

NAVIGATING THE FUTURE OF MUNICIPAL WASTE MANAGEMENT





Peter Hargreave, President, Policy Integrity Inc.

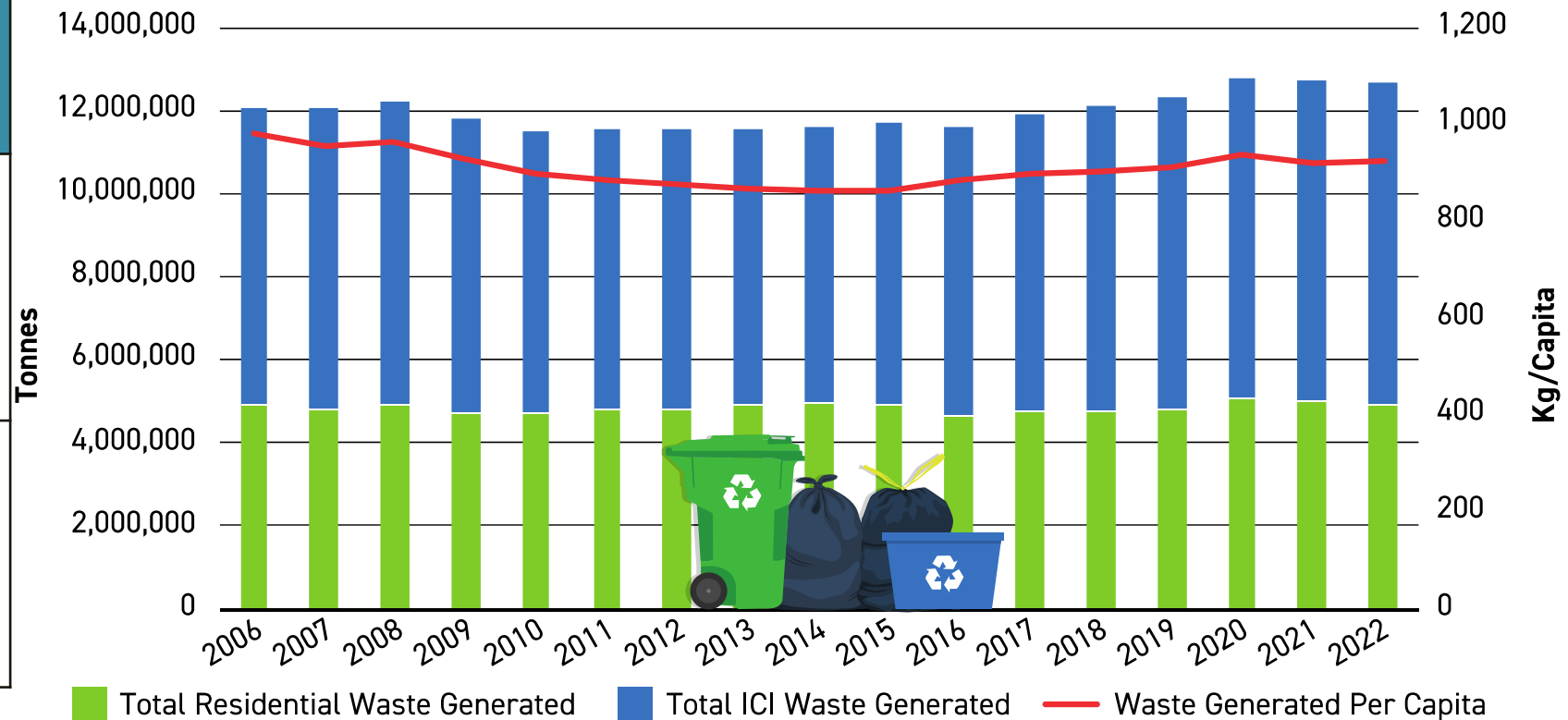
ROMA Conference
January 20, 2025

AGENDA



1. Ontario Waste Trends
2. Performance Against Provincial Targets
3. Municipal Waste Challenges
 - a. Disposal
 - b. Costs
 - c. Legislative Reform

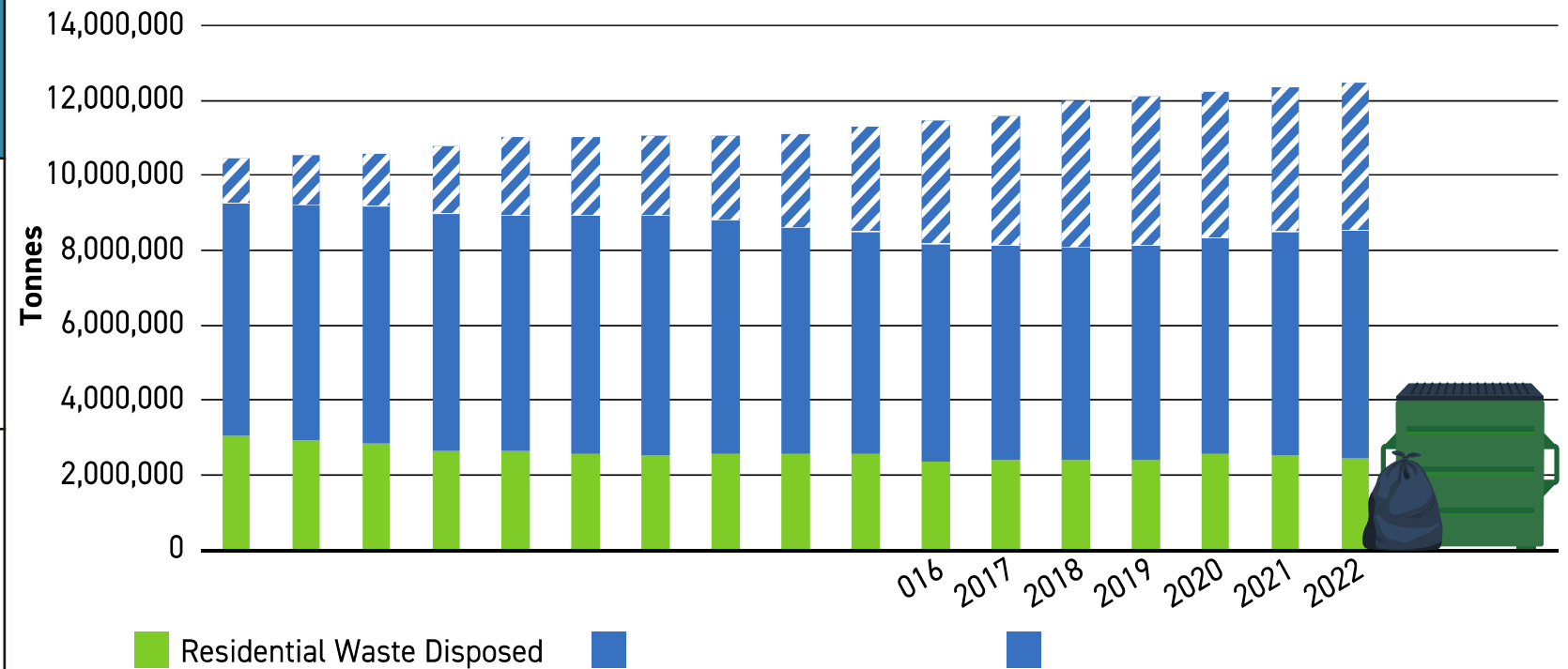
TRENDS – WASTE GENERATION

Indicator		Trend Since 2017
Total Waste Generation (tonnes)		Increased by 7% or 801,806 tonnes
Per Capita Waste Generation (kg/capita)		Increased by 3% or 18.21 kg/capita





