

Glass:

Whose Responsibility is it?

Mike Birett
Managing Director, CIF

Glass is an Iconic Symbol of Recycling



But The Decline Started Decades Ago



MRFs Adapted Accordingly



So Now What?



- Do we finance a downstream solution?
- Do we upgrade our MRFs?
- Do we cease curbside collection?
- Alternatives?
- Options?



Time to Have a Frank Discussion

- There are no silver bullet(s)
- Panel of experienced stakeholders
- Today's goal is to get the issues on the table & see if there's a path forward





Hamilton

Dave Faris Yousif
City of Hamilton

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Municipal Glass Recycling in Ontario

- Tonnage: ~94,000 tonnes (2013)
 - 61% single stream
- Destination: Nexcycle, CLP, Niagara Ecoglass, use at landfills
 - Market Failure: Hamilton Consumers Glass, Unical, Klareco/Unical, eCullet, Hillcrest
- Sorting Equipment: ORSE, trommels, opticals, screens, air separators

Glass Recycling in Hamilton

- Tonnage: 3900 tonnes (2014)
- Equipment: ORSE (Organic Separator)
 - Pre-install: NGR in glass stream ~50%, difficult & costly to market
 - Post-install: NGR in glass stream ~10%, marketed to Nexcycle



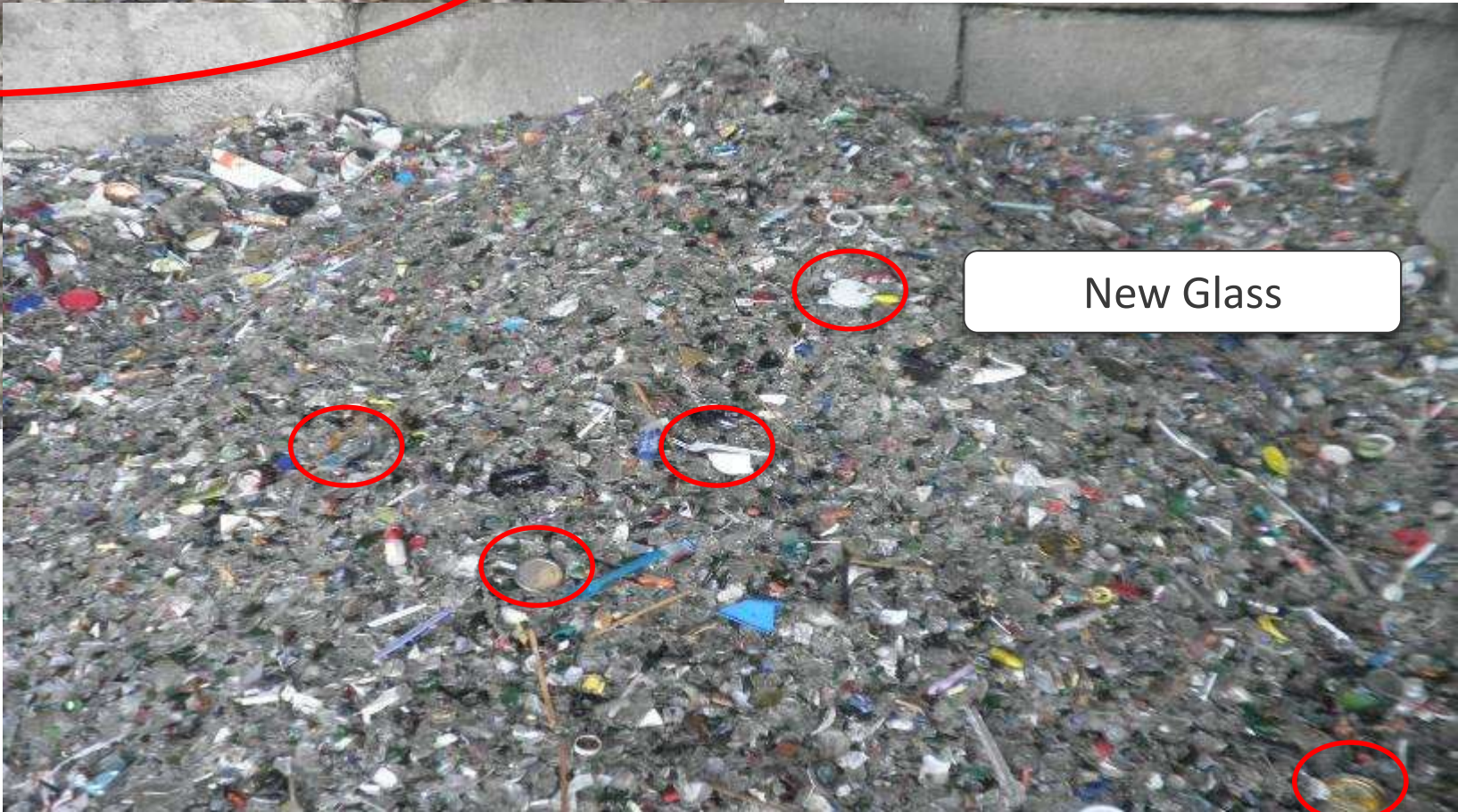
New Equipment
(ORSE)



