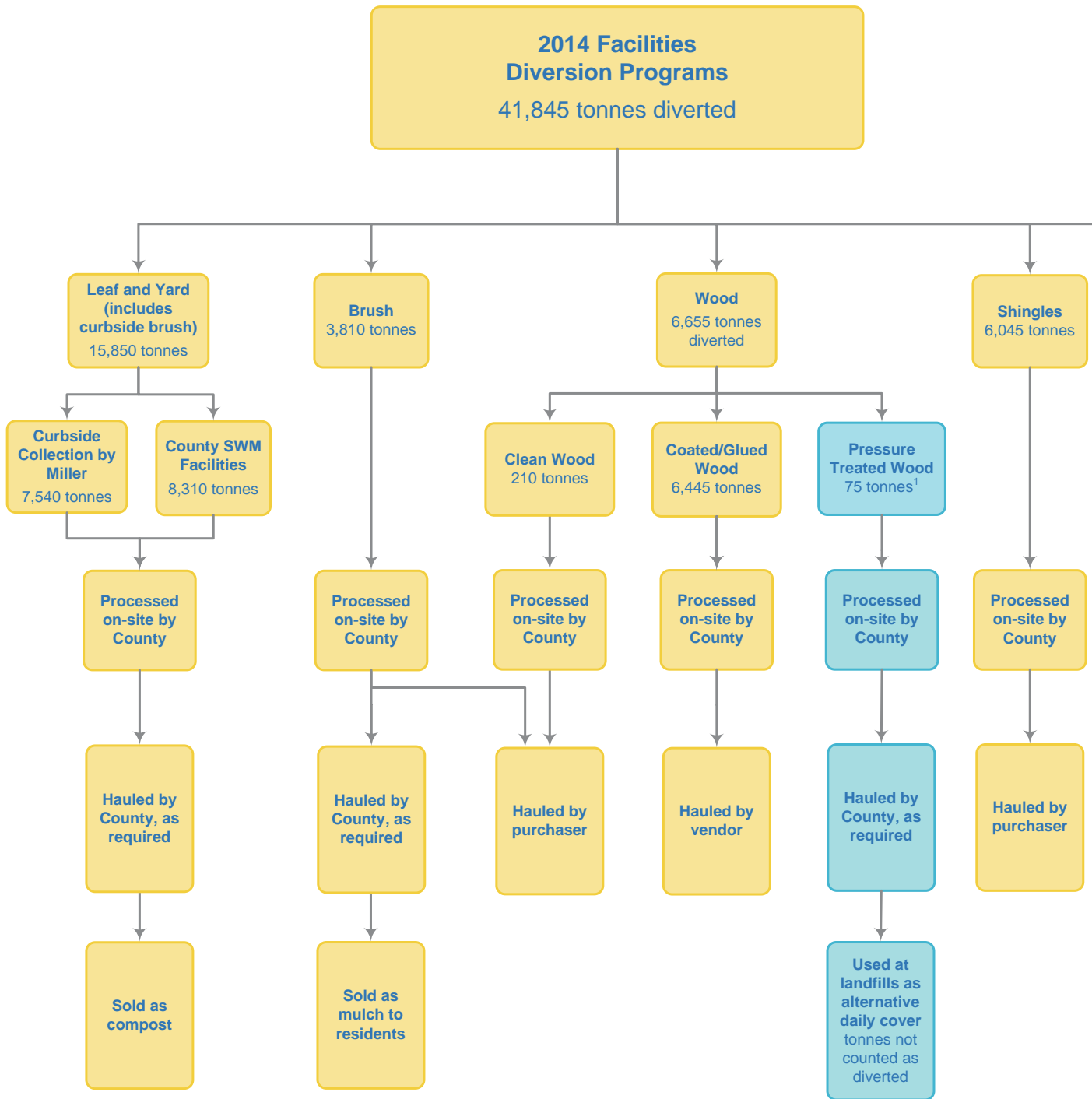




Notes:

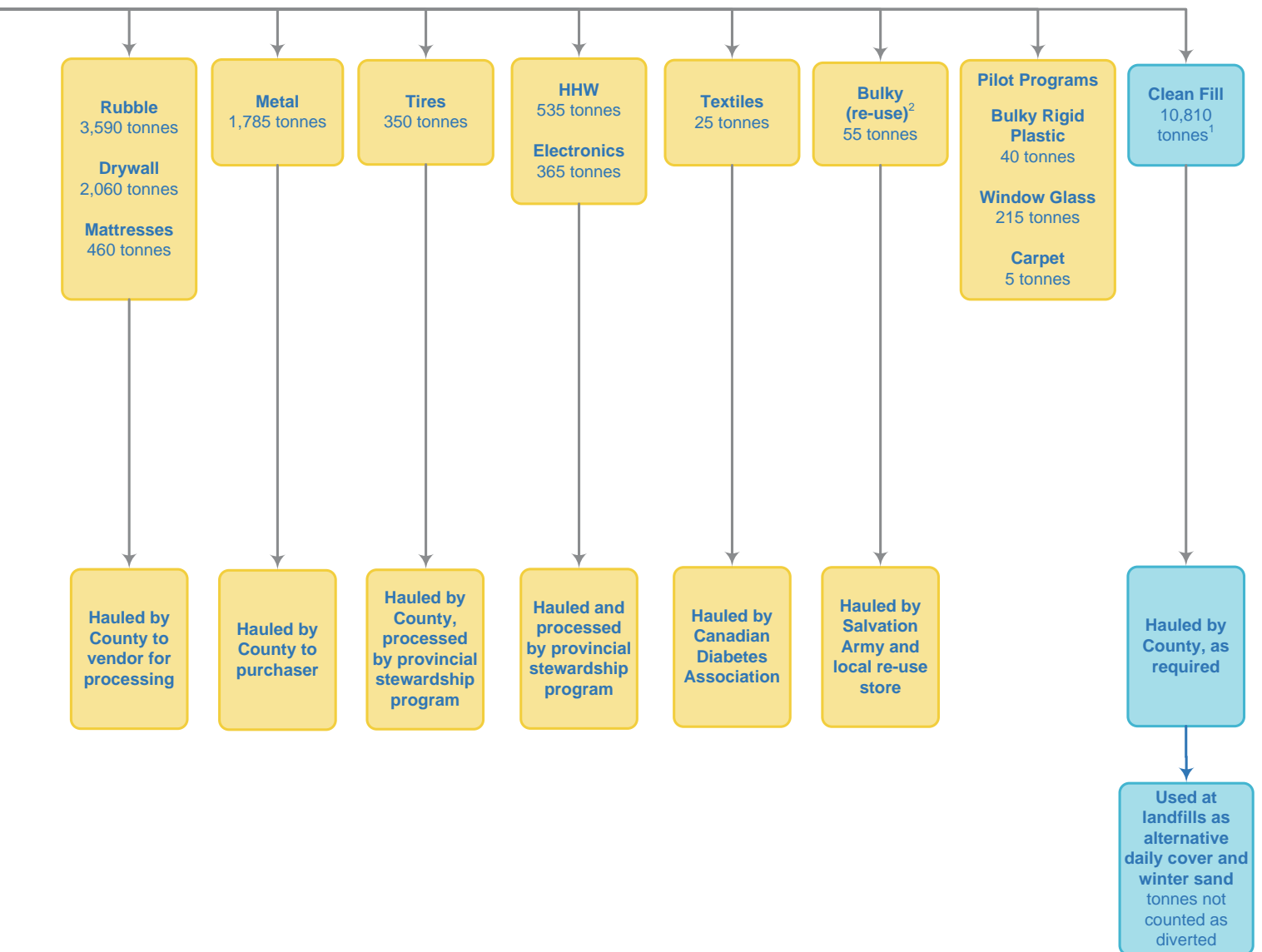
1. Organics and garbage tonnages impacted by liquid loss at transfer.
2. Algonquin Power was purchased by U-PAK and renamed Emerald Energy from Waste Inc. (EEFW) in 2014.
3. In 2014, 8,589 tonnes of garbage was exported to landfill due to EEFW shutdown.

2014 Solid Waste Management System



Notes:

1. Not counted as diversion since utilized on a landfill as alternative daily cover.
2. Includes re-use materials from bulky call-in service and re-use days.







Collections



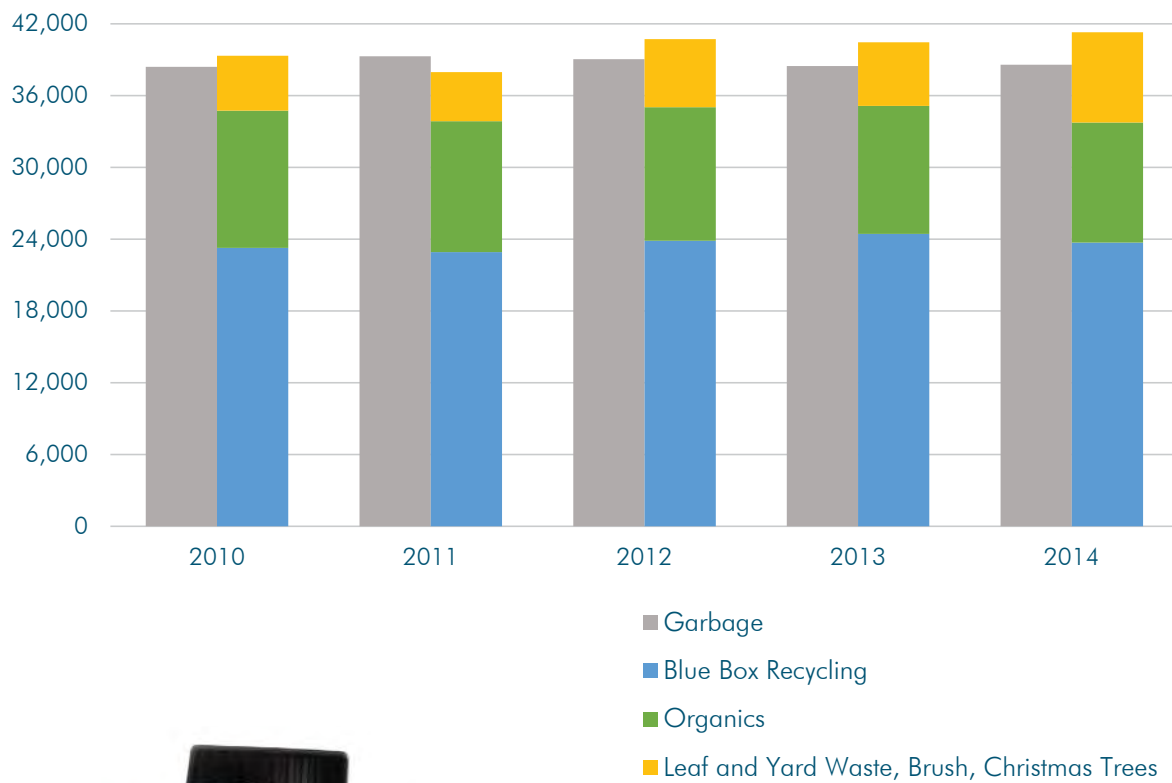
Collections

Prior to 2013, waste collection routes and boundaries remained essentially the same as when the County assumed responsibility for waste management services in 1990. There were five curbside collection contracts, established in 2005/2006, which serviced the County in four geographical zones – North Contract, East Contract, South Contract, and West Contract. In regards to special collections, there existed a lack of uniformity, as programs for leaf and yard waste, bulky items, and Christmas tree collection varied significantly between municipalities.