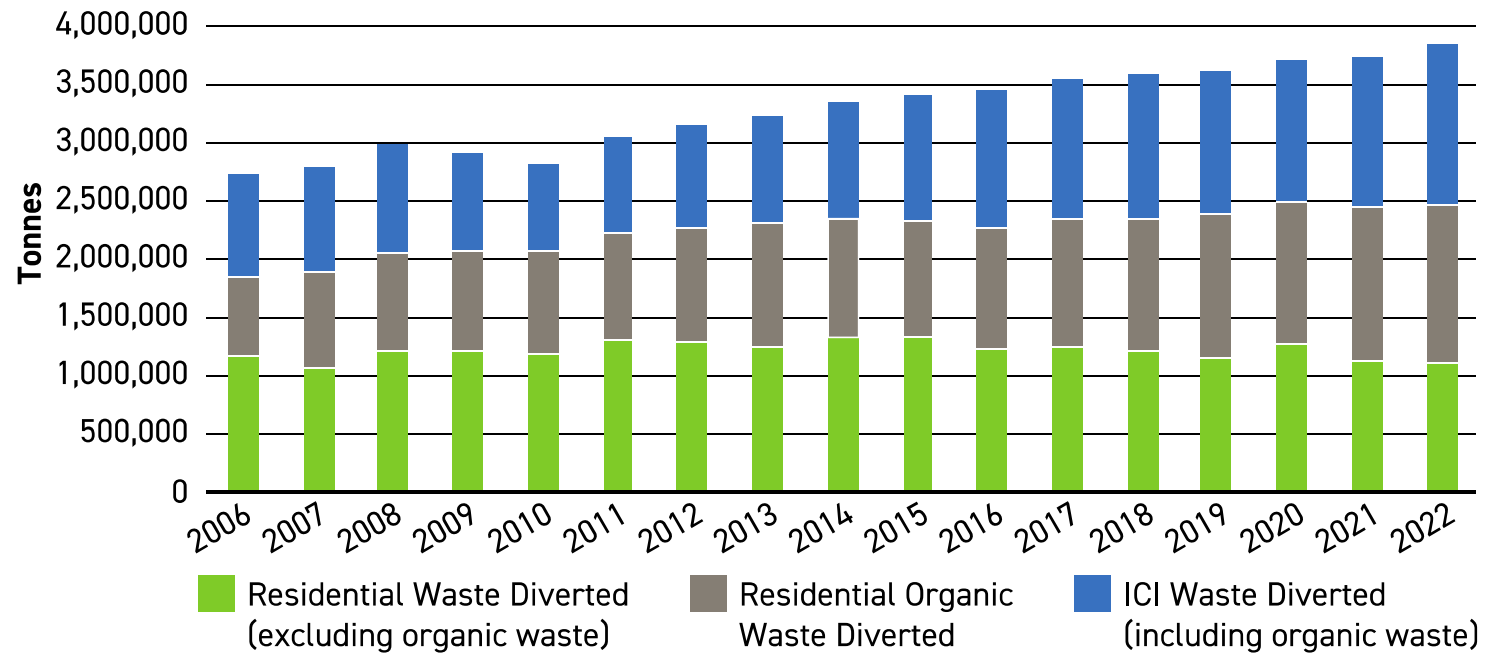
TRENDS - DISPOSAL

Indicator		Trend Since 2017
Total waste disposed (tonnes)		Increased by 6% or 409,391 tonnes
Per capita waste disposed (kg/capita)		Increased by 2% or 14.55 kg/capita



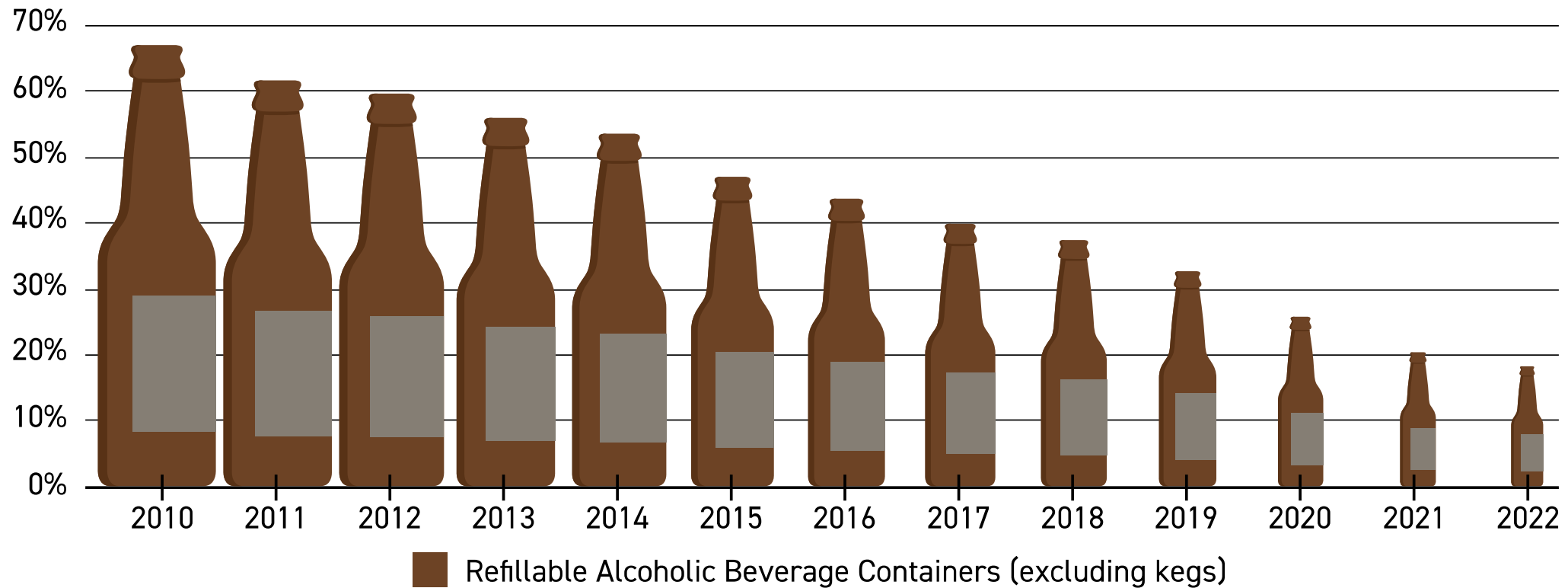
TRENDS - DIVERSION

Indicator		Trend Since 2017
Total waste diverted (tonnes)		Increased by 9% or 311,414 tonnes
Per capita waste diverted (kg/capita)		Increased by 5% or 13.7 kg/capita

