



Ontario Recycler Workshop

Thursday, November 24
9:30 a.m. to 3:30 p.m.



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Welcome from the City of London

Jay Stanford, Director,
Environmental Programs & Solid Waste




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Welcome to London, Ontario






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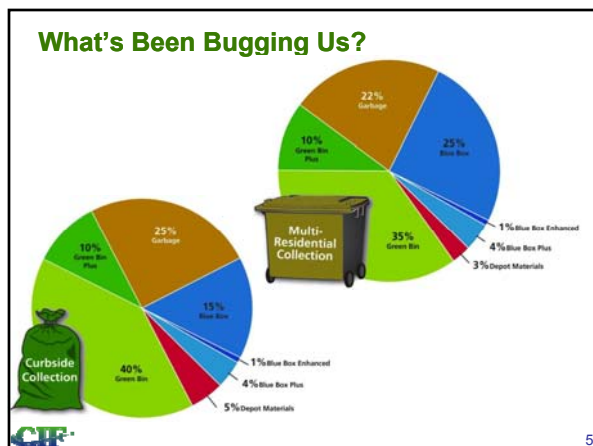
A Few Facts & Figures. . . That Matter to Recyclers



- 365,000 people
- 115,000 curbside homes (20% townhome)
- 50,000 multi-residential (stacked) units
- Since 2005, kg/hhld is stagnant; volume has grown about 30%
- Recycling penetration – outside the home – is not growing

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What's New in Recycling?

2011 was a banner year for recycling in London





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New Materials with more MRF capability and capacity



CIF funded for plastics P&E



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Adding Curbside Capacity with 80 Litre (22 Gallon) Big Blue



CIF funded



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Adding Multi-residential Capacity – Carts



CIF funded



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Adding Multi-res 'OCC' Capacity – OCC Bin Pilot



CIF funded



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Manning Drive MRF – Opened August 2011



CIF funding to build regional MRF



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What Are Some of the Biggest Challenges We Face?

1. Reducing contamination
2. Managing challenging materials
3. Improving curbside & multi-res (capture, participation rates)
4. Highlighting the value of recycling
5. Securing sustainable funding



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Our Focus for 2012

Optimization Projects. . . targeting:

1. materials with low capture rates
2. contamination and non-recyclables
3. neighbourhood recycling performance feedback
4. litter reduction from Blue Boxes



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A Few Perspectives from London Staff

- Partnerships/relationships are a key part of our foundation
- All aspects of an integrated waste management system must be maintained and optimized
- Local and regional benefits of resource management have not been optimized



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EPR in London. . . Some Different Meanings

- Extended Partner Relationships
- Educated Partner Responsibilities
- Enthusiastic People Required



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Ontario Recycler Workshop

Andy Campbell,
Director, CIF



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Today's Audience

- Approximately 60 people in London
- Expecting 40+ online
- Audience members include:
 - municipal councillors, recycling & waste staff & other staff members
 - industry association representatives
 - program representatives, consultants & other stakeholders



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Today's Program & Housekeeping

Full day session (to ~3:30 p.m.) with program & project updates

For webcast viewers

- 1 sound slider
- 2 webcast technical assistance
- 3 "Ask a Question"
 - no response via console
 - check email
- 4 link to slides & resources



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Tour of Two MRFS

- ~40 people
- Preventive Maintenance Program presentation by Bob Marshall, HMI Consulting Services Inc.
- London MRF presentation & guided tour
- Bluewater MRF presentation & guided tour



Special thanks to
London & Bluewater MRF Staff
& to Bob Marshall, HMI
for a successful day!