The Strategy noted changing the structure of existing collection contracts could improve collection efficiencies and lower service costs. This was to be considered with the next contracts, set to begin in 2012/2013. As directed by County Council, on April 1, 2013, a single County-wide contract for the regular weekly curbside collection of garbage, organics, and recycling began. In addition, a new contract for special collections (leaf and yard waste, Christmas trees, and bulky goods) began; bringing uniform collection and new efficiencies to the waste management system.



Curbside Collected Tonnages - 2010 to 2014



Collections

2013 Collection Contract – Waste, Organics, and Recycling

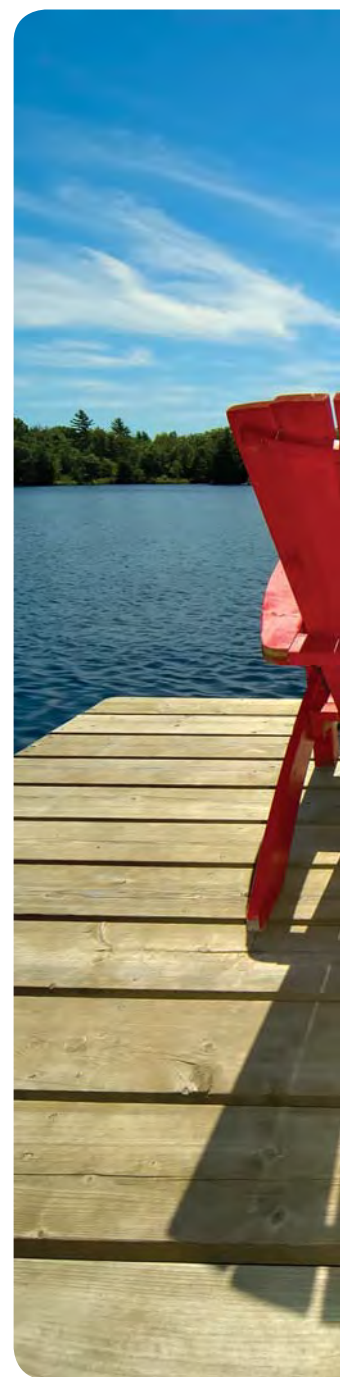
Progressive Waste Solutions (Progressive) (formerly BFI Canada Inc.) began collecting curbside garbage, two-stream recycling, and organics under a new 7-year County-wide contract in 2013. Overall, this contract has brought consistency and positive response from residents. Worth \$10.6 million annually, this represents a significant cost savings of \$2.6 million annually compared with previous collection costs, while at the same time providing service improvements and expanding service to include approximately 2,700 more units. Additional environmental benefits have been realized from the use of compressed natural gas (CNG) service vehicles.

Expansion of Services – IC&I Sector

Although the County has no legislated authority to provide service to Industrial, Commercial and Institutional (IC&I) sector locations, the Strategy recommended extending collection services, where reasonable, to this sector in order to provide uniform service levels County-wide.

Council had previously directed the County generally maintain the same service level provided by the local municipality prior to the County assuming responsibility for waste management. The result was vast differences in the level of service throughout the County. In turn, inconsistent service levels brought confusion and frustration. Bag limits were difficult to enforce without clear ownership of waste and lack of diversion was apparent.

Following the Strategy's recommendation, but with consideration of stringent bag limits and mandatory participation in diversion programs, Council directed all IC&I units be eligible for garbage collection services commencing with the start of the new collection contract in 2013. It is estimated there were more than 5,200 IC&I units eligible for County service in 2014.





Multi-Residential Collection

In 2011, County Council direction was to consider multi-residential locations without ownership of waste as IC&I locations. Service limits for the new waste collection contract were drawn up accordingly. This policy decision, however, was amended in early 2013, allowing a subsidy program for private waste collection and common collection points at multi-residential complexes even without ownership of waste, provided recycling programs are in place.

Collection in Seasonal Areas

The Strategy recommended the County move to a uniform level of service with the collection of garbage, recycling, and organics being provided, where reasonable, to seasonal households.

Under the new collection contract, Council direction on collection from seasonal areas is essentially a preference hierarchy. The greatest preference is for curbside collection where safe access and ownership of waste are present. If roads are not accessible or if an ownership group or cottage association does not wish to provide access, a provisional common collection point may be utilized as an alternative. If the residents do not wish to have a common collection point or if the provisions of the common collection point are not adhered to, landfill passes for disposal of weekly waste at County facilities are provided.

In 2014, there were 49 common collection points throughout the County and, in addition, 448 annual landfill passes were distributed.

Collections

Special Collections

The Strategy outlined various recommendations in regards to special collections; most notably that the County standardize service in regards to leaf and yard waste, Christmas trees, and bulky items. In 2013, the collection contract for these materials was separated from the County's collection contract for garbage, organics, and recycling. This has increased flexibility and service levels and the ability to use non-compacting trucks for the collection of bulky items, enabling the potential diversion of this material as reuse.

Curbside Leaf and Yard Waste and Brush

Prior to 2013, the collection of leaf and yard waste and brush varied widely in terms of both the number of collections provided (none in some areas to a high of five annually) and who provided the service. The County provided the majority of service but municipal resources were utilized in some areas under agreement with the County. This inconsistent service brought confusion and difficulties with standardized promotion and education.

Council directed collection service for yard waste be standardized County-wide, and services be increased to nine collections annually (four in spring and five in fall) and expanded to include brush, benefitting the County's composting operations. This service increase has been well-received and successful in promoting diversion. In 2014, residents diverted more than 7,300 tonnes of curbside leaf and yard waste and brush throughout the County, a significant increase of approximately 40% over 2013.



Curbside Christmas Trees

As with other special collection materials, there was no uniform County-wide collection of Christmas trees prior to 2013. Two service events for Christmas tree collection are now provided to all residents in January. This increased service level has been well received by residents, providing flexibility and convenience.

The new bulky collection program allows the contractor to sort the collected items and determine if they can be reused or recycled.



Bulky Collection Service

Beginning in June 2013, a County-wide, call-in bulky collection service was implemented on a fee-for-service basis. From June through September, residents may schedule an appointment to have up to five bulky items picked up at a cost of \$35 per scheduled pick-up.

Previously, collected material was loaded into a compacting garbage truck and the material landfilled as garbage. This new program, however, allows the contractor to sort the collected items and determine if they can be reused or recycled. In 2014, there were a total of 1,960 collection events with 42% of the collected tonnage being diverted through existing County programs, including reuse. The County will continue to partner with reuse organizations such as the Salvation Army to further develop this program.



Collections

IC&I Diversion Programs

Municipal Buildings

Expanding collection service and encouraging diversion of recyclables and organics to target IC&I locations such as municipal offices, long-term care facilities, and schools was outlined within the Strategy.

This program has since developed from providing diversion programs at the County Administration Centre to other County facilities, such as the Museum and to many of the member municipal offices. The County has also been working to increase diversion at its long-term care homes; with Sunset Manor Home in Collingwood beginning organics collection in 2013 and Trillium Manor in Orillia and Simcoe Manor in Beeton coming online in 2014. Approximately 90 tonnes of source-separated organics were diverted through this innovative, successful partnership in 2014.



School Program - Learning & Living Green

In 2010, the Learning & Living Green program was implemented in more than 100 elementary schools across the County. In partnership with five local school boards, the County provides collection of recyclables and organics, as well as support to individual schools, faculty, and 'green teams'. The goal of the program is to create consistency between diversion programs at school and at home. Aligning with provincial curriculum on sustainability, important lessons on minimizing garbage and diverting material such as food waste are brought to the classroom in a tangible way.

Since its inception, the program has diverted more than 2,500 tonnes of recyclables and organics from local schools. Pilots are now underway to determine if the organics program can be expanded to secondary schools within the County.

This program received the Minister's Award of Environmental Excellence in 2013 for its capacity to foster knowledge and behaviour change through innovation, ultimately leading to environmental benefits.



Collections

Public and Open Space Pilot

The management of public and open space recycling is largely a local municipal matter and implementing these programs requires co-operative efforts between local municipalities and the County. As such, a pilot program was initiated in 2012 for public space recycling in partnership with the Town of Midland. The goal was to assess capture rates, determine if reduced contamination could be achieved, and to determine the feasibility of implementing such programs throughout the County. Receptacles for both food and beverage containers and paper fibres were placed in locations such as parks, the downtown core, and at the recreation centre.

Contamination of diversion materials is particularly high at public and open space locations due to the lack of ownership of waste. This results in material being collected as recyclable but the materials must ultimately be disposed of due to significant contamination. This has been observed at the piloted locations, with contamination levels continuing to be an issue. There has, however, been some improvement as the pilot progresses – with decreasing contamination and increasing capture rates, by approximately 60% and 35%, respectively.

The pilot will continue into 2015, with the County monitoring the receptacles, not only for capture and contamination, but condition of the bins (graffiti, damage, etc.).



The County initiated a pilot program in 2012 for public space recycling in partnership with the Town of Midland.



Special Event Recycling Program

In 2012, the County re-launched its special event recycling pilot program by purchasing specialized sorting stations and developing targeted signage and an event recycling training manual to assist event co-ordinators in maximizing diversion results. The results have been positive, with recyclable materials generated at the events generally having low contamination. The program, however, continues to be underutilized with only 15 events participating since 2012.

Feedback from event organizers is the program would be more desirable if the County delivered and set up the receptacles and removed and disposed of the materials; essentially provide full waste management services for special events at no cost.

In 2013, the Canadian Beverage Container Recycling Association (CBCRA) submitted an ISP to WDO for provision of public space recycling bins to locations such as parks, post-secondary campuses, municipalities, as well as a special event program. If approved, the CBCRA program may fulfill the intent of the County's pilots and avoid or minimize municipal spending for the capital cost of receptacles. The County is currently awaiting a decision by WDO before deciding how to proceed.