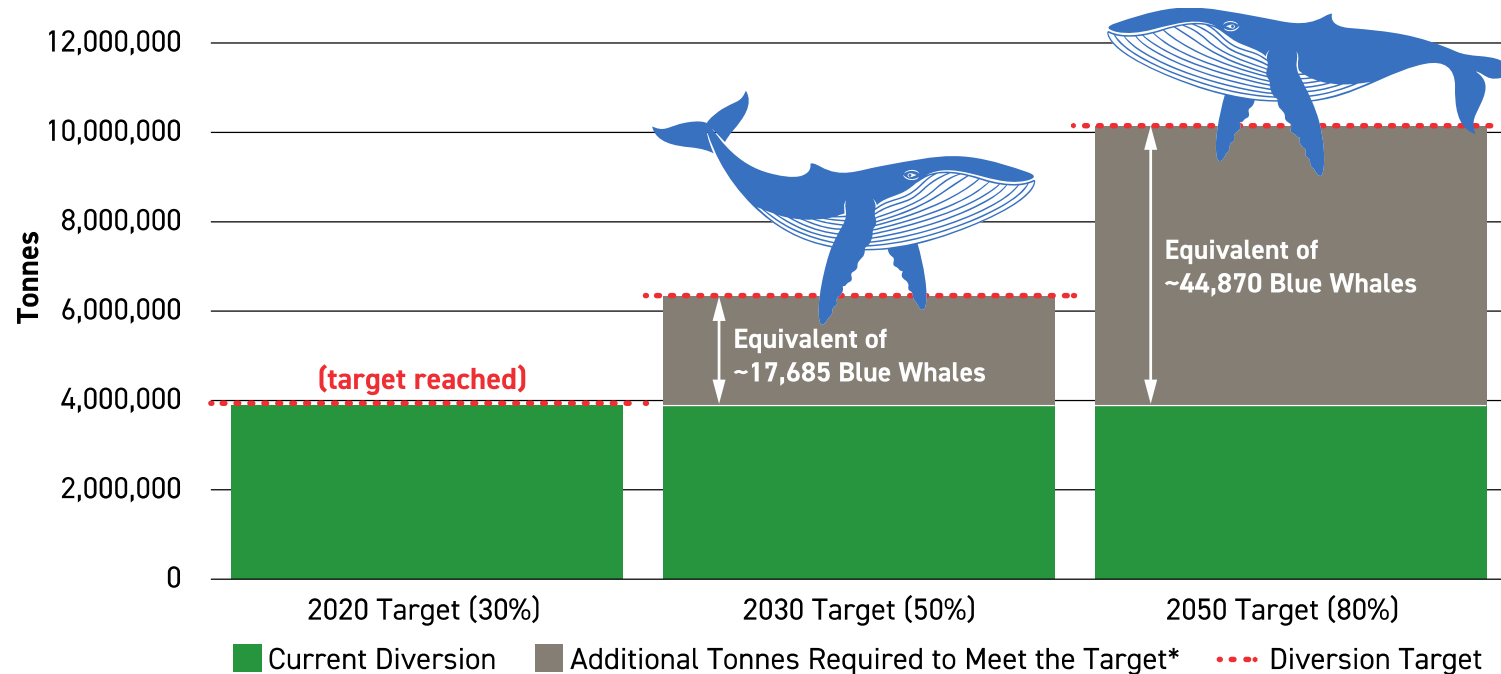


TRENDS - REFILL AND REUSE

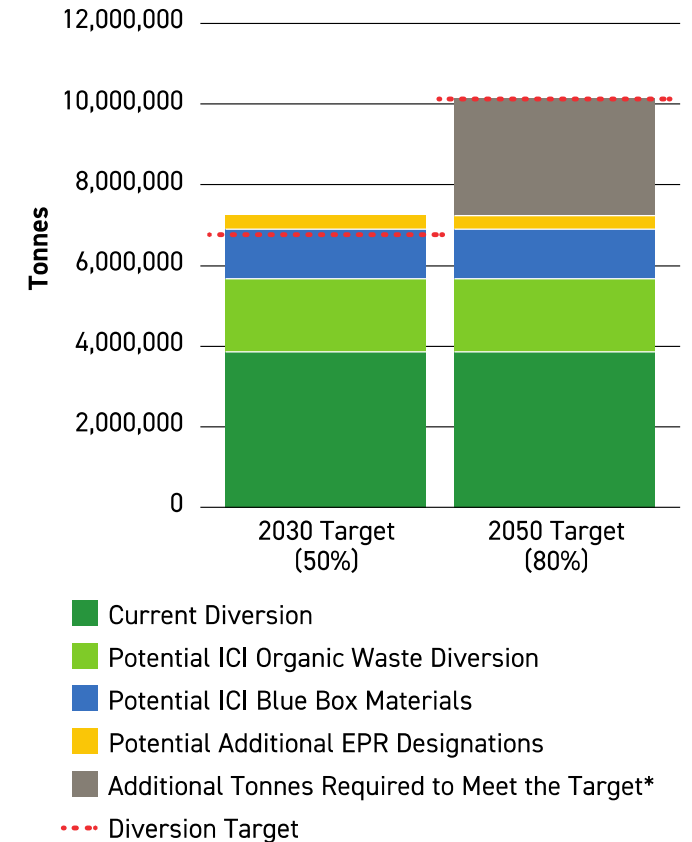
Share of refillable alcoholic beverage containers (excluding kegs) in Ontario



DIVERSION RESULTS VS. PROVINCIAL TARGETS



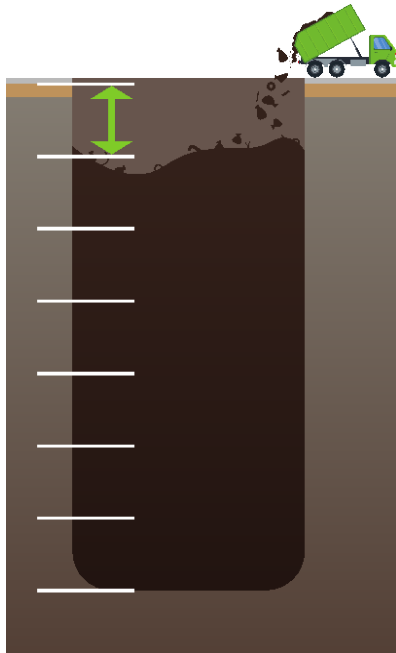
* Tonnes necessary to meet targets may be higher based on Waste to Resource Ontario disposal data.