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Snapshot...Today's Program

- Program updates
- Morning break
- Meeting Best Practices (BP) for Planning & Procurement
- Lunch
- Automated Collection: The Wave of the Future
- Afternoon break
- The Future of Blue Box Collection
- Reflections on Managing Printed Papers & Packaging



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Today's Speakers

- Abby Barclay, Town of Amprior
- Larry Freiburger, AET
- Cory Smith, Mississippi Mills
- Francis Veilleux, Bluewater Recycling Association
- Glenda Gies
- Jay Stanford, City of London
- Joe. C. Williams, Innovative Hydrogen Solutions
- Kevin Vibert, City of Toronto
- Maria Kelleher, Kelleher Environmental
- Mary Little, 2cg Inc.
- Paul Shipway, McKellar Township
- Paul Speed, Rehrig Pacific Company
- Rick Clow, MIPC
- Sherry Arcaro, Stewardship Ontario
- Shirley McLean, Halton Region



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CIF Update

Andy Campbell, P.Eng.
Director, CIF

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Overall CIF Project Status

Total Applications	612
Total Approved Projects	445
Total Approved Funding	\$30.5M
Total Project Value	\$73M
Outstanding Applications	24
	w/request for \$19.6M
Remaining Funds for 2011	\$11M



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2011 Project Highlights

Program Area	Total 2011 Approvals
RFP assistance	\$105,000
Large blue boxes	\$401,000
Multi-residential	\$456,000
Promotion & education	\$769,000
Public space recycling	\$782,000
Recycling plans	\$440,000
Northern Ontario	\$308,000
Energy efficiency	\$109,000
MRF & transfer stations	\$256,000
Other	\$1,109,000

171 projects approved in 2011



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MIPC Decision Summer 2011

- CIF to be extended for 2 years
- 2012 contribution ~\$4.5M
 - up to 50% for rationalization
- 2013 contribution TBD in BP discussion before year end
 - will not exceed 10% of Base Steward Obligation less CNA/OCNA in-kind obligation
- Up to \$8M of existing uncommitted CIF funds for regionalization
 - no spending until Rationalization Study complete
- MIPC to develop new set of strategic directions for CIF
 - new mandate to direct funds to system rationalization, based on Provincial Optimization Study recommendations



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New CIF Strategic Direction

- Change funding emphasis from 2008 priorities to expenditures based on new project priorities set by MIPC & the CIF Committee
- Focus on provincial optimization
- Focus on materials management strategies
- Focus on Blue Box BP knowledge & training



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What are Municipalities Asking For

- How to create a sustainable waste management system in EPR world
- Outreach—practical examples on how to improve system
- How to do business cases to implement change
- Articulate CIF learnings
- Training on how to operate facilities, write tenders/ RFPs
- Training on health & safety
- What are future BP & how to adopt them



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2012 CIF Operations Plan

- Reduced resources as a result of reduced budget
- Work with municipalities to complete nearly 400 outstanding projects
- \$10M in proposed funding for provincial optimization projects
- \$0.75M for knowledge resource centre
- Continue to provide on-site assistance with municipalities to discuss operational improvements



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Knowledge Resource Centre Concept

	Proposed 2012 Budget
Business, Operations & BP training	\$300,000
BP development	\$150,000
RFP, tender & recycling plan development	\$100,000
Materials management studies	\$100,000
Sustainable waste management systems	\$100,000
Ontario Recycler Workshops	Included in Admin budget
Total	\$750,000



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Study for Optimization of Blue Box Material Processing System in ON (1)

- Purpose: to seek an optimal Blue Box system on a “waste shed basis”—not on municipal boundaries
- Use more transfer stations
- Use larger regional MRFs
- Minimize transportation logistics
- Include municipal & private sector facilities
- Options to include analysis for 2012 & 2025
- Sensitivity analysis to changing fuel costs & material volumes



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Study for Optimization of Blue Box Material Processing System in ON (2)

- Retain a consultant in December
- Project to be completed in spring, 2012
- CIF & MIPC will need to determine funding policies for \$10M budget
- Develop application process for municipal submissions



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Blue Boxes & Carts

- 2012 budget does not include funding for large Blue Boxes or carts
- Municipalities can still access CIF tenders for carts & 22-gallon Blue Boxes at substantial savings in 2012



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RFP & Recycling Strategies Assistance

- CIF staff will approach municipalities who scored lowest on WDO Best Practice questions
- Municipalities who have immediate contract renewals should contact CIF

\$100,000 total budget for 2011



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CIF Staff

Website - www.wdo/cif.ca

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Incremental Change Today... Better System Tomorrow

Sherry Arcaro
Director, Blue Box System
Optimization
Stewardship Ontario

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The landscape is changing for the better