Collections

Curbside Battery Collection

The County's first curbside collection of single-use batteries occurred in November 2014 with much success. The program, in partnership with Progressive, resulted in the collection of 17.8 tonnes or approximately 450,000 acceptable batteries. This exceeded the results of other Ontario municipalities on a per capita basis, with collected tonnages being almost four times that of what the County collects annually at its HHW facilities.

The benefits of this curbside diversion program include increased convenience for residents, improved/value-added service level perception, increased diversion of batteries, and a reduction in the environmental impact from batteries that might otherwise have been disposed of.



Waste Levy

Formerly, the waste levy was distributed to each municipality to recover waste collection costs, net of revenues, with each local municipality determining how it recovered the waste levy from ratepayers. This resulted in some significant disparity between the ways the funds were recovered, causing significant confusion. The Strategy noted there was no consistent method used to recover the waste levy from taxpayers. It outlined the simplest approach would be to calculate the waste levy based on the entire solid waste net system cost as a uniform method of calculating the levy across the County.

At the request of County Council, alternative methods were assessed and options presented for Council consideration in 2012. This resulted in the implementation of the property tax assessment method, whereby the cost of waste collection services were included in the County general levy commencing in 2013.



Facilities and Fleet



Facilities and Fleet

The County currently operates eight waste receiving facilities (four with active landfills), five leaf and yard composting facilities, and four HHW depots, each regulated under individual ECAs. These facilities are operated with continued commitment to environmental stewardship and vision to be leaders in diversion performance.

For reference, a map of waste receiving facilities is provided on page 91.

Environmental Monitoring and Site Remediation

When the County assumed responsibility for waste management in 1990, it inherited a substantial number of landfill and waste disposal facilities, many of which were poorly maintained and operated. There was indiscriminate disposal of waste, little or no monitoring, no protection of ground or surface water, open burning, and little site supervision. Although this is now considered poor waste management, this was once normal practice. Unusable land, such as a swamp or an old gravel pit, would be filled with garbage. To date, the County has since spent \$56 million on environmental programs and site remediation, which includes such upgrades as the installation of landfill liners and leachate collection systems. The County is responsible for 19 environmental monitoring programs.

The MOECC requires submission of annual reports for the County's active landfill sites, as well as many of the special operations and closed facilities. The requirements of each report are different but are meant to characterize the issues of each site and make recommendations to avoid potential negative impacts from the facilities.



The Creemore remediation project creates a framework for future landfill remediation projects.



A summary of the environmental monitoring program is provided annually to County Council and, in addition, consultant reports are available for viewing.

Site 25 – Creemore Remediation Project

In 2011, the County initiated a landfill mining and remediation work program at closed Site 25 – Creemore. The objective of this program was to remediate the site by systematically removing buried waste materials from the former landfill site as support for a potential future change to the land use designation of the property. This will ultimately eliminate costly monitoring and reporting requirements. The works were completed in 2012 and in total, more than 45,000 m³ (49,000 yd³) of waste and fill soil were removed and replaced with equal amounts of clean backfill. Two years of post clean-up monitoring are now complete and a final report to the MOECC will be submitted in 2015.

This initiative serves as a pilot project for the County and surrounding regions by creating a framework for landfill remediation via waste removal and declassification. With the success of this project and a commitment to environmental stewardship, further remedial efforts at other small closed landfill sites in the County is anticipated.

This work was awarded a prestigious Solid Waste Association of North America (SWANA) Bronze Award in the Landfill Remediation category, recognizing excellence in remedial action taken to address environmental protection and regulatory concerns.



Facilities and Fleet

Solid Waste Management Fleet (on-road)

Divertible material collected at waste management facilities is transferred and hauled between sites and to processing facilities located outside of the County. The Solid Waste Management fleet has been steadily growing in order to meet the increasing demands of moving these materials.

By the end of 2015, the fleet will consist of:

- Six roll-off trucks and four roll-off trailers
- Three highway tractors with six walking floor trailers
- One float and three van trailers
- the Learning & Living Green front-end truck

Added in 2013, the walking floor trailers have proven beneficial by increasing efficiencies – reducing haul times and moving larger quantities of material in one trip.

In 2014, this fleet transferred and hauled more than **3,100** loads of material.





Curbside Diversion



Curbside Diversion

The Strategy noted residents were already provided the tools to divert waste at the curb – programs for both blue box recycling and source-separated organics had already been established. However, in order to meet long-term diversion targets, further measures to encourage participation in these programs would be necessary.

Restrictions on Curbside Garbage Set-Outs

Restrictions on curbside garbage set-outs were outlined as important measures to increase diversion and reduce waste generation. The Strategy outlined a series of initiatives that would coincide with procurement of the County's new collection contract.

It recommended that within the five-year planning period, increased restrictions be considered in the following sequence:

- transition to a full user-pay program in Years 2 and 3 – requiring residents to purchase a tag or special bag for all garbage set out at the curb;
- an increase in the cost of additional bag tags so as to allow residents flexibility for additional set-outs while discouraging their use on a regular basis;
- a clear garbage bag program considered either as an alternative to the above or as contingency in Year 5, if curbside diversion programs were not as successful as anticipated; and
- bi-weekly garbage collection to begin in Year 5, with recycling container capacity increased and a potential expansion of the organics program.

Council approved an increase in the cost of bag tags for additional garbage from \$2.00 to \$3.00 per tag.

Current Direction

In February 2011, Council approved the County's transition to a full user-pay system, which was set to be initiated with the new collection contract to be procured in late 2011. It was anticipated this system would provide the highest potential for reduced waste generation, increased utilization of diversion programs, and address many of the concerns with seasonal and IC&I units. Additionally, it was considered the most equitable option for all serviced units and provided the potential benefit of reduction.

The direction to proceed with full user-pay was subsequently reconsidered by County Council. Final direction, provided in September 2011, was to procure the next waste collection contract using the existing service level – provision of weekly curbside pick-up with a one-bag limit. Council approved an increase in the cost of bag tags for additional garbage from \$2 to \$3 per tag.

At a Special Session of Council on June 27, 2013, County Council met to review the Strategy, the current waste management system and performance, and to discuss strategic direction with respect to waste management. Council committed to maintain the current direction of the curbside collection program without implementing any changes prior to the 2015 Strategy review, deferring further restrictions on curbside garbage until that time.



Curbside Diversion

Increased Recycling Container Capacity

The Strategy recommended an analysis of blue box data be undertaken in 2011 to assess the amount of container capacity being utilized, as studies have indicated overflowing recyclables often enter the waste stream.



A County participation study was completed in 2012, which indicated recycling containers were on average at or very near capacity when placed out for collection. In spring of 2012, with partial funding from CIF, new blue boxes, approximately 30% larger, were distributed to all serviced units throughout the County. These larger blue boxes provided additional capacity for new plastic materials to be added to the blue box program, including clamshell packaging, plant pots and trays, small plastic yogurt and fruit cup containers, and coffee cup lids.

The addition of these light-weight plastic materials was significant as the total tonnes of blue box materials collected curbside following the launch of the program increased by 4% from the same period in 2011. Audit data indicates approximately 1,700 tonnes of these materials have been diverted since 2012.





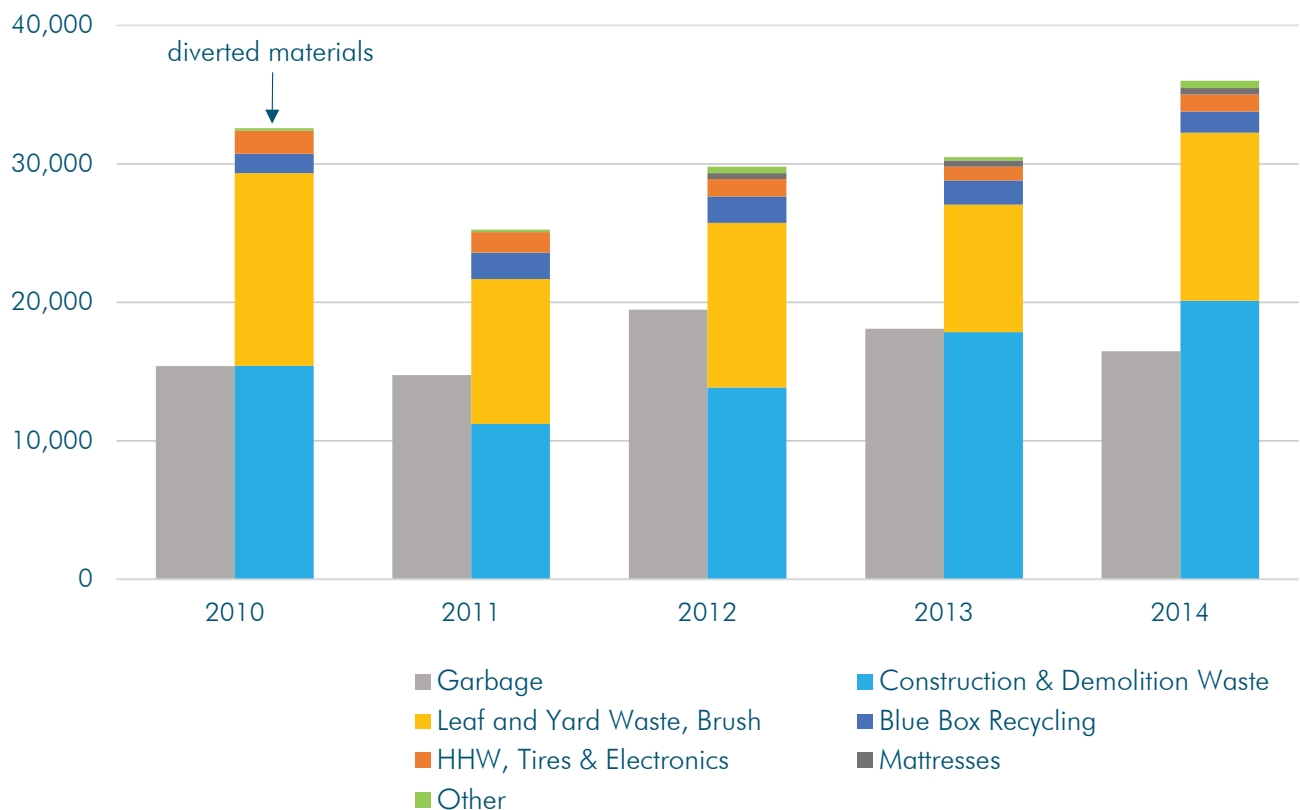
Facilities Diversion



Facilities Diversion

With respect to diversion initiatives at waste management facilities, the County continues to be a leader in the province. There are currently 19 diversion programs offered at County facilities, with one under development. Since 2010, these programs have resulted in more than 150,000 tonnes of material being diverted from disposal - extending the life of County landfills. The direct diversion rate at County facilities reached 68% in 2014 for drop off (non-curbside) materials.