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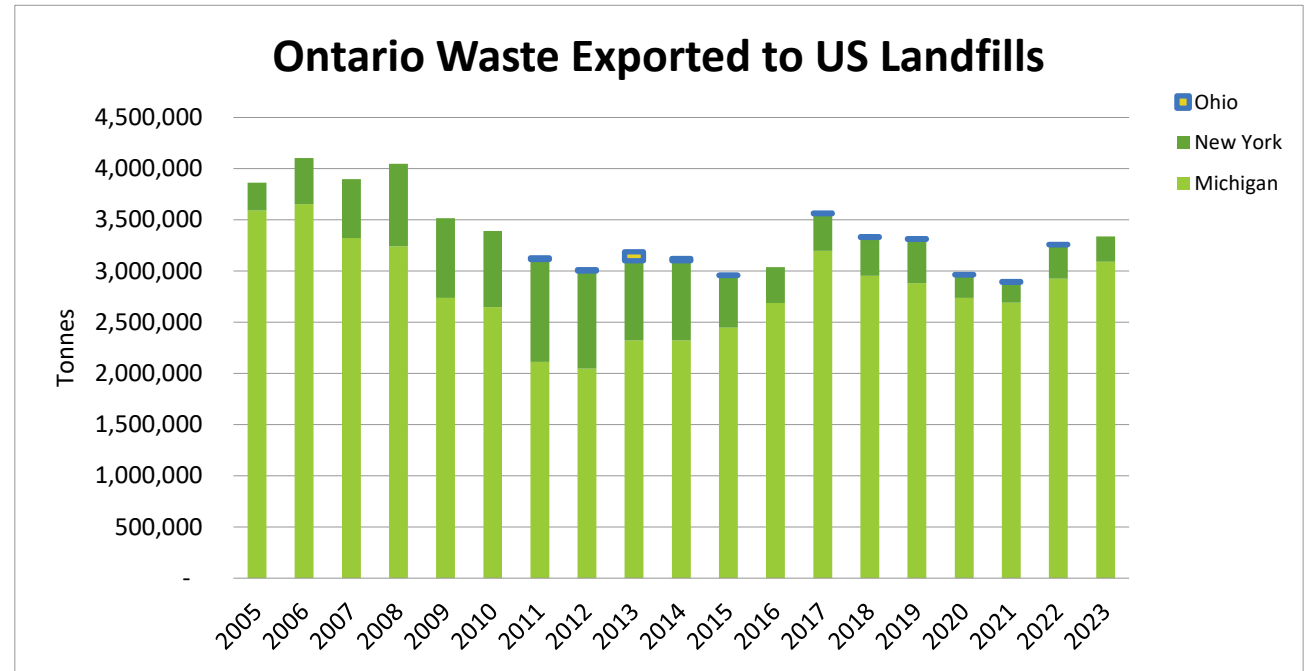
MUNICIPAL CHALLENGES – DISPOSAL

Diminishing Disposal Capacity



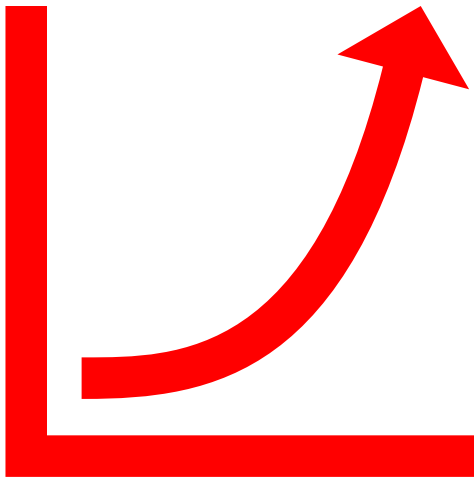
Based on current estimates Ontario has only 10 years of disposal based on current disposal rates

Dependency on US Landfills



Note generally all Ontario private landfills are accepting their annual maximum capacity

MUNICIPAL CHALLENGES – COSTS



- Significant increases across the board – collection, recycling, disposal for both hazardous and non-hazardous waste
- A recent survey of proposals for the collection and management of household hazardous waste household hazardous found cost increases of anywhere between 44% and 300%.

MUNICIPAL CHALLENGES – LEGISLATIVE

- **Transition producer responsibility (outcomes-based)**
 - Fundamental shift for municipal governments (role, services, infrastructure, planning)
 - Complications given what is obligated and what isn't and the role municipalities still play in an integrated waste management system
- **Requirements on landfill capacity**
 - Proposed new federal requirements on landfills (e.g., measurement and infrastructure)
 - Ability for municipalities to veto new landfill developments outside of their boundary in an adjacent municipality

MUNICIPAL CHALLENGES – LEGISLATIVE

- **Greater focus on plastic waste and organic**
 - Federal initiatives include a role for municipalities to report on plastic waste
 - Provincial Food & Organic Waste Policy Statement which requires more municipal governments and businesses to have source separation programs in place

	Southern Ontario			Northern Ontario
	Municipalities with Green Bin programs	Higher density municipalities ²	Large & medium municipalities with medium density ³	Large municipalities with higher density ⁴
Shall	<ul style="list-style-type: none"> • 70% target by 2023 • Maintain or expand curbside services • Areas without curbside provide other diversion opportunities 	<ul style="list-style-type: none"> • 70% target by 2025 • Provide curbside in urban settlement areas to single family homes • Areas without curbside provide other diversion opportunities 	<ul style="list-style-type: none"> • 50% target by 2025 • Provide curbside in urban settlement areas to single family homes • Areas without curbside provide other diversion opportunities 	
	<ul style="list-style-type: none"> • Ensure official plans consistent by period determined in the <i>Planning Act</i> • Ensure bylaws amended within 3 years after official plan update • Work with municipal associations on promotion and education to promote recovery • Ensure approvals for new or expanded resource recovery facilities address <i>D-Series Land Use Compatibility Guidelines</i> and the <i>Compost Guideline</i> 			

² A municipality with a population greater than 50,000 and a population density greater than or equal to 300 persons per km².

³ A municipality with a population greater than 50,000 and a population density less than 300 persons per km²; or a municipality with a population greater than 20,000 but equal to or less than 50,000 and a population density of greater than or equal to 100 persons per km².

⁴ A municipality with a population greater than 50,000 and a population density of greater than or equal to 300 persons per km².

	Multi-residential buildings with 6 or more units	All commercial buildings subject to O.Reg 103/94 that generate more than 300/kg week	All commercial buildings not subject to O.Reg 103/94 that generate more than 300/kg week	All commercial buildings subject to O.Reg 103/94 that generate less than 300/kg week	Educational institutions and hospitals subject to O. Reg 103/94 that generate more than 150 kg
Shall	• 50% target by 2025	• 70% target by 2025	• 50% target by 2025	• 50% target by 2025	• 70% target by 2025
	• Source separation or equivalent				