Old Trommel



Old Glass



New Glass



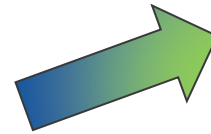
Joseph LaPierre

Company Overview

- NexCycle Canada is a large volume recycler of glass & plastics with 3 manufacturing plants in Canada
- Currently employ 150 people in Ontario
- Over 25 years of recycling activity in Ontario
- A division of Strategic Materials Inc. (SMI) the largest glass recycler in North America with over 40 plants on the continent

Company Profile

- We accept municipal blue box glass, container deposit glass & industrial glass
- Utilizing the latest mechanical & optical sorting technology we size & purify glass into “cullet”: a desirable feed-stock for glass manufactured applications



Importance of Glass Quality

A Tale of Two Piles



Market Trends – Municipal Glass Supply

- Cullet Demand Remains Strong, but the economics have changed
- Most MRF tons have shifted from dual/triple-stream to single-stream recycling
- Quality of Incoming material has declined
- T-Put rates ↓ Yield Loss ↑
 - Landfill % & costs increasing
 - Environmental management costs are increasing
 - The costs of processed cullet are increasing

Market Trends – Municipal Glass Supply

- Customer specifications are stringent:
 - Less glass for high end markets
 - Growing piles for low end markets
 - Economics are challenging
- Chasing technology solutions in a changing game = \$\$\$\$

NexCycle Countermeasures (Quality Assessments; Data Collection) (1)

- Created inbound inspection program & began to share data with suppliers
- Tied pricing to incoming quality
- Working to be open & transparent on pricing



NexCycle Countermeasures (Quality Assessments; Data Collection) (2)

- Key drivers for our pricing are:
 - NGR% & landfill rates
 - Undersize%, our technology capability & market outlets
- Enable MRF's to evaluate economics of quality

Undersize Fines (-3/8")	Usable Glass (+3/8")	Non-Glass Residue (NGR)
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18%	64%	18%
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NexCycle Countermeasures (Re-Investment, Innovation)

- \$300,000 in Environmental Stewardship measures over last 3 years – further investments committed for 2015
- Aggressive inventory & processing reduction initiative:
 - 145,000 tons on site in 2008
 - 40,000 tons on site in January 2015
- \$2.5 million in capital investment upgrades over last two years for MRF glass processing & capacity enhancements

In Summary

- Currently receiving over 60% of Ontario's municipal BB glass
- Sufficient capacity to service all Ontario's municipal glass assuming reasonable quality
- Recycling solutions provider for the Beer Store & ODRP program

*Our goal is to be the most competitive & reliable **long term** recycling solution for all of Ontario's municipal glass*



Canada's National Brewers

Brian Zeiler-Kligman

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[@EnviroBeerGuy](https://twitter.com/EnviroBeerGuy)

Beer Store Operates 2 Recycling Programs

1.65 Billion beer containers collected
303 Million wine & spirit containers collected

Beer Store's program for beer containers
(self run)
Since 1927



93% recovery rate

- 100% industry-funded
- 300,000 MT diverted from landfill
- Includes ~23,000 MT of OC

Ontario Deposit Return Program
(wine, cooler & spirits containers)
Since 2007



80% recovery rate

- Funded by LCBO
- >110,000 MT diverted from landfill
- Increase of ~64,000 MT in glass recycling

The Basics

Beer Container

- Covers all TBS-listed products (sold in glass bottles & metal cans), including those sold by:
 - Ontario-based brewers – craft, large or otherwise
 - Regional brewers
 - Foreign brewers (imports)
 - Consumer & Licensees (IC&I)