Facilities Collected Tonnages - 2010 to 2014
Drop-off (non-curbside) Materials



Enhancements to Existing Facilities

The Strategy noted the County's drop-off facilities were very well operated, already managing a broad range of waste materials for recycling, and set-up in manner that encouraged diversion. It recommended further diversion initiatives be explored, including greater screening of bulky materials at the sites to remove any divertible materials, the addition of textiles to the County's diversion program, and increased staffing to ensure effective public use of the depots during busy periods.

Since 2010, facilities diversion continues to develop beyond what was outlined in the Strategy – from increased diligence at the sites to separate divertible material and the roll-out of textile diversion in 2011, to innovative processing programs and the addition of diversion programs for mattresses and box springs, rubble, bulky plastics, and window glass and pilot programs for carpet.



Facilities Diversion

Improving Diversion Areas

As more materials are separated and diverted at County facilities, site improvements have been necessary to facilitate these programs and improve customer service. Additional scales were installed at Site 2 – Collingwood, Site 10 – Nottawasaga, Site 24 – North Simcoe, and Site 16 – Bradford West Gwillimbury, substantially reducing wait times and improving traffic flow. Improved site layouts at Site 2 – Collingwood, Site 11 – Oro, and Site 24 – North Simcoe have created more efficient drop-off areas and resulted in positive response from residents. These modifications have become crucial to improving efficiency and decreasing wait times, ultimately encouraging greater participation in drop-off diversion programs.

Diversion of Wood and Brush

The County's diversion program for wood continues to evolve as market conditions fluctuate. In 2012, the County began separating clean, dimensional lumber from coated or glued wood for diversion to different markets. Although both materials are ground on-site as wood chips, the County now receives revenue for the 'clean' material. Processing areas at many sites have been paved to further facilitate this diversion program – improving recovery rates for processed materials and improving transfer operations and the marketability of the ground products.

In 2013, the County began separating pressure-treated wood from drop-off garbage. This material is now transferred to Site 11 – Oro and Site 10 – Nottawasaga where it is ground with the addition of water to minimize dust, and used as alternative daily cover.



Processing of Asphalt Shingles

The County began diverting shingles from landfill in 2010, sending them for processing to London. Although the program was successful, it was costly and involved hauling heavy shingles great distances. In 2011, the County received approval from the MOECC to process shingles at Site 10 – Nottawasaga. The process, which has evolved with experience, utilizes a Peterson horizontal grinder, grinding the shingles to 3/8" particle size. Purchase of a new grinder in 2013 and screen enhancements has resulted in significant improvements to recovery rates. Now receiving revenue for the material, the ground shingle product is used as raw ingredient (up to 5% by weight) in making new asphalt at local plants.

This successful, innovative program has already diverted more than 23,500 tonnes of shingles from landfill since the program's inception in 2010 and significantly decreased the County's external transfer and processing costs (estimated savings of more than \$500,000/year) by internally processing and marketing the resulting product.

Bulky Rigid Plastic Program

In 2014, a pilot project was implemented at Site 16 – Bradford West Gwillimbury to determine the viability of diverting bulky rigid plastic material. Items such as patio furniture, milk crates, storage boxes, pails, and laundry baskets were segregated into a diversion bunker and loaded into bins that were shipped for processing to Toronto.

The pilot was successful, resulting in significant volumes of material being diverted over the collection period and positive response from residents and site staff. It is expected this program will be rolled out at all County facilities in 2015.



Facilities Diversion

Window Glass Processing

Further work on a pilot program to divert window glass from landfill was undertaken in 2013. The joint effort with the County's Transportation and Engineering Department investigated the potential utilization of the glass product in road construction projects as excavation base fill material. Although this pilot was not successful, an alternate viable market was secured, and the processing program was further developed in 2014.

The MOECC approved processing of this material at Site 10 – Nottawasaga. Here, window glass will be processed through the County's trommel screener to separate the majority of the window frame material from the plate glass. The processed material will be shipped and further processed into cullet, reused in the manufacturing of glass containers and fibreglass. Metal from the window frame material will also be recovered and diverted from landfill, achieving a revenue.

This program will be rolled out at all County sites in 2015.



Development of Permanent Reuse Storage Areas

The Strategy recommended one or more reuse areas be developed at County facilities and interested community organizations be sought to divert reusable items from landfill through donation and re-sale.



The County has partnered with Habitat for Humanity, Salvation Army, and a local reuse business to divert reuse items, such as furniture, brought on-site through the call-in bulky service or delivered to the sites by residents. It is anticipated that continuing to work with additional reuse organizations will be beneficial in further developing this program.

In 2012, the County investigated the feasibility of constructing reuse storage building at each of its operating waste management facilities. It was determined these centres would be developed at four County facilities: Site 10 – Nottawasaga, Site 11 – Oro, Site 13 - Tosorontio, and Site 24 – North Simcoe Transfer Station. Construction of reuse buildings was completed in 2014.

Facilities Diversion

Tipping Fees

Standardizing Landfill and Transfer Station Rates

The Strategy indicated it was not reasonable to charge a differential rate for materials dropped off at a landfill versus a transfer station, since the 'dry waste' program would be transferring all residential drop-off garbage to Site 2 – Collingwood for disposal. It recommended the County consider a uniform charge of \$155/tonne for garbage brought to either a transfer station or a landfill site.

In 2011, Council approved a staged, 4-year increase in the tipping fee for garbage brought to the County's landfills – with the final increase occurring on January 1, 2014 – bringing a uniform tipping fee for garbage at all County sites to \$155/tonne.



Divertible Material

In 2010, there was no charge at County facilities for separated electronic waste, HHW, tires, blue box recyclables, and residential loads of brush and yard waste. The Strategy recommended tipping fees for scrap metal and large quantities of leaf and yard waste and brush (quantities >200 kg) also be waived in order to encourage diversion of these materials and reduce lineups at County facilities for weighing out. Also, it recommended tipping fees for drywall and shingles be lowered and chlorofluorocarbon (CFC) appliances become a flat rate per unit, encouraging customers to properly separate and divert these materials in the appropriate diversion area.

In consideration of these recommendations, Council approved a revised tipping fee schedule in 2011 with the intent to encourage and increase diversion at all County facilities. The tipping fee for large quantities of commercial brush was subsequently reinstated in 2014 as there was a concern commercial customers were abusing the free tipping rate.



Facilities Diversion

Mixed Waste Policy

As part of the development of a mandatory diversion bylaw, the Strategy recommended an increase in the rate for disposal of mixed waste of up to five times the fee for normal waste to discourage mixed waste disposal and promote the use of depot diversion programs. For comparison, the County's mixed waste disposal policy, effective since 2001, required recoverable materials mixed with other wastes to be charged at the mixed/recoverable waste rate of twice the basic tipping fee whether placed at the tip face or in the recoverable materials area.

As of January 1, 2014, the mixed waste tipping fee at all County facilities is \$310/tonne, twice that of the garbage rate. The increased tipping fee allows for any incurred costs to the County should the material require sorting by site staff. Further gains in diversion at the sites by dramatically increasing this rate may not be proportionate to the increased resources and potential customer dissatisfaction.





SOLID WASTE
MANAGEMENT

Transfer



Transfer

Potential short- and long-term options for transfer were outlined in the Strategy, but noted however, longer-term transfer requirements were less clear, as the next collection contract had yet to be procured, future processing arrangements for recycling and organics were unknown, and Council direction on waste export was uncertain. The Strategy recommended completion of procurement processes for the next collection contract and for waste export prior to final determination of the preferred transfer system.

Current System

Since 2010, various options for transfer have been assessed. It was determined, based on the tonnage of recycling managed by the County, 'Transtor' units for recycling (hydraulic bins that receive incoming material and store it temporarily) proposed in the Strategy would not be a viable option. In 2011, the County began working with CIF on an application for funding construction of a single, central transfer facility as this would provide the most efficiency, resulting in greater economies of scale and reduced operating costs. In the interim, short-term transfer contracts were secured, which have provided costing for comparison with development of a County-owned transfer facility.

Approximately 63% of curbside garbage, or 24,500 tonnes per year, is transferred from the Progressive facility in Barrie and hauled to Brampton for processing. In addition, approximately 10,000 tonnes per year of curbside source-separated organics are transferred and hauled to Hamilton. More than 25,500 tonnes of curbside and facilities-collected recycling are also brought to Progressive for transfer.

Short-term transfer contracts have been secured as development of a County facility continues.



In 2014, an initial financial comparison between continuing the current system of contracting transfer services and construction of a County transfer facility was completed. The analysis considered in projected annual operating expenses over a 20-year period in comparison with estimated capital costs. The payback period of a County facility was estimated to be between five and six years, dependent on funding.





Transfer

Materials Management Facility (MMF) Project

In consideration of the financial analysis, in August 2014, County Council endorsed development of a Materials Management Facility (MMF) for the transfer of garbage, organics, and recycling. The MMF, a transfer facility, will be an integral part of the County's waste management system – the link between collection operations and moving material to final waste disposal/processing locations. This facility will allow for the County to securely manage materials in-house, protect against increased future contract costs, and allow for flexibility to adapt to collections changes and tonnage fluctuations.

CIF funding for this project was secured in late 2014. It guarantees funding 47% of blue box-related project costs to a maximum funding limit of \$2,187,840. This funding is contingent on the potential for the facility to be jointly utilized by other local municipal jurisdictions on a cost recovery basis and design of the facility to allow for potential future expansion to accommodate a full Materials Recovery Facility (MRF).

Development of the MMF is expected to take approximately four years, with the facility being brought online in early 2019.

Project Development to Date

Development of the MMF is expected to take approximately four years, with the facility being brought online in early 2019. This will follow a comprehensive siting, approvals, procurement, and construction process. Initial works on this project were begun in 2014 with the scope of work assigned to Conestoga-Rovers & Associates (CRA) being extended to provide engineering services related to siting. CRA was originally retained in May 2014 as the County's consultant for the Organics Processing Facility (OPF) Project. Extending CRA's work to including siting of the MMF will avoid duplicating consulting services.



On December 2, 2014, public information sessions were held at the Simcoe County Museum to formally introduce this project, summarize the proposed siting process and methodology for both infrastructure projects, and to obtain public feedback on site evaluation criteria. Defining a clear siting methodology and evaluation criteria at the onset of this process, seeking both public input and Council direction, will be imperative to ensuring a transparent and defensible siting process.

Conestoga-Rovers & Associates first siting report, Part 1 – Planning – Siting Methodology and Evaluation Criteria, was presented to and endorsed by County Council in early 2015.