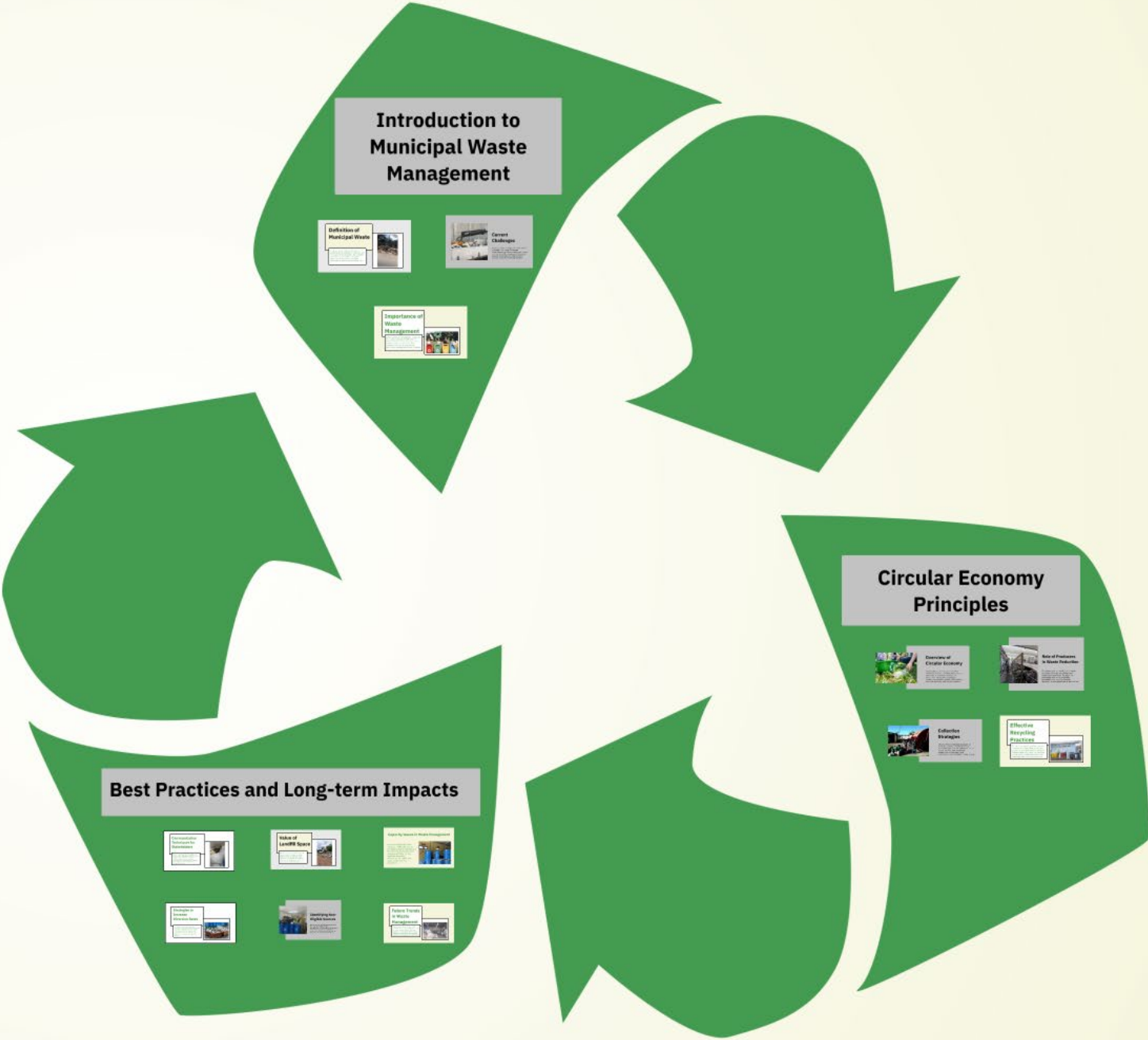
NAVIGATING THE PATH FORWARD

- Considerations:
 - Ensuring access stable long-term disposal capacity and seeking ways to decrease disposal needs
 - Ensuring efficacy of provincial policies
 - Adjusting planning to account for producer led diversion programs
 - Preparing for greater potential reporting requirements related to waste management

Navigating the Future of Municipal Waste Management

Implementing Best Practices for a Circular Economy

Annette Gilchrist, CAO / Clerk / Treasurer, Township of Bonnechere Valley



Definition of Municipal Waste

Municipal waste refers to the waste generated by households, businesses, and institutions in urban areas. This includes solid waste, recyclables, and organic waste, which all must be managed effectively to reduce environmental harm.



Importance of Waste Management

Effective waste management is essential for protecting public health and the environment. It helps reduce pollution, conserves natural resources, and supports the circular economy by promoting recycling and waste diversion.





Current Challenges

Municipal waste management faces several challenges, including inadequate infrastructure, rising waste generation rates, and limited public awareness. Addressing capacity issues and non-eligible waste sources is vital for improving systems.



Overview of Circular Economy

The circular economy is a model that minimizes waste and makes the most of resources. It promotes responsible production, reuse, and recycling to create a sustainable system that benefits both the economy and the environment.



Role of Producers in Waste Reduction

Producers play a crucial role in waste reduction through eco-design and sustainable practices. By reducing packaging and using recyclable materials, they can significantly decrease waste generated at the source.



Collection Strategies

Effective waste collection strategies are key to a successful circular economy. Implementing scheduled collections, multi-stream systems, and community engagement encourages higher participation rates and better waste sorting.

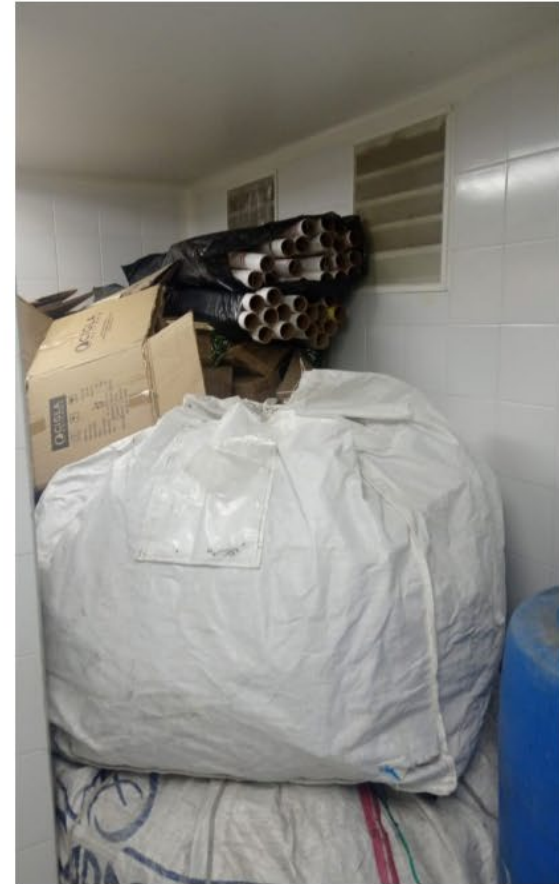
Effective Recycling Practices

To maximize recycling effectiveness, communities need clear guidelines on sorting and disposing of materials. Collaborating with recycling facilities and providing public education can drastically improve recycling rates.



Communication Techniques for Stakeholders

Effective communication strategies are essential to engage stakeholders in waste management initiatives. Techniques include regular updates, feedback mechanisms, and workshops to establish clear objectives and collaboratively navigate challenges.



Capacity Issues in Waste Management

Many municipalities face capacity challenges due to increasing waste volumes and limited processing facilities. Addressing these issues requires assessing infrastructure needs and optimizing resource allocation.





Identifying Non-Eligible Sources

Identifying non-eligible sources of waste is crucial for effective waste management. This includes understanding which materials are not suitable for recycling or composting and educating the public to reduce contamination.

Value of Landfill Space

The economic and environmental value of landfill space must be emphasized. As landfills reach capacity, it is critical to enhance diversion strategies and minimize reliance on waste disposal.



Strategies to Increase Diversion Rates

Implementing best practices like community recycling programs and public education campaigns can significantly boost diversion rates. Emphasizing innovative solutions will enhance the effectiveness of waste management efforts.