Partnerships that create positive change in the system



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Industry Initiatives



100% plant based bottle to be piloted in 2012



Partnership between Heinz & Coca-Cola on 30% plant based bottle



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On-going Communication & Collaboration

- **What is the purpose of PAC NEXT?**
- **VISION:** A world without packaging waste
- **MISSION:** To unite leading organizations across the packaging value chain to collaboratively explore, evaluate & mobilize innovative packaging end-of-life solutions
- **SOLUTIONS:** Economical recovery that leads to improved Reduction, Recycling, Reuse, Up-Cycling, Composting, Energy-from-Waste & other Emerging Solutions
- **OBJECTIVE:** To facilitate the convergence of ideas & identify sustainable solutions that lead to zero packaging waste



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Lots of Work Still To Be Done!



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Multi-municipal "Plastic Is In" Campaign



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Creative



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Results:



- | | | |
|----------------------------|---|---------------|
| #1 other rigid pkg – clear | ↑ | 6.2% to 72.7% |
| #1 other rigid pkg – clrdr | | 5.4% to 60.4% |
| #1 other rigid bottles | | 3.9% to 90.8% |



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Upcoming Projects

- City of North Bay (in market)
- Region of York (working on agreement)
- City of Kingston (working on agreement)
- City of London (spring 2012)
- Region of Niagara (spring 2012)

Is your Plastic In? SO can help.



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Other materials...



In some cases, market development to be done
In other cases, effective MRF technology needed!



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Contact Info:

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Stewardship Ontario

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Stewardship Ontario

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Distribution of 2012 Funding

Rick Clow
MIPC



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2012 Steward Obligation



sect. 25(5) Waste Diversion Act (2002)

Total amount paid to all municipalities under the program [shall be] equal to 50 per cent of the total net costs incurred by those municipalities

2005 Cost Containment Plan Requirement

Municipal Blue Box recycling programs will, where possible, work to operate at **best practices** to minimize gross & net Blue Box program costs

2012 payment to all programs is \$93.4 M



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2011 Datacall Begets 2012 funding



DATACALL RESULTS

Total Gross Cost:	\$298.5 M
Total Revenue:	\$95.2 M
Total Net Cost:	\$203.1 M

COMPARISON COSTS

BP Estimated Gross:	\$270.3 M
3 Year Average Revenue:	\$86.0 M

FINAL NEGOTIATED

Best Practices Net Cost:	\$187.7 M
2012 Steward Obligation:	\$93.4 M



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In-kind Funds & CIF



Not Everything is Paid in Cash

In November 2005 the Minister agreed that steward fees for newsprint producers who were members of the CNA or OCNA would be in the form of in-kind newspaper advertising

- 2012 CNA/OCNA deduction: \$3.5 M
- 2012 CIF Contribution: \$4.5 M
- CIF Investment Demonstrates Municipal Commitment to BP
- From 2008 to 2011 municipalities invested \$53.4 M of steward's obligation to demonstrate their commitment to continuous improvement & promotion of BP. In addition funds have been matched by municipalities



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Final Breakdown of Our Share

Remaining Funds in 3 Buckets			
Funding Year	2010	2011	2012
Datacall Year	2008	2009	2010
Best Practice	5.0%	15.0%	25.0%
Performance	30.0%	40.0%	45.0%
Net cost	65.0%	45.0%	30.0%

2012 Funds for Distribution: \$85.4M



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What's Left to Distribute?

2012 Funds for Distribution: \$85.4 M



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Not everyone gets 50% of what they spent

recall: "total amount paid to all municipalities under the program [shall be] equal to 50 per cent of the total net costs

50% of our reported net costs = \$101.5 M

50% of the negotiated net cost = \$93.4 M

8.6% of this goes to CNA/OCNA & CIF

- 2005 Cost Containment Plan directs us to: reward municipalities that have implemented identified BP & provide incentives for municipalities to adopt BP

Funding distributed in 3 sub-buckets to satisfy this direction

Net Cost Funding



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Represents 30% of total \$85.4 M available funds

Represents 12.6% of \$203.1 M Reported Net Costs

All programs receive 12.6% of their Reported Net Costs

Represents guaranteed minimum funding level

Facts About Recovery Rates – 2012

- Provincial Recovery Rate: 67.6%
 - Stewardship Ontario develops annual estimate of generation by municipal program
 - "generation" is tonnes of Blue Box materials available for collection from residential sources