Next Steps

CRA's next report, Part 2, will describe the long list evaluation process and short-listed sites, while Part 3 will detail the evaluation of the short-listed sites and the identification of a preferred site. Reports to County Council will summarize the findings, input received from the public, recommendations, and key items for Council's consideration and direction. It is anticipated the preferred site will be presented to County Council in early 2016.

Information and updates can be found at [**simcoe.ca/mmf**](http://simcoe.ca/mmf).





Recycling Processing



Recycling Processing

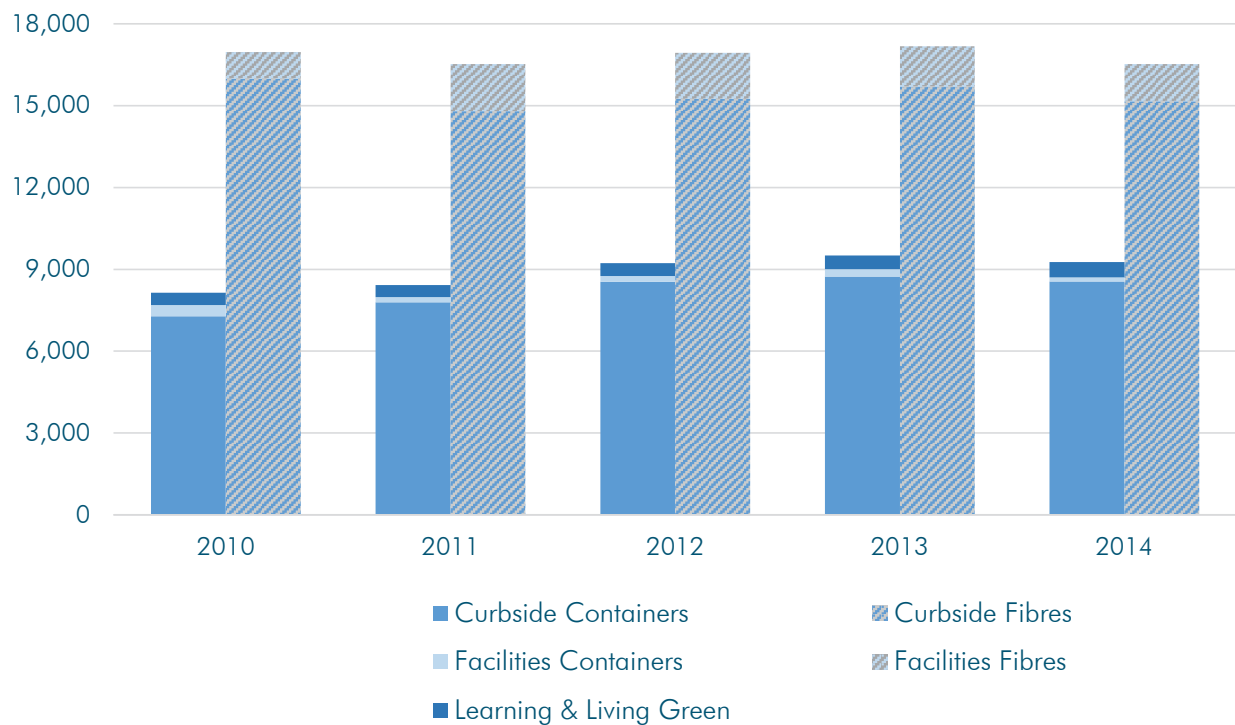
Historically, with the exception of material managed at the North Simcoe Materials Management Facility (MRF), the County's waste collection contractors were responsible for the processing of blue box materials and retained the revenues from their sales. The Strategy recommended in the short term, the County contract for the processing of its two-stream recyclables separately from collections in order to have greater control of the management of materials, markets, and to secure recycling revenues. Further, it recommended consideration for developing a new MRF for recycling processing capacity within the County. It noted, however, the future role of municipalities in the provincial recycling system is uncertain.

Current System

Concurrent with the commencement of the new waste collection contract, the County took responsibility for collected blue box materials and, as such, procured services for the processing of this material. Separate two-year contracts for the transfer, haulage and processing of recyclables began in April 2013, with approximately 25,500 tonnes of paper fibres and containers being processed annually at Canada Fibers in Toronto.

With the end of the two-year processing contract, in early 2015 a Request for Proposal (RFP) for recyclables processing was issued. There was favourable response to this RFP – indicating substantial processing capacity within southern Ontario. New three-year contracts, which began on April 1, 2015, were awarded for paper fibres and containers.

Tonnes of Blue Box Recycling Managed – 2010 to 2014



Approximately **25,500**
tonnes of paper fibres and
containers are processed annually.

Recycling Processing

Development of County Processing Capacity

Since 2010, the County has continued to assess the feasibility of developing recycling processing capacity within the County. This has been complicated by anticipated changes to the WDA and the provincial Blue Box Program.

In 2014, with one year of detailed tonnage and recycling contract data, an analysis for a County transfer facility with a potential fibres processing line was completed and presented to County Council. It noted the payback period for a transfer facility indicated great potential for savings, but there was no increased financial benefit to the processing of fibres. This included consideration CIF would not increase its funding to cover additional capital for a fibres processing line.

CIF funding for the MMF is contingent on the potential expansion of the facility to a full MRF. Siting will consider the facility has the potential for expansion to process both fibres and containers should it prove to be a viable option in the future.





Organics Processing



Organics Processing

In the short term, the Strategy recommended the County initiate discussions with its current organics processor to determine capacity and potential to extend the existing contract. In the longer term, it recommended development of a centralized composting facility within the County. Public input indicated support for processing within the County, as well as for the addition of pet waste and diapers to the organics program.

Current System

Leaf and Yard Waste Composting

Leaf and yard waste and brush is processed at five compost sites located at various open and closed landfills throughout the County. In 2014, more than 15,500 tonnes of leaf and yard waste and brush was diverted through curbside collection and drop-off at waste management facilities. This material is placed in windrows, regularly turned, and monitored as per MOECC guidelines. To further facilitate this diversion program, the County expanded its compost operations at Site 10 – Nottawasaga, Site 11 – Oro, and Site 15 – Wasaga Beach in 2013.

More than 8,100 tonnes of finished compost were sold to residents and commercial landscapers in 2014, an increase of 4,200 tonnes from 2013. This successful diversion program has benefited from increased uniform curbside collection of leaf and yard waste and brush.

Source-Separated Organics (SSO)

In 2012, the County secured an extension to its existing organics processing contract with AIM Environmental. Export of SSO under this five year contract began on October 1, 2013, with material being hauled by the County's waste management fleet to Hamilton using roll-off bins. This system continues to work well, is cost effective, and will provide some flexibility as in-County processing is considered. In 2014, the County transferred and hauled more than 300 loads (equating to 9,500 tonnes) of SSO for processing.





Organics Processing Facility (OPF) Project

In 2012, GENIVAR Inc. completed an initial viability study in regards to an in-County OPF. This report outlined facility sizing and identified a number of potential processing technologies that could realistically incorporate additional materials County Council had indicated a desire to process (diapers, pet waste, and sanitary products). This report also outlined the next steps required to develop a facility.

On June 27, 2013, a Special Session of Council was held to provide County Council with an opportunity to discuss improving diversion. Council approved, in principle, the addition of pet waste and diapers to the County's source-separated organics program and requested additional information on costing – noting this would have an impact on development of a County facility.

More than **8,100** tonnes of finished compost were sold to residents and commercial landscapers in 2014.



Organics Processing

2014 Milestones

Costing information, a proposed project plan, and timeline for the Organics Processing Facility were endorsed by Council in early 2014. The current mandate seeks to provide siting, technology, and costing information to Council on developing an aerobic composting facility (Phase I) to manage the existing 'green bin' material collected, potentially adding pet waste. Siting will consider, however, the opportunity for future expansion to include anaerobic digestion (Phase II).

As was recommended by GENIVAR Inc., the siting process has been initiated first, a fundamental step in procuring technology. Conestoga-Rovers & Associates (CRA) was retained as the County's consultant to further tasks related to siting and procurement of processing technology. Council also endorsed the formation of a Community Engagement Committee – with a mandate of providing a forum for focused discussion on public engagement during the OPF siting and procurement process.

Public information sessions related to this project were held on June 17, 2014 and December 2, 2014. These sessions provided the public and interested stakeholders an opportunity to receive information, discuss the County's diversion program for source-separated organics, and to receive feedback on a proposed siting process and site evaluation criteria.

From this, CRA's first siting report, Part 1 – Planning – Siting Methodology and Evaluation Criteria, was presented to and endorsed by County Council in early 2015.



Next Steps

CRA's next report, Part 2, will describe the long list evaluation process and short-listed sites, while Part 3 will detail the evaluation of the short-listed sites and the identification of a preferred site.

Reports to County Council will summarize the findings, input received from the public, recommendations, and key items for Council's consideration and direction. It is anticipated the preferred site will be presented to County Council in early 2016.

Overall, development of Phase I is expected to take approximately five years, with final commissioning of the facility anticipated in 2019.

Information and updates can be found at simcoe.ca/opf.

Costing information, a proposed project plan, and timeline were endorsed by Council in early 2014.







Garbage Disposal and Processing



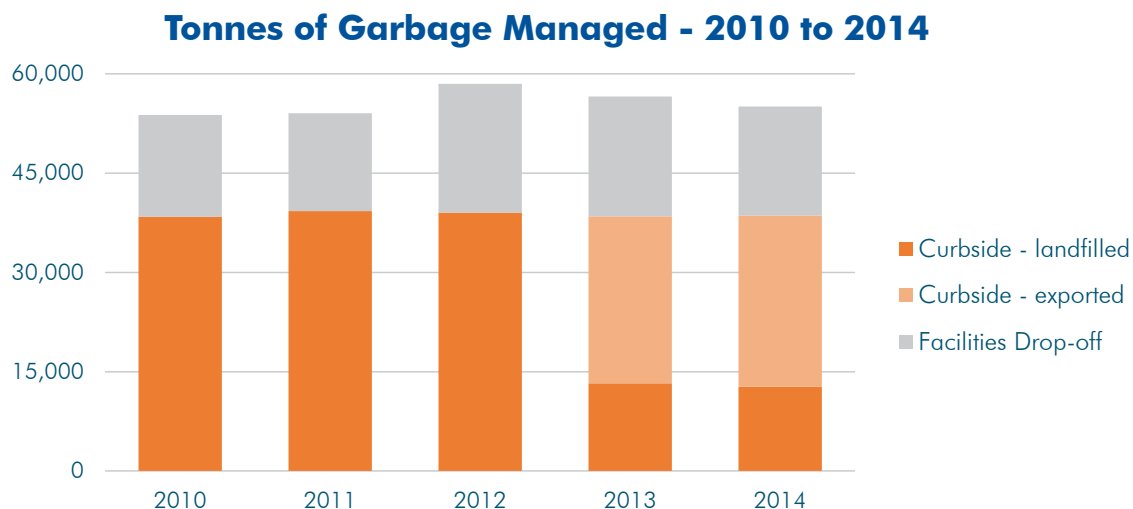
Garbage Disposal and Processing

With a mandate to increase diversion and reduce residual waste, the Strategy outlined various initiatives related to diversion both curbside and at County facilities. It cautioned, however, given the County's growing population and decreasing landfill capacity, examining both short- and long-term options for garbage disposal or processing would be necessary. Although diversion and other modifications to the waste management system may increase the lifespan of operating landfills, future planning for additional disposal and/or processing will be required.