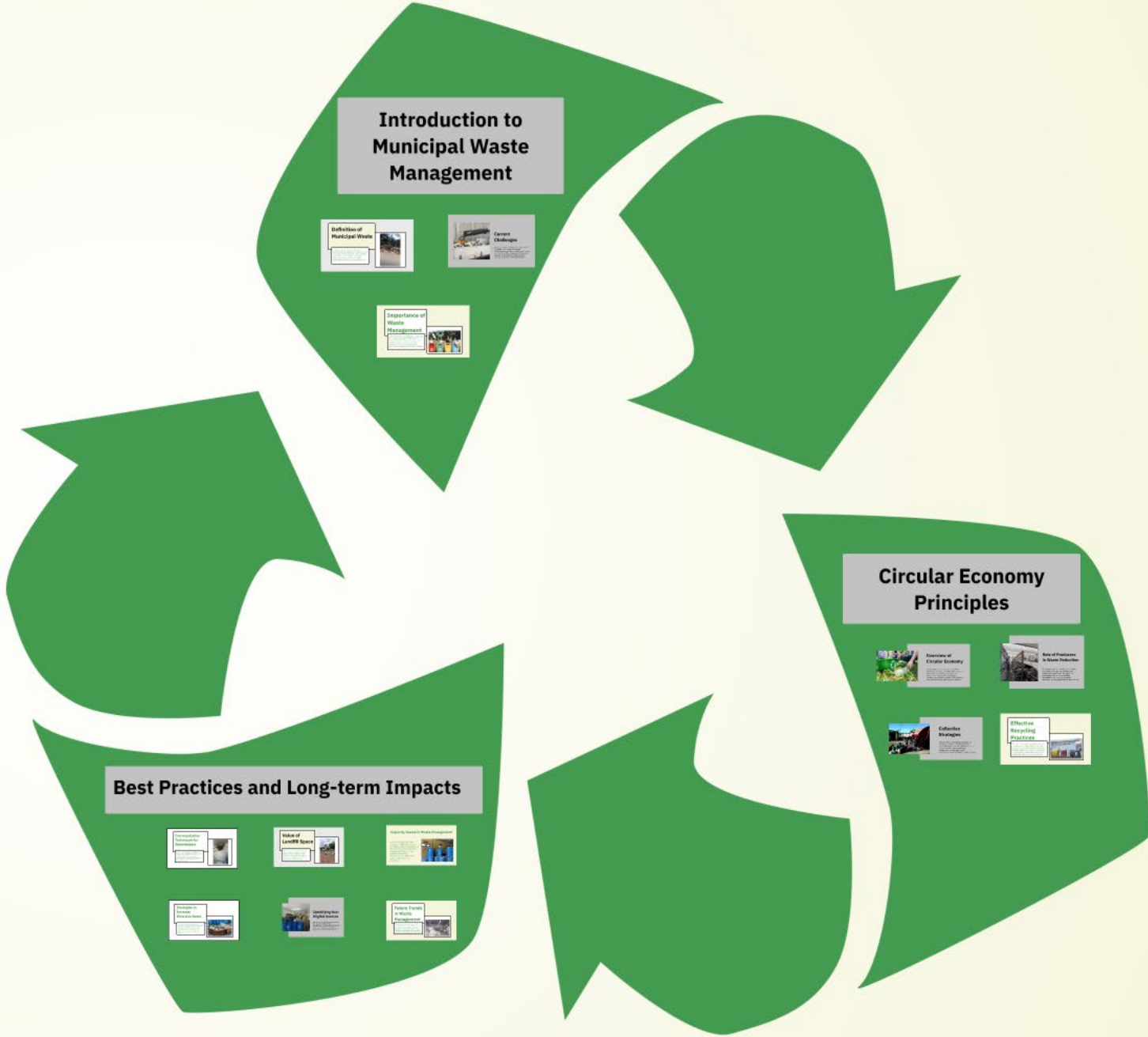
Future Trends in Waste Management

Emerging trends indicate a shift towards technology integration, such as smart waste sorting and data analytics. These advancements can streamline operations and improve overall waste management efficiency.



Navigating the Future of Municipal Waste Management

Implementing Best Practices for a
Circular Economy



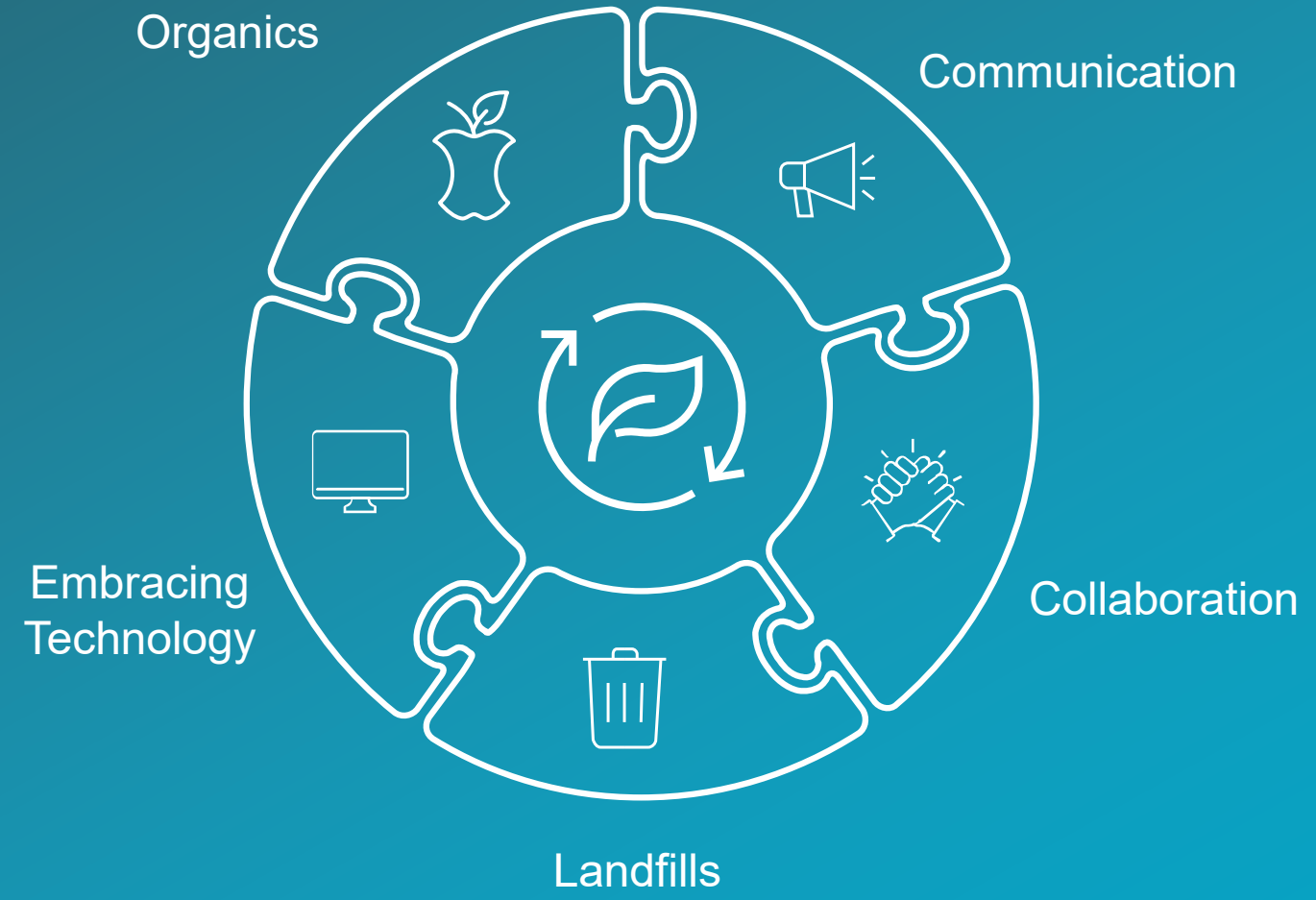
Navigating the Future of Municipal Waste Management