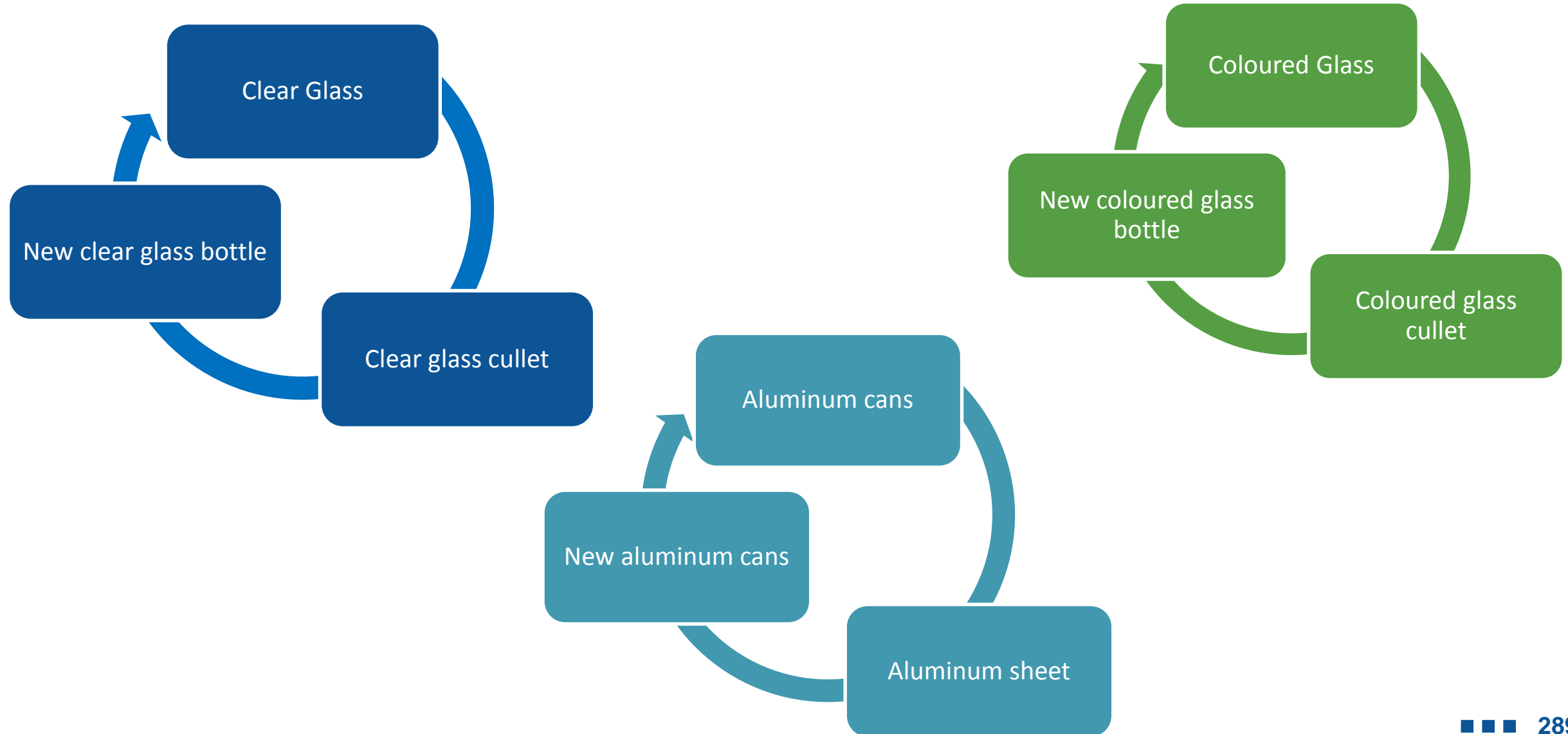
ODRP

- All beverage alcohol containers over 100 mL sold in Ontario are part of ODRP
 - Containers under 630 mL - \$0.10 deposit
 - Containers over 630 mL - \$0.20 deposit
- Includes alcohol products sold in:
 - Bottles (glass & plastic)
 - Cans (aluminum & other metals)
 - Tetra pak
 - Chill packs
 - Bag-in-box packaging

Unmatched Environmental Results

- Recovers **~2 billion containers/yr** (beer + ODRP)
 - >2 billion ODRP containers returned in past 8 years
 - >400,000 MT annually - equivalent to >45% of materials collected through BB program
- **Savings** to Ontario taxpayers **of over \$40M** (from both programs)
 - Net cost of ODRP approx. \$0.05/container
 - Net cost for glass containers in BB is \$0.10-\$0.16
 - Net cost for glass containers in BC & AB range from \$0.087-\$0.30
- Beer Store **recovers more paper & plastic** than the industry generates
- Avoided ~196,000 MTCO₂E of GHGs
 - Equivalent to taking ~41,333 cars & trucks off Ontario roads

Deposit System Enables High-Value Recycling



1. What are the implications of glass for MRF processing?

**2. Why can't the glass just be received as
is at the downstream reprocessor?**

**3. Tell us about how glass is being handled
in other provinces, specifically BC**

4. Can you comment on effectiveness of glass clean up systems in the MRFs

5. Does seasonality dramatically affect the amount & quality received?

6. What are major contaminants before & after MRF glass clean up systems

7. How much of the glass you receive actually gets diverted? Can you break it down for us?

8. What are the traditional markets for glass? Do you have any trouble selling to these markets?

9. Can each of the panelists comment on the viability of moving glass from curbside to depots to improve quality

10. There are complaints from consumers about having to return glass via deposit return programs

11. With 20% of the Ontario Blue Box glass being deposit return, is there a way to improve capture?

12. From a packaging design perspective, is glass here to stay?

13. What is the next step?



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Closing Remarks



Thank you
**ORW speakers, Simcoe County Landfill Staff plus
in person & webcast attendees**

Please complete ORW survey next week

See ORW slides & webcast archive:
<http://cif.wdo.ca/events/orw/index.htm>

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