The Strategy did not include consideration for new landfill capacity but focused on the continued use of existing landfill sites, export of a portion of the waste stream, and potential pursuit of partnerships.

Current System

Currently the County manages approximately 55,000 tonnes per year of garbage. In 2014, this equated to approximately 38,500 tonnes/year of curbside-collected and 16,500 tonnes/year of facilities-collected garbage. As indicated, the annual tonnage of garbage managed has not varied significantly since 2009.



Preserving Existing Landfill Capacity – Short-Term Approaches

Modification to Landfill Operations

There remain four operational landfills within the County. The Strategy noted these sites were run in an efficient manner but enhancements could be made to the management of facilities drop-off garbage. Curbside and facilities garbage is now managed separately – curbside garbage is landfilled at Sites 10, 11, and 13 and all facilities-collected garbage, or dry waste, is hauled by the County to Site 2 – Collingwood for landfilling. This system was initiated County-wide in 2011 to preserve capacity at landfills permitted to accept curbside waste and to effectively manage bulkier drop-off material at one site. This system has benefitted the County’s landfilling operations and increased long-term landfill capacity.



Garbage Disposal and Processing

Shredding System at Site 2 – Collingwood

In an effort to preserve landfill capacity at Site 2 - Collingwood, the Strategy recommended the feasibility of shredding bulky waste at this site be explored. A 2012 study assessed the benefits of shredding/grinding equipment for processing of dry and bulky waste. It outlined shredding of oversized bulky items, such as furniture and non-recyclable plastics, would reduce their size, allowing for greater compaction and landfill density, and in turn, an extension of site life.

The County purchased a Doppstadt 3060K shredder and operation of the unit commenced in October 2013. Currently, all dry waste transferred from County facilities is passed through the shredder and then transported to the active landfill face where it is placed, compacted, and covered.

Substantially improved landfill densities were observed over 2014, the first full year of shredding operations. Landfill capacity assessment indicate the density has been increased by 47% from 2012 (the last full year without shredding), equating to four years of additional capacity at the site. It is estimated that utilization of the shredder will net a savings of approximately \$4.4 million in avoided waste export disposal costs.



Garbage Export

Prior to 2013, all waste managed by the County was landfilled at County sites. The Strategy recommended, however, the export of waste be considered as a short-term measure to lengthen the life of current operating landfill sites, allowing time for the exploration of longer-term options for garbage disposal or processing.

The County's waste export policy, which took form with direction from County Council, was put forth in March 1990 to ensure residential residual waste destined for disposal from outside of County limits would not be granted admittance. The County took a similar stance on the waste generated within its own borders; choosing instead to be 'masters of their own house'.

After some consideration, County Council rescinded the no import/no export policy on October 25, 2011 and a procurement process began to secure additional disposal capacity. Council approved a five year waste export contract, beginning in 2013, with Walker Environmental Inc. to transfer, haul, and process 25,000 tonnes/year (approximately 63%) of curbside waste at Algonquin Power Energy from Waste's Brampton facility (Algonquin Power). The Algonquin Power facility, now known as Emerald Energy from Waste (EEFW), converts approximately 500 tonnes of waste per day (176,000 tonnes per year) into steam, sold to neighbouring industry and to electricity, which is sold on the grid.

In the first two years of garbage export (2013 and 2014), 49,830 tonnes of County curbside garbage have been exported. This has resulted in a reduction in the amount of airspace used each year at County landfills (approximately 40,000 m³/year). This has been beneficial in extending the capacity at Sites 10, 11, and 13 by seven years.

Garbage Disposal and Processing

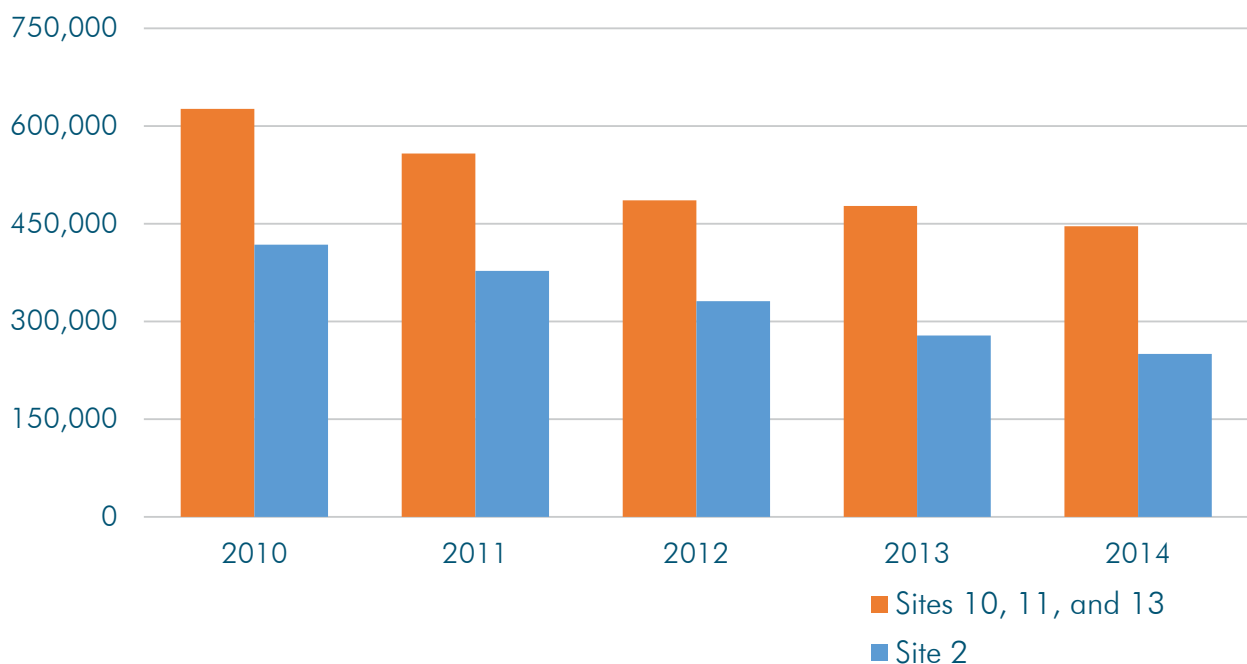
Assessing Remaining Capacity

The Strategy recommended annual landfill surveys be completed to assess the remaining capacity of current operating landfills. These assessments are valuable to long-term planning and provide information on gains made from modifications to landfilling operations and waste export. This is completed and reported annually to County Council.

Waste export has significantly increased the estimated lifespan of County landfills.



Remaining Landfill Capacity (m³) - 2010 to 2014



Site 2 – Collingwood

Recent survey data indicates the density of landfilled material has increased significantly in 2014 as a result of shredding operations. It is estimated the current capacity of this landfill has been extended to approximately nine years, with anticipated closure in 2024. It should be noted this does not consider an increase in drop-off garbage from growth or increased waste generation. This date reflects current tonnages and operating conditions.



Crucial to the County's current system, long-term planning will require Council direction for the disposal and/or processing of drop-off garbage with the closure of Site 2.

Site 10 - Nottawasaga, Site 11 - Oro, and Site 13 – Tosorontio

As expected, waste export in 2013 has significantly increased the estimated lifespan of landfills that currently accept curbside garbage (Sites 10 – Nottawasaga, Site 11 – Oro, and Site 13 – Tosorontio). Based on 2014 tonnages, the remaining lifespan has been extended to 22 years. This does not consider an increase in garbage from growth or increased waste generation. With this considered, remaining life is 10 years.

Capacity at these sites may also be impacted by the closing of Site 2. This is dependent on future Council direction for disposing or processing of drop-off garbage.

Garbage Disposal and Processing

Development of Contingency Capacity

Development of existing County landfills Site 9 – Medonte and Site 12 – Sunnidale for garbage disposal contingency was recommended in the Strategy. Both sites, being dormant for a number of years, require updated Design and Operations reports be submitted to the MOECC. Furthering the development of these sites has included analysis of gained capacity, addressing impacts from previous site works, and determining the cost/tonne to develop these sites as per MOECC design standards.

In 2013, Council was presented with the cost/tonne of developing Site 12 (the site with the largest remaining capacity). In consideration of the comparable costs of waste export, Council deferred further work on development of this landfill until the Strategy review in 2015.

Assessing Long-term Opportunities for Processing

The Strategy suggested a residual garbage processing facility would be more viable if pursued jointly with other municipalities or with the private sector. It noted given the County's projected tonnages, there would be insufficient annual tonnages to achieve any economies of scale. A garbage processing facility, such as an EFW facility, would require significant capital investment.

Further to this, the County continues to investigate potential partnerships, meeting with both neighbouring municipalities and private sector companies as opportunities arise. Council provided direction in 2013 that development of infrastructure projects within the Strategy be maintained, with priority given to development of the OPF Project.





Public Education Strategy



Public Education Strategy

The Strategy stated effective promotion and education of waste reduction and reuse initiatives should adopt a community-based social marketing approach. It summarized a number of media types including print, hotlines, websites, radio and television, presentations and other products and tools that could be used to engender waste behaviour change. Behaviour change, it noted, may be achieved through appealing to norms, prompts, and commitments.

Currently the County utilizes all of the media types outlined within the Strategy for regular promotion and education. The social marketing concepts identified are also widely used in waste campaigns in order to encourage residents to reduce and divert waste.



Enhanced Advertising, Promotion, and Education

Consistent and repetitive messages are a key approach toward changing behaviours and habits.



The Strategy highlighted the need for an annual communication plan and indicated sustained communication programs are a best practice. Consistent and repetitive messages are a key approach toward changing behaviours and habits. As a result of the Strategy recommendations, higher impact campaigns, including professionally-developed radio and television commercials, are now used to promote programs such as the green bin, yard waste collection services, the call-in bulky collection and the new curbside battery collection service. These advertisements, which utilize humour to increase awareness and recollection, have proven extremely successful.