Waste Pressures in the Waste Management Industry

January 20, 2025

Betsy Varghese, Partner, Dillon Consulting

Waste Management Challenges



Challenges in Waste Management



Embracing Technology



Simcoe County: Asking industry for a technological solution to assist in gathering, validating and assessing data on waste collection services.

Anticipated Benefits:

- database of all carts,
- measure different carts set out rates,
- measure weight per cart,
- monitor contamination, and
- create waste profile for each serviced collection stop.

Technology is becoming more available to streamline operations and reduce administrative overhead.

Haliburton County: Collaboration with 3 of 4 area municipalities to seek from industry a digital landfill card solution for managing landfill access.

Anticipated Benefits:

- simplified user access,
- reduction in admin costs,
- supports seasonal residents, and
- provides data for service planning.



Challenges in Waste Management



Communication

It's getting increasingly challenging to know what's fact vs. fiction.



Mark Krebs
<https://www.markkrebs.ca> › blogs › lunar-letter › recycl...
Plastic Recycling Is a Lie
 Nov 10, 2023 — In Canada, we toss away 3 million tonnes of plastic each year. Most of this is plastic packaging. Only 9% of plastic is recycled.

The Sunday Magazine
Why your recycling may not actually get recycled
 CBC Radio · Posted: Apr 18, 2019 5:26 PM EDT | Last Updated: May 2, 2019

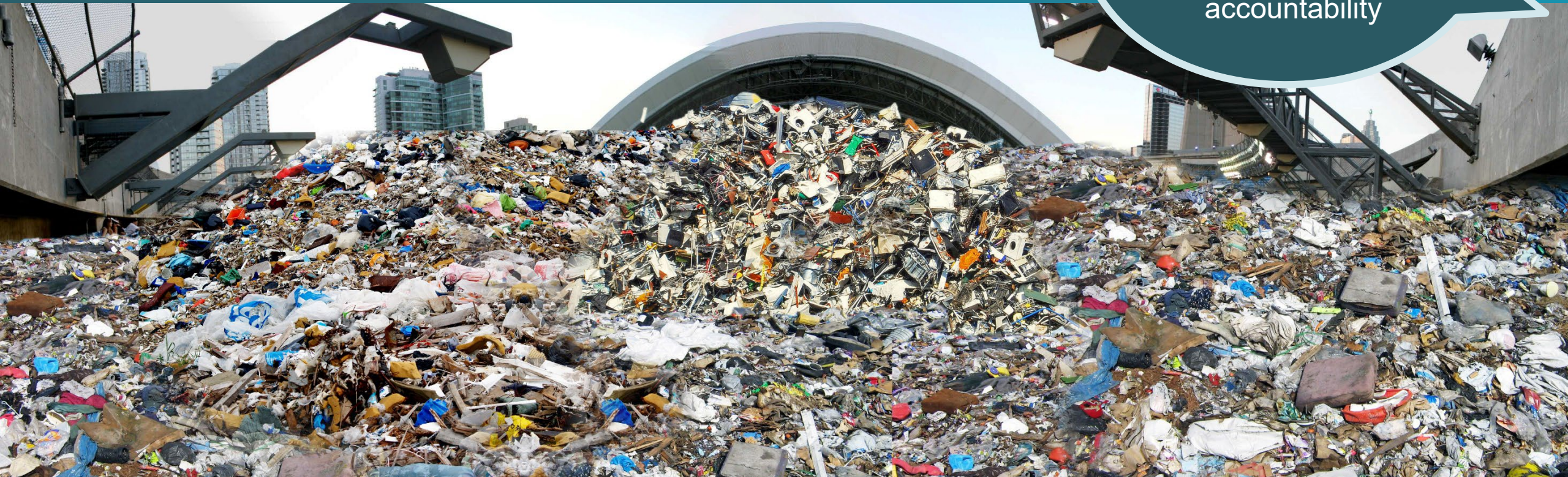
News
Recycling is failing as a way to reduce plastic. Here's why
 175 countries trying to negotiate binding treaty on plastic pollution in South Korea
 Anand Ram · CBC News · Posted: Nov 28, 2024 4:00 AM EST | Last Updated: November 28, 2024