Recovery Rate = Marketed Tonnes ÷ Estimated Generation

- 223 programs reported recovery rates from 3.3% to 286%
 - recovery rates capped at 90% for performance calculations



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Best Practices (BP) Funding

Represents 25% of total \$ 85.4 M available funds

Represents 10.5% of \$203.1M Reported Net Costs

BP Score from Section 3.4 of Datacall



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- recall the Cost Containment Plan instruction to provide incentives for municipalities to adopt BP?

- Step 1: Calculate each program's "tonnage based share of net costs"
- Step 2: Multiply all programs tonnage based share of net costs by their BP score from Section 3.4
- Step 3: Scale each program's best practice score down equally so total funding adds up to \$21.4M

- Basic Principle: All programs with the same BP score get same percentage of their tonnage based share of funding

Performance Funding

- Represents 45% of total \$85.4 M available funds
 - represents 18.9% of \$203.1 M Reported Net Costs
 - "performance" includes:
 - Efficiency = net cost per tonne recovered**
 - Effectiveness = tonnes recovered per tonne generated**



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Facts About Net Costs-2012

- Average Net Cost per Tonne** **\$228.86/T**
 - lowest cost 5% of tonnes \$ 125.03/T
 - highest cost 5% of tonnes \$ 517.53/T
 - 95% of programs cost less than \$1416.92/T
 - 90% of programs cost less than \$ 853.78/T
 - 80% of programs cost less than \$ 589.93/T
 - 50% of programs cost less than \$ 357.75/T



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Performance Funding

Goals:

- Reward efficient programs
- Reward effective programs



How it's done:

- comparison with other like programs using 9 municipal groupings
- recovery rates capped at 90%
- E&E factor = net cost per tonne ÷ recovery rate
- Programs score based on performance within municipal grouping determines funding level
- Municipal group with more good performers than other groups will get additional funding



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Program Funding Analysis

- Final funding should be consistent year to year & explainable
- 2012 will return relatively less for steady excellent BP programs because more programs are sharing BP bucket

	Net Cost Allocation \$25,628,135	Best Practices Allocation \$21,356,779	E & E Allocation \$38,442,203	Total Est. Funding \$85,427,117
Large Urban	\$12,463,281	\$11,002,570	\$17,977,021	\$41,442,872
Urban Regional	\$4,870,891	\$5,971,652	\$7,705,218	\$18,547,761
Medium Urban	\$1,285,739	\$959,820	\$1,923,214	\$4,168,772
Rural Regional	\$3,424,977	\$2,241,901	\$5,186,452	\$10,853,330
Small Urban	\$606,126	\$377,127	\$1,039,947	\$2,023,200
Rural Collection - North	\$424,010	\$99,786	\$740,667	\$1,264,463
Rural Collection - South	\$1,888,726	\$585,768	\$2,873,774	\$5,348,269
Rural Depot - North	\$352,068	\$26,394	\$494,181	\$872,643
Rural Depot - South	\$312,317	\$91,763	\$501,728	\$905,808



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2012 vs. 2011 Funding

- Funding increased in all groups
- Total available funds increased from \$81,121,037 to \$85,427,117 for participating programs
- Tonnes increased from 870,214 to 887,242