It was also recommended a dedicated staff resource be retained to ensure the successful implementation of marketing activities. To this end, a Promotion and Education Co-ordinator position was created in the Solid Waste Management Department to handle the creative development and procurement of various advertising and promotions pieces, and to conduct outreach to schools and various events throughout the County.

Finally, the Strategy recommended sustained funding of \$7 to \$8 per household per year would be required to address the comprehensive suite of waste management initiatives planned. Over the past few years, the average promotion and education expenditure has been \$4.90 per household annually.

Public Education Strategy

Current Approach

Promotion and education has incorporated a multi-faceted approach, due largely to the significant geographic area the County encompasses, the lack of a single major media outlet that residents can turn to for news and information, as well as the variety of demographics comprising the target audience.

Print Media

An annual waste management calendar is produced and distributed to all residents. The calendar is a 'one-stop shop' of detailed information on all aspects of waste management services in the County. In addition to the calendar, 'Managing Your Waste', a twice annual newsletter is distributed to residents outlining new initiatives, provides feedback on program results and highlights areas for improvement.



Radio and Television Advertising

Radio advertising is used regularly with respect to ongoing programs such as the green bin, yard waste collections, collection schedules around holidays, curbside battery collections, and bulky collection service. Radio and television advertising has also been utilized for special campaigns such as 'Blue Grew' for the implementation of larger blue boxes and the 'It's Coming' campaign highlighting changes to curbside collections as a result of new contracts. These mediums have proved extremely successful, maximizing awareness over a short period of time.



Utilization of County Website and Social Media

The County's website has undergone significant changes since the Strategy was approved. The website, as a whole, has been revamped to improve navigation and accessibility. The Solid Waste Management portion of the website has also undergone significant improvement with the addition of a waste wizard tool, which clients can utilize to determine the appropriate way to manage particular types of waste. Additionally, the website has been upgraded with an online tool that provides residents collection reminders and instant messages if there are service disruptions or cancellations via iCalendar, voicemail, and email. This tool was implemented in April 2013 and has had more than 66,000 views since its inception. Social media is also utilized, with regular Twitter messaging disseminated according to the time of year or the initiative being promoted.

During the 'It's Coming' campaign to promote changes to curbside collection as a result of new service contracts, a variety of new mediums were utilized to maximize awareness by the target audience, including the use of billboard advertising, which included very short messaging for busy commuters, directing them to seek additional information.

Search engine optimization was another useful tool to ensure the more technology-savvy target audience was aware of coming changes and could click through to find pertinent information from a variety of popular locations on the web.



Public Education Strategy

Community Outreach and the Mobile Education Unit



The County has continued with its efforts to reduce and divert waste through its Learning & Living Green partnership, which was developed in conjunction with local school boards. The program was implemented in recognition that children play an important role in influencing adult behaviours with respect to environmental initiatives. County staff visit local schools to educate students on how to reduce waste, best choices at point-of-purchase, processing of recyclables into new products, composting process, acceptable/not acceptable items in the curbside program, and the importance of donating unwanted household items for reuse.

Other community outreach activities include visits to service clubs, groups, fairs, festivals and other local events with the Mobile Education Unit (MEU). This innovative educational tool is a travelling activity centre, which is graphically wrapped inside and out. It utilizes touch screen monitors and interactive games to educate children on proper diversion of materials, making environmentally responsible choices and product lifecycles. Since 2011, the MEU has been used more than 120 events throughout the County, and reached more than 29,000 participants.

Waste Reduction Initiatives

Waste reduction initiatives include implementation of the Recyclelinks webpage in 2011, which provides a one-stop link to a number of existing reuse and diversion organizations, including Freecycle, Habitat for Humanity's ReStore, OES, and OTS. To date, the site has had more than 2,000 views. Other waste reduction initiatives include promotion of reuse and refurbishing of goods, recommending the purchase of durable goods, reusable items over disposable, and provision of free reusable grocery bags, water bottles, and coffee mugs.



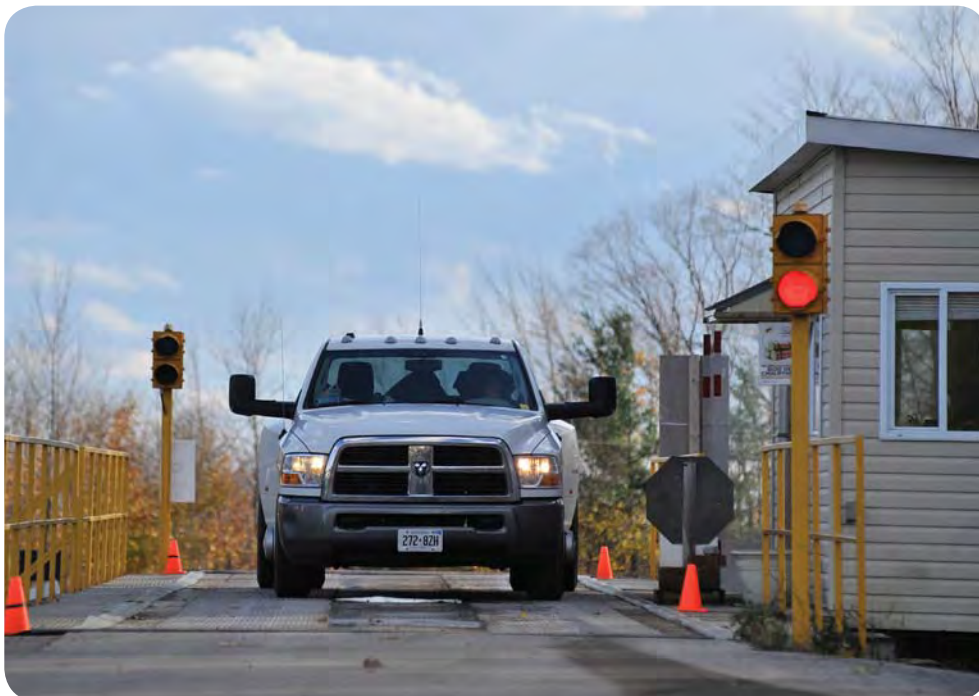
Current System Performance



Current System Performance

The Strategy outlined several best practices and various initiatives related to monitoring and measuring of system performance. It also recommended as part of the annual Strategy reporting process, the County take the opportunity to report to residents on general performance, as well as areas where the County and residents could collectively improve performance.

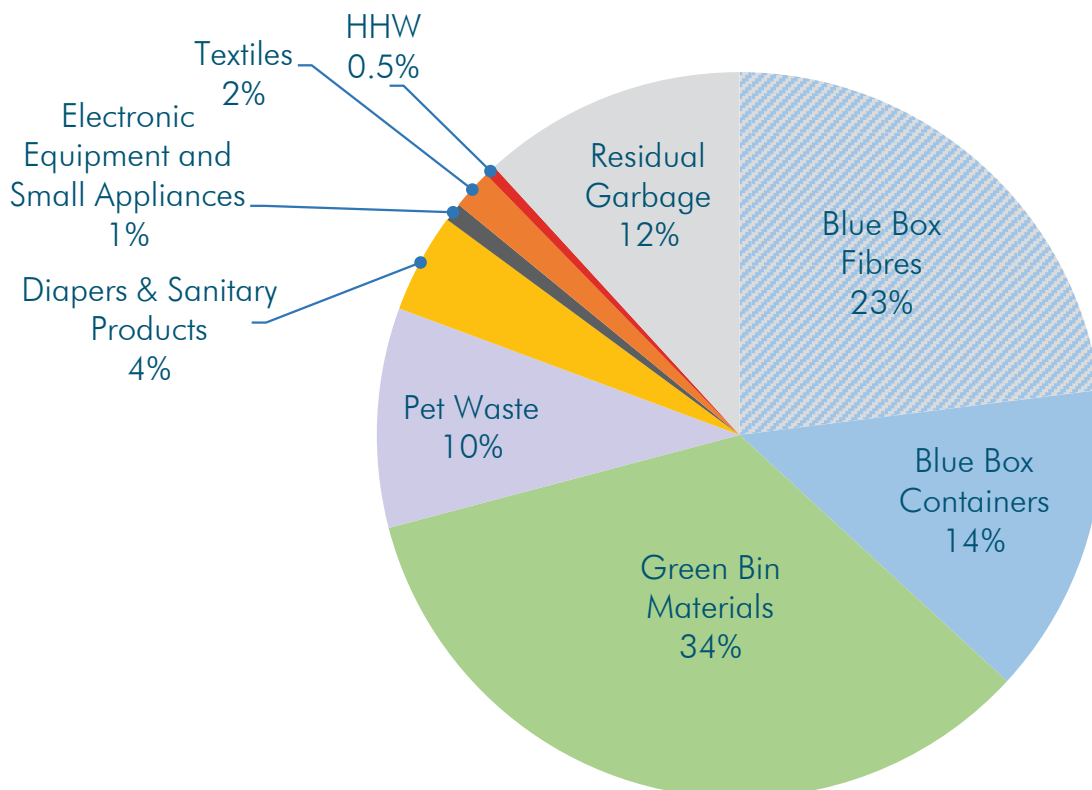
The data management system has evolved since 2010. As was recommended in the Strategy, new scale data management software was brought on-line in 2012 and has become a valuable tool as more materials are diverted at County facilities. In addition, systems have been refined to manage data in a more centralized manner, resulting in better tracking of the movement of materials and reporting. Quarterly performance measures such as curbside and facilities diversion rates are reported regularly to County Council.



Curbside Audit Data

Curbside waste audits were recommended in the Strategy as a performance indicator to sort and measure per household waste generation rates and the quantity and types of materials set-out curbside. A full four-season audit was completed in 2012, with another initiated in early 2015 to coincide with the Strategy 5-year update. Although only half of the audits of four have been completed in 2015, initial data indicates there has been little change in the County's curbside waste composition from 2012.