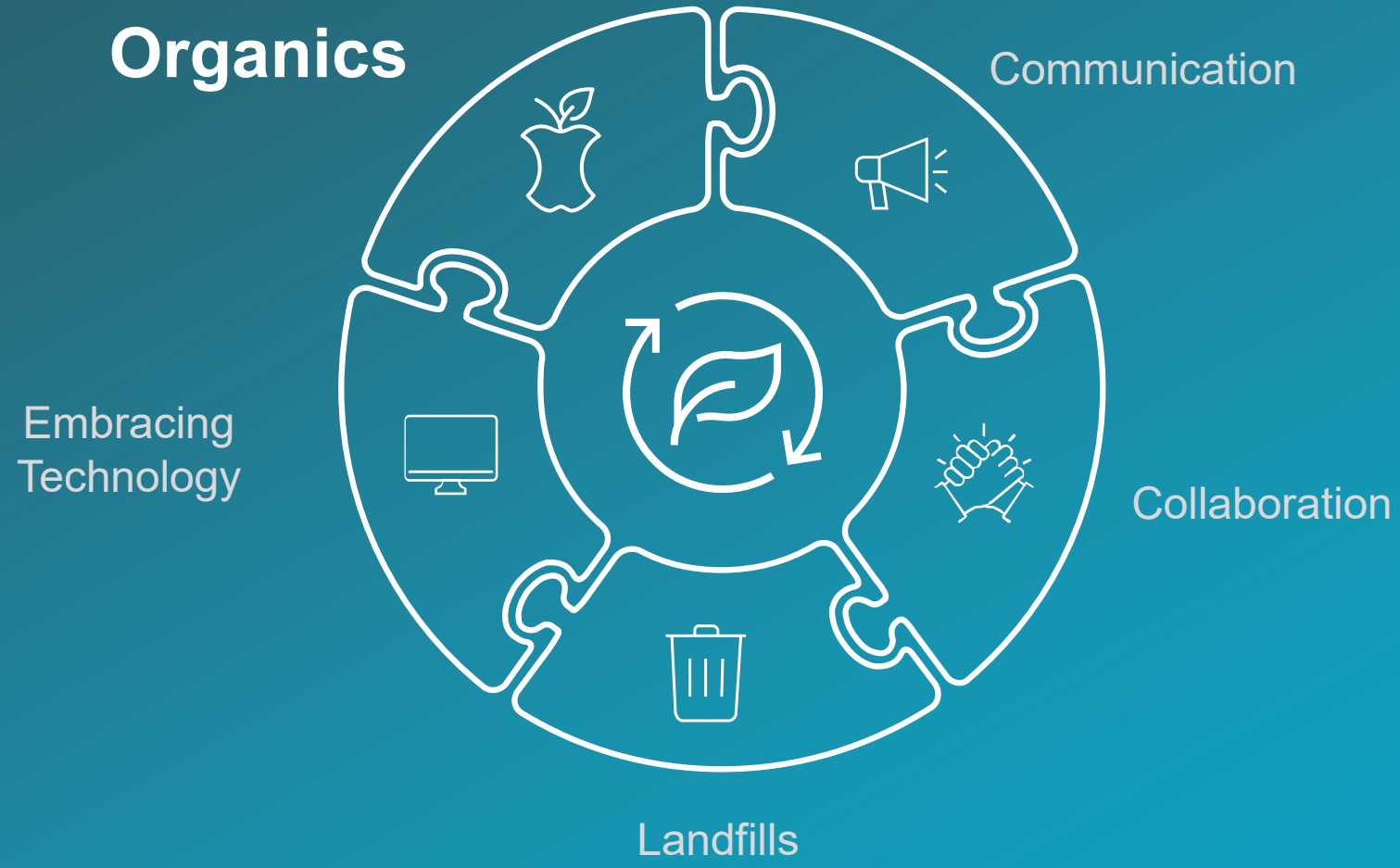
Source: shopequo.com

Communication

Use understandable metrics and visuals to increase accountability



Challenges in Waste Management



Organics Management



- Curbside collection
- Backyard composters and digesters
- In-home countertop units
- Centralized collection
- Multi-faceted approach

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City of Cornwall Initiates Curbside Organics Pick-Up in January 2025

by [MainAdmin](#) — November 6, 2024 in News Reading Time: 2 mins read

Source: [theseeker.ca](#)



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Huron-Kinloss to participate in FoodCycler pilot project

Submitted | March 29, 2023 @ 11:09 am | Local News, News, Wingham Advance Times

Challenges in Waste Management



Landfills

Understand the value of landfill space to support future programs and initiatives.

HOME > LOCAL NEWS

City springs for mattress hauling — you pay the recycling fee

The City of North Bay's mattress recycling drop-off event runs Saturday, Aug. 24, from 8:30 a.m. to 4 p.m. at the Public Works Yard on Franklin Street, and carries a recycling fee of \$25

BayToday Staff
Aug 20, 2024 5:00 PM

Home · News

Non-profit helping Island companies find value in construction waste

Light House's new initiative, the Building Material Exchange, helps connect contractors

Science

Demolishing buildings is a waste. There's another way: deconstruction

Taking apart and separating valuable materials allows them to be recycled, reused

Emily Chung · CBC News · Posted: Nov 17, 2024 4:00 AM EST | Last Updated: November 28, 2024

Feature Story Local News

Landfill battle continues in Dresden

By Pam Wright · April 9, 2024

708

- **Maximize remaining space:** Restrict disposal of bulky items like mattresses, furniture and construction waste.
- **New capacity is expensive and it isn't easy to get.**



Challenges in Waste Management



Collaboration



Infrastructure Sharing



Municipal Collaboration Examples



And, in an add-on to the motion, as proposed by Coun. Sarah Good, the city will engage with municipal neighbours discuss the possibility of having a regional solution to the processing of organics, biosolids and septage.



About Durham York Energy Centre

The Durham York Energy Centre (DYEC) is a waste management facility that produces energy from the combustion of garbage. The DYEC safely processes 140,000 tonnes per year of residential garbage that remains after maximizing waste diversion programs – reducing, reusing, recycling and composting – in Durham and York Regions.



Mayors vote to abandon local incinerator project, still open to “regional solution”

16 May 2024 à 2:43 pm

Update – ‘Financially imprudent’: Utilities Kingston recommends cancelling proposed biogas plant

December 11, 2024 Bill Hutchins

Collaboration



Circular Economy

Recipe for a Circular Food System



Designed by OneEarth Living, vector elements from macrovector / Freepik.



Municipal solid waste and organics diversion

Municipal solid waste departments play a crucial role in helping residents divert organic waste from landfill and create a waste-conscious culture among residents. Learn about [Wellington County Organics diversion](#) and [City of Guelph Solid Waste Data and Technology pilots](#).



Local food rescue infrastructure

Social enterprises can be equipped to provide core local food infrastructure, offering programs that enable innovative food access, food rescue, and businesses incubation. Learn about [Groceries from The SEED](#) and [Community FEWD](#).

Although the food system is globally connected, every place has diverse food cultures, economies, and ecologies. Our circular food economy initiative in Guelph-Wellington has shown us the importance of understanding the diverse resources, skills, and infrastructure that make our region unique. On our journey, we discovered some key ingredients that have helped connect and catalyze food system transformation by increasing access to affordable nutritious food, regenerating natural resources, and gaining value from wasted food.



Food security collaboration

There are significant benefits in building relationships, collaborating, and sharing resources to improve community access to affordable, nutritious food. Learn about the [Harvest Impact Fund](#).



Waste-to-value innovation and testing

Innovators want to turn waste into valuable products and services. This requires resources to develop their ideas, connect with collaborators, and access real-world testbeds. Learn about [how social enterprise drive circularity](#) and [how COIL supported hundreds of circular innovators](#).



Innovative and regenerative food production

Local food production can regenerate the health of the soil and provide nature-based solutions. Learn about [farmers' role as ecosystem service providers](#).



Data and insights to create a circular culture

Research and new technologies can generate real-time data on material flows so we can make better business choices that are unique to our food environment. Learn about [Food Waste Flow Study](#), the [Food Environment Assessment](#) and [Motivations for Lighter Living research](#).



New waste diversion services for businesses

Businesses face significant barriers to food waste diversion such as cost and lack of regulatory requirements. New service models are needed to fill the gap. Learn about the [ICL pilot](#), and [COIL's Zero Waste Transformation Lab](#).



Engaged communities

Engaged residents can lead the way to a more resilient, just, and climate-positive food system. Learn about [Our Food Future's community agriculture projects](#) and the [Food System Resiliency Table](#).

Considerations for the Future

Key Pressures:

- 01** Rising operational costs for waste collection, processing and disposal.
- 02** Limited landfill capacity and high costs for new infrastructure.
- 03** Reluctance to change behaviour and reduce more waste requiring management.
- 04** Limited resources and lack of scale to make changes.

Municipal Goals:

- 01** Improve cost efficiency and long-term planning.
- 02** Enhance and/or expand waste diversion programs where feasible.
- 03** Promote community accountability and reduce and spreading of misinformation.
- 04** Foster regional collaboration to share resources and expertise.