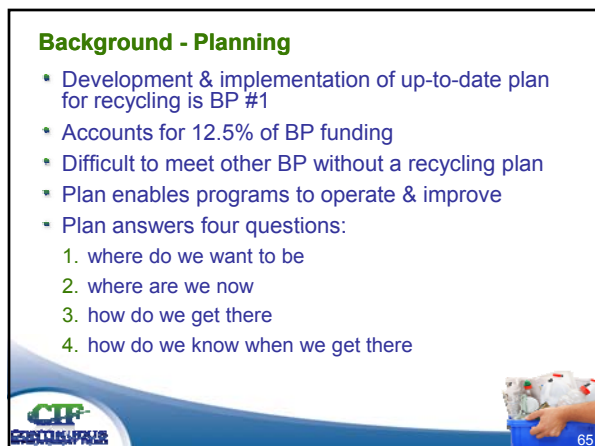
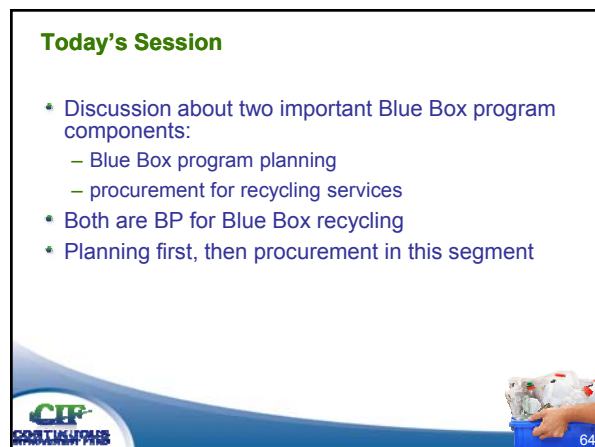
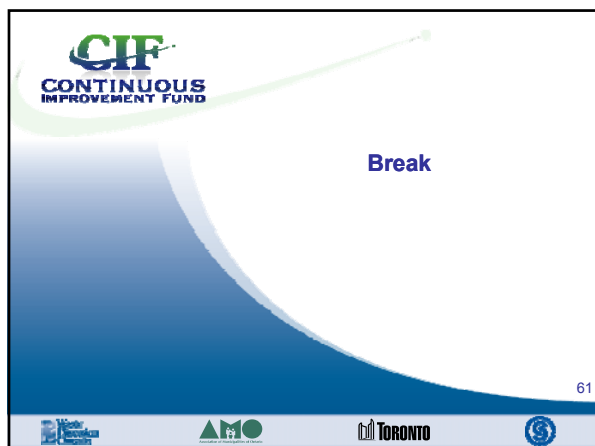
	Total Estimated Funding \$85,427,117	2011 Total Funding \$81,121,037
Large Urban	\$41,442,872	\$38,704,666
Urban Regional	\$18,547,761	\$18,410,421
Medium Urban	\$4,168,772	\$3,932,501
Rural Regional	\$10,853,330	\$10,756,240
Small Urban	\$2,023,200	\$1,755,655
Rural Collection - North	\$1,264,463	\$1,091,775
Rural Collection - South	\$5,348,269	\$4,984,757
Rural Depot - North	\$872,643	\$798,307
Rural Depot - South	\$905,808	\$686,714



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Questions

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Results

- 2009 Datacall–75% of programs did not meet planning BP
- 2010 Datacall–45% of programs did not meet planning BP
- CIF has approved 93 planning projects–10% have been co-operative planning projects
- Based on approved projects & Datacall responses, estimate only 65 programs not meeting planning BP (29% of programs)
- Goal was 100% compliance



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Recycling Planning Session

- Have different perspectives on Recycling Planning
 - overview of planning & what are the main issues being encountered
 - how a large municipality handles ongoing task of keeping a plan current
 - benefits of planning for a smaller program & how it assists with implementing improvements



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Today's Speakers

- Mary Little, Senior Consultant
2cg Inc.
- Shirley Mclean, Supervisor, Waste Planning
Halton Region
- Paul Shipway, Administrative/Treasury Assistant
Township of McKellar



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Planning for the Future Through a Waste Recycling Strategy

Mary Little
Senior Consultant
2cg Inc.

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Presentation Highlights

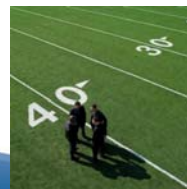
- Creating an Effective Waste Recycling Strategy
- For more information:
 - mary@2cg.ca
 - www.2cg.ca



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What is a Waste Recycling Strategy?

- A Strategy is defined as:
 - a plan, approach or tactic
- A municipal Waste Recycling Strategy is a tool to help your program achieve Best Practices (BP) in the management of your Blue Box material



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Requirement

- The funding to municipalities in 2011 will be:
 - 15% based on 2009 Datacall BP questions
- The cash funding to municipalities in 2012 based on responses to 2010 Datacall will be:
 - 25% based on 2010 Datacall BP questions



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Municipal Reaction

- “Limited staff resources & budget to devote to a Strategy”
- “No time to deal with a consultant/third party”
- “Where do I start?”



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Getting Started

- The CIF guidebook offers a format for your strategy & funding to complete it
- Use the Recycling Option Score table as a starting point for your program
- It's a reference tool—adjusted to suit your own municipal needs
- Get's you thinking



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What Works



- Work through the Recycling Options Table as a group (environment committee, waste management staff)
- Add or remove options to suit your needs
- Example:
 - if your program is depot based, replace option of collection frequency with option of increase depot hours



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What Doesn't Work

- Working in isolation from your group
- Having your committee/waste management staff fill out the option score individually & not as a team effort



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Strategy Suggestions:

- Start with comparing your Blue Box diversion rate & costs with your municipal group average

Average Blue Box Diversion Rate

Your Municipality	18.3%
Municipal Grouping: Medium Urban	20.38%

- If you are lower/higher than your group—is this a surprise?



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What We Found Effective

- Focus on enhancing your existing program vs. re-vamping your entire program
- Choosing BP that are manageable for your program
- This is not a lengthy waste management master plan—keep it short & to the point



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How We Engaged Feedback?

- Provided open communication with municipal staff
 - back & forth emails, highlight areas in the strategy requiring comments, etc.
- Provided summary tables highlighting easy to follow program initiatives
- Provided BP examples of other municipal programs to assist with decision making



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Some Examples of Effective Strategies (1)

- Town of Meaford
 - defined performance measures & diversion targets for their program
 - they have limited staff resources & are considering using volunteers & summer students to assist with re-launching their program
- Town of West Nipissing
 - identified areas needing additional promotion & education & applied to CIF for P&E funding



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Some Examples of Effective Strategies (2)

- City of Kawartha Lakes
 - identified need for staff training & have participated in several CIF, MWA core competencies workshops
- County of Northumberland
 - identified need to bolster their P&E for film plastic sorting requirements
 - as result, has re-launched their 'Bag your Bags' campaign



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Some Examples of Effective Strategies (3)

- Township of McKellar
 - identified need for staff training & need to reduce overall program costs
 - as result, has participated in CIF, MWA core competencies workshops & applied for capital funding for depot site
- City of Stratford
 - identified need to optimize collection & processing services for Blue Box program
 - as result, applied to CIF to prepare RFP & have recently secured a new processing contract



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In Summary

- A Recycling Strategy essentially acts as an extension to your annual Datacall
- It tracks your Blue Box program & can be updated annually
- A Recycling Strategy is a document that demonstrates Blue Box program accountability



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Halton Region Solid Waste Management Strategy Waste Recycling Plan Development: CIF Project #631.11

Shirley McLean
Supervisor Solid Waste Planning
Halton Region



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Project Highlights



- Project goal: To reach a waste diversion rate of 65%
- Anticipated impacts:
 - reduce garbage, increase Blue Box & GreenCart material
 - increase access to diversion programs
 - increase landfill lifespan four years
- For more information:
 - shirley.mclean@halton.ca / www.halton.ca/waste
 - Twitter: @HaltonRecycles
 - Blog: www.haltonrecycles.ca



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Why Develop a Solid Waste Management Strategy?


- Halton landfill a valuable resource that should be conserved
- Conditions of Approval to form citizen advisory committee with goal of 3Rs
- Committee achieves this goal through development of strategy that is reviewed every five years
- Continuous improvement of waste diversion to continue increasing landfill lifespan
- Avoid need to site new disposal capacity
- 2006-2010 Strategy has been implemented with diversion rate of 57.4% in 2010



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2012-2016 Strategy Development


- Met with citizen advisory committee to develop vision for updating strategy
- Staff retained consultant, Genivar Inc., through RFP process to undertake research & develop diversion options
- Genivar worked with staff to develop criteria
 - resulted in short list of options to reach diversion target
- Involved Finance Division to determine tax impacts on residents
- Draft Strategy approved by Council & public consultation conducted



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Finalizing Strategy Results

- Draft strategy contained 11 initiatives to achieve 70% diversion ranked
 - objective to achieve the greatest impact to diversion at the least cost
- To reach 65%: \$2.06/\$100,000 CVA
- To reach 70%: \$7.26/\$100,000 CVA
- Consultation results found greatest support for 65% due to tax impacts
- Final Strategy contains six initiatives to reach 65% at \$2.47/\$100,000 CVA



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Council Approved 2012-2016 Solid Waste Management Strategy

Initiative	Diversion	Cost /\$100,000
Decrease bag limit with bag tags	3.0%	\$1.03
Expand Blue Box materials & capacity	1.6%	\$0.44
Enhance P&E	1.5%	\$0.29
Enhance Multi-res Diversion	1.0%	\$0.67
Enhance Textile P&E	0.30%	\$0.0
Expand Special Waste Drop-off Days	0.20%	\$0.04
Total	7.6%	\$2.47



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Best Practices

- Sets targets that result in continuous improvement while remaining cost effective
- Introduces policies such as reduced bag limit that will support shift of recyclable material from garbage to Blue Box
- Plan has been approved by Council
 - should ensure programs are supported when brought forward in budget process



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Next Steps

- Developed booklet to communicate strategy to public
- Some initiatives added to 2012 Budget:
 - partial P&E
 - multi-res FTE
 - \$ for more recycling containers, drop-off days
- Staff will start R&D for details of bag limit
- Working with CIF & recycler on feasibility of adding materials to Blue Box
- Plan to phase in implementation of the six initiatives over next five years to smooth out impact to budget



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Implementing A Plan Working Towards Sustainability, Efficiency & Effectiveness

Waste Recycling Plan CIF 350 (Solar Compactors-CIF 280)

Paul Shipway
Township of McKellar



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Project Highlights



- Project goal
 - remove recycling program from just another item line on budget
- Sustainable anticipated impacts:
 - increase efficiency & effectiveness
 - improve performance/reduce costs
 - increase public support/awareness
 - generate drastic quantifiable results
- More information:
 - admin@township.mckellar.on.ca
 - www.township.mckellar.on.ca
 - www.wdo.ca/cif/projects/projects.html



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Priority Implementation

Why this project?

- It's not good enough to just have a program!
- Maintain/increase funding (BP)
- Program was operating so poorly it was considered a statistical outlier

2010 Stats	McKellar	Group Average	Group Rank
\$/Ton	\$2,028.65	\$877.07	9/10
Capture Rate	17.2%	30.81%	9/10
Funding %	21.3%	27.1%	10/10 – 206/217



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Project Description

Integral Aspects of the plan

- Mindset – “Get the plan off the shelf”
- CIF-Guidebook for Waste Recycling Strategy
- CIF funding assistance
- Knowledgeable, open-minded consultants
- Staff eager to become “Recycling Experts”
- Public consultation
- Sound data/information



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Anticipated Results-Goals

- Maintain/improve funding
- Reduce depot costs:
 - target-2012 (\$982/tonne)
- Maximize capture rate
 - target-2015 capture rate of 65% (2012-35%)
- Increase promotion & education
 - use CIF tools
 - generate McKellar-specific communication methods



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Program Improvement Timeline

Plan improvement components prioritized based on immediate impact:

April 2010
WRS Development Workshop

↓
May 2010
Solar Compactors (CIF 280)

↓
January 2011
Waste Recycling Strategy



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Progress To Date

- “Generate drastic quantifiable results”

McKellar Stats	2010	2011 (YTD)	+/-
\$/Ton	\$2,028.65	\$278.45	-\$1,750.20
Capture Rate	17.2%	29%	+ 11.8%
Tonnage	57.26	80.67 (90.67)	+ 23.41(+33.41)

- Generation of a sustainable recycling program
- Improvement of integrated waste management program
- Awareness of weakness (positive/negative)



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Conclusion

- Benefits are not possible without support of Recycling Industry, SO, WDO & CIF
- Recycling Plans pave a trail towards efficient, sustainable waste management
- BP & Continuous Improvement transform from “buzzwords” to daily activities
- Development of adaptive, monitored recycling plan can produce tangible results!

For more information
Paul Shipway
admin@township.mckellar.on.ca



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Questions

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Recycling Services Procurement

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Background

- BP is Effective Procurement & Contract Management
- Effective procurement makes for better contract management
- Majority of programs contract for recycling services
 - collection &/or processing
- This is where programs can make or break program operations



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Effective Procurement

- Provides—quality, flexibility, effectiveness & efficiency
- Not difficult to do—need to include:

Clear Terms	Detailed Background Information
Detailed Performance Specifications	Ability to amend
Incentives and Penalties, performance related	Dispute Resolution
Clear payment terms	Explained evaluation & selection process



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Procurement Initiatives

- E&E Fund had Model Tender on Recyclers' Knowledge Network
- CIF developed new model procurement documents
 - annotated collection & processing RFP's
 - include best practices
 - provide options & examples
 - searchable & downloadable—<http://contracts.wdo.ca>
- Provide support to programs for RFP development



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Today's Speakers

- Cory Smith, Public Works Technologist, Town of Mississippi Mills
- Abby Barclay, Environmental Engineering Technologist, Town of Arnprior



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Stratford Example

- Contracting for collection & processing
- Wanting to make changes in recycling program – new contract to reflect changes
- Separate procurement for processing & collection
- Processing RFP—received four submissions
- Successful bid included:
 - expanded program—improved collection options
 - full revenue share—completive processing price
- Evaluating Collection bids as we speak



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Best Practices – Joint Procurement Opportunity

Abby Barclay
Environmental Eng. Tech.
Town of Arnprior






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Project Highlights



- Goal:
 - acquire services to collect, process & market recyclable materials from the towns of Renfrew & Annprior using BP in the procurement process
- Anticipated Impacts:
 - improved contract & best practice compliance
- For more information
 - abarclay@arnprior.ca
 - www.arnprior.ca



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State of Affairs

- Town of Annprior had extended their contract since 2006
 - had no monitor/measurement system
- Town of Renfrew's contract was expiring
- No joint processing services
- No coinciding end dates (between internal waste management contracts or neighbouring municipalities)



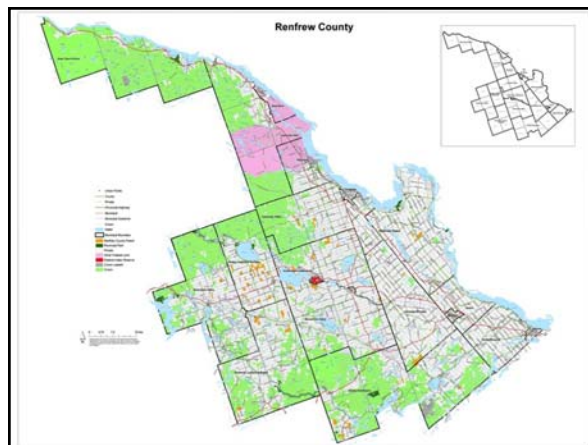
110

Key Features

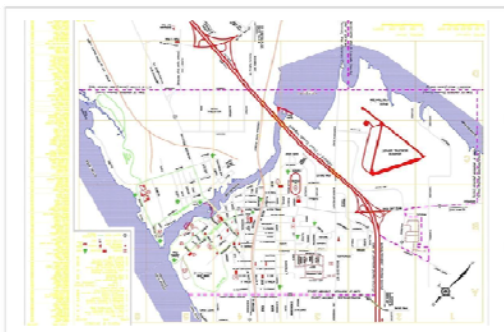
- Establish open dialogue between municipalities for all possible opportunities
- Incorporate all BP elements with support from CIF
 - i.e. synchronizing expiry date of contracts
- Collaborate on RFP for recycling services
- Separate agreement between contractor & each municipality



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Town of Annprior



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Town of Renfrew



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Benefits

- Cost savings in dividing work & sharing workload with different staff skills & expertise
- Creates better competitive bid process
 - economies of scale
- Promotes enhancement of both recycling programs
 - motivation for continuous improvement
 - expansion of materials
 - improved co-operation



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Results

- Well drafted, detailed contract that encompasses all areas within BP & both Town's individual recycling programs
- Eliminated negative impacts that were not included in each Town's previous contracts
- Cost savings of \$2,000/year/municipality
- Addressed importance of relationship management between the contractor & municipalities



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Next Steps

- Monitor & measure the program to provide opportunity for