Curbside Waste Stream Composition - 2012



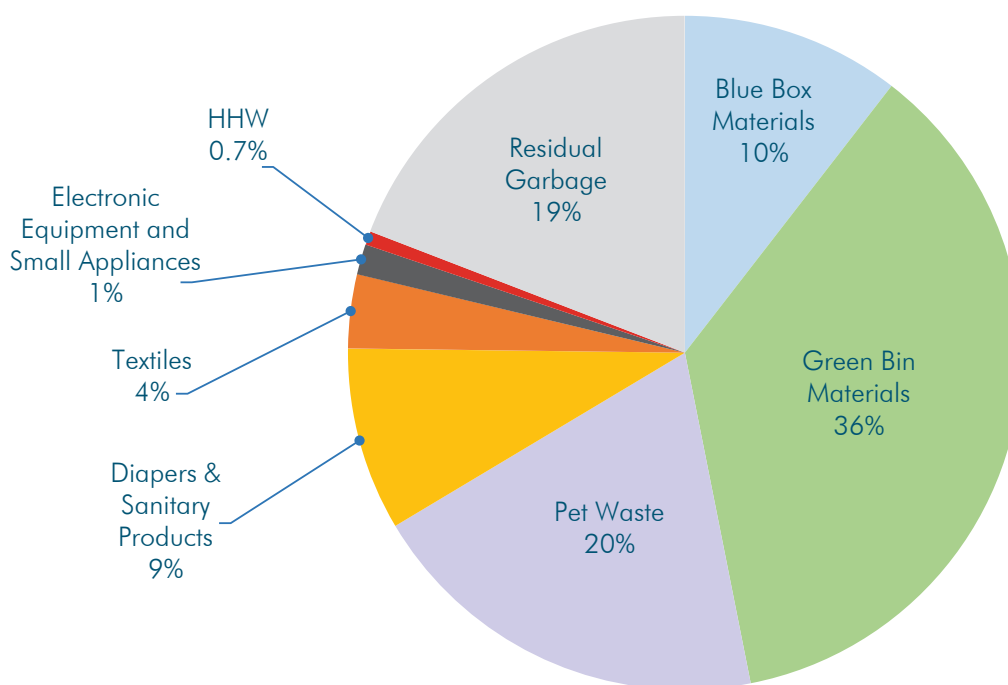
Current System Performance

While the County continues to be a leader in diversion, achieving capture rates of blue box recyclables of more than 85%, the green bin organics program has seen a decrease in capture rates since its inception in 2008. Full 2012 audit data suggests only 44% of curbside organics are being captured and curbside garbage comprises almost 50% of materials that could be diverted through existing programs. Initial 2015 audit data indicates the capture of curbside organics has continued to decrease.

Curbside Capture Rates - 2010 to 2015

Material	2010	2012	2015 (two audits)
Blue Box - fibres	86%	87%	86%
Blue Box - containers	82%	85%	87%
Green Bin - organics	47%	44%	37%

Curbside Garbage Composition - 2012





Waste Diversion Ontario – Municipal Datacall Results

In order to receive Blue Box Program funding, the County is required to complete an annual Waste Diversion Ontario (WDO) Municipal Datacall. The Municipal Datacall is Ontario's comprehensive online reporting system and database for residential waste and provides annual statistical information on residential waste generation and diversion in the province.

On February 26, 2015, WDO released the results of the 2013 Municipal Datacall. For the fifth year in a row, the County ranked in the top 10 Ontario municipalities for waste diversion, placing seventh, with a 2013 residential diversion rate of 55.7% (a decrease from 2012's 57.6%). The County's diversion rate has been relatively stagnant with no significant increase since the inception of the organics program in 2008. However, it is well above the 2013 provincial average of 47.3% diversion.

Diversion Rate and Provincial Ranking - 2006 to 2014

Year	Diversion Rate (%)	Provincial Ranking - Diversion	Disposed (kg/capita)	Provincial Ranking - kg/capita Disposed
2014	59.0	unaudited	191	unaudited
2013	55.7	7 of 226	204	51 of 226
2012	57.6	7 of 230	199	54 of 230
2011	56.9	4 of 231	178	23 of 231
2010	58.4	2 of 223	164	15 of 223
2009	57.1	2 of 216	160	15 of 216
2008	46.9	14 of 216	196	22 of 216
2007	40.5	42 of 206	224	59 of 206
2006	33.1	75 of 201	284	90 of 201

Current System Performance

Total Residential Waste Generated, Diverted, and Disposed - 2006 to 2014

Year	Diversion Rate (%)	Total Residential Waste (kg/capita)		
		Generated	Diverted	Disposed
2014 (unaudited)	59.0	465	274	191
2013	55.7	461	257	204
2012	57.6	469	270	199
2011	56.9	413	235	178
2010	58.4	394	230	164
2009	57.1	374	214	160
2008	46.9	370	174	196
2007	40.5	377	153	224
2006	33.1	424	140	284

The County's diversion rate is relatively stagnant and the per capita waste generation rate continues to increase.



Performance Targets

Diversion

The Strategy outlines two measurable diversion targets:

- 71% diversion rate by 2020
- 77% diversion rate by 2030

The County continues to be a leader in diversion with respect to reuse and recycling initiatives at waste management facilities. In 2014, approximately 36,000 tonnes of material was diverted through many innovative on-site diversion programs. Curbside blue box recycling is equally successful and capture rates of both paper fibres and containers are excellent. However, there is decreasing capture curbside SSO. Most often compensated by increased diversion at County facilities, a relatively stagnant overall diversion rate has been observed.

Per Capita Waste Reduction

In 2011, Council approved Resolution No. 2011-048, which stated 'that a minimum of 1% annual decrease be established as the per capita waste reduction target as outlined in Item CS 11-042.'

The per capita waste generation rate, as determined through the 2010 WDO Datacall, serves as the baseline for comparison. Although the per capita residential waste generation rate decreased by 1.9% in 2013, overall the waste generation rate per capita has increased from 394 to 465 kg/capita (18.0%) since the Strategy's inception in 2010.

Given 2015 audit data, diversion statistics, and increasing waste generation rates, it is obvious the two diversion targets set for 2020 and 2030 cannot be met without substantial system changes. The Strategy outlined further restrictions on curbside garbage set-outs would be necessary to increase diversion rates and reduce waste generation.

Moving Forward

Since 2010, much has been accomplished in regards to fulfilling recommendations and initiatives outlined in the Strategy. This has brought uniformity to curbside collection, extended the life of County landfills, and maintained the diversion rate. The County, however, deferred discussion on further restrictions on curbside garbage and development of contingency landfill capacity at Sites 9 and 12. It is anticipated these outstanding recommendations will form the basis of this 2015 review.

Updating the Strategy will be a comprehensive, multi-staged process – allowing for preparation of reports, presentations to County Council, public consultation and community stakeholder meetings, and final direction.

Report No. 1 – Current State Report (this document)

Where are we?

- summary of the current state of the waste management system, progress towards long-term performance targets

Report No. 2 – Potential Options and Initiatives

Where do we want to go?

- opportunity for County Council to re-evaluate existing waste diversion and/or per capita waste reduction targets

How do we get there?

- potential options and initiatives to achieve diversion goals and long-term collection, transfer, and processing/disposal requirements

Report No. 3 – Approved Recommendations and Initiatives

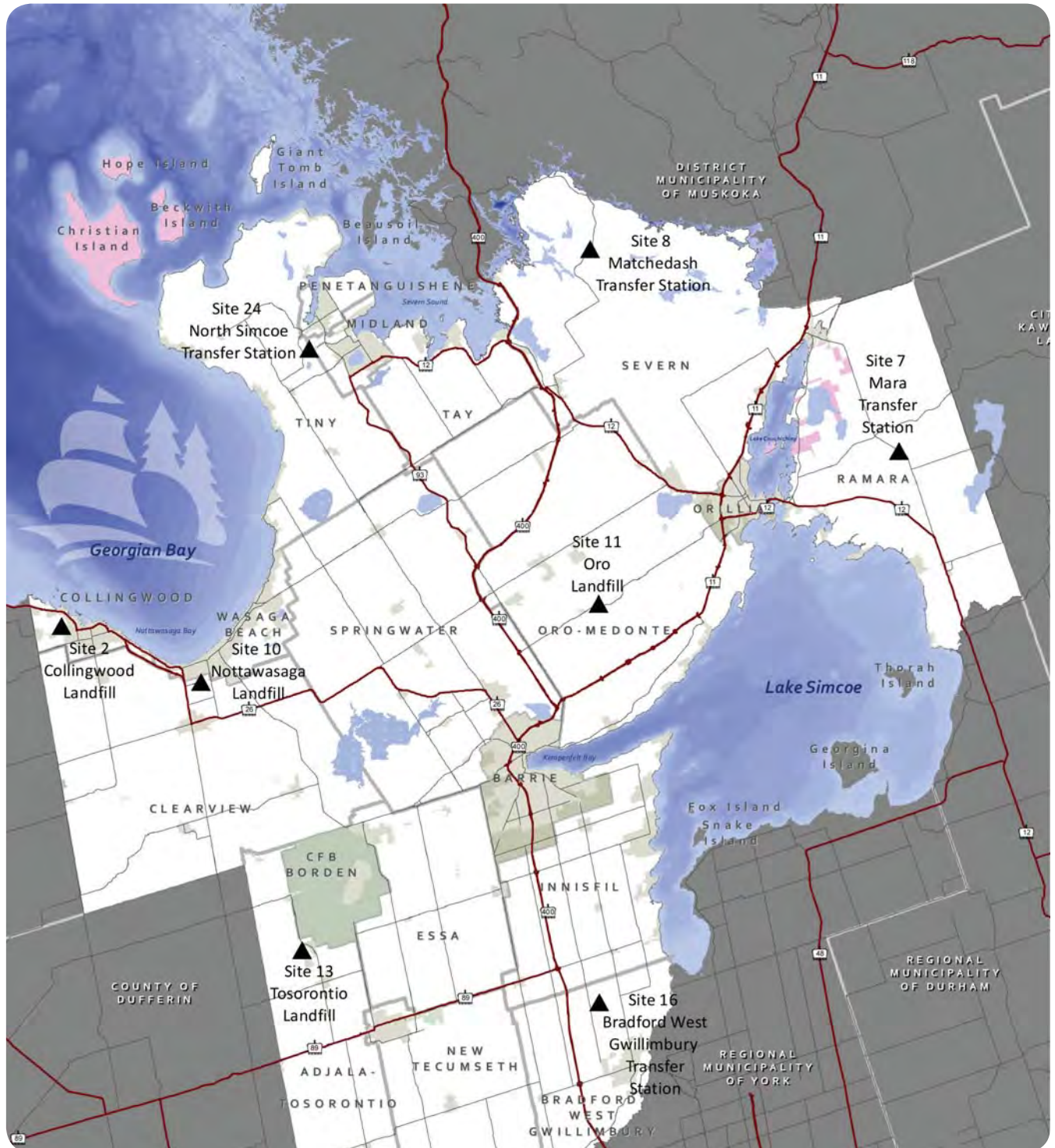




Where are we?

**Where do we want to go?
How do we get there?**

Waste Management Facilities



Notes



Follow us:
[@simcoecountyCS](https://twitter.com/simcoecountyCS)



Environmental printing process:
It's more than recycled paper

If you require this document in an alternative format,
please contact the County of Simcoe at 705-735-6901

County of Simcoe

1110 Highway 26
Midhurst, Ontario
L0L 1X0

705-735-6901
simcoe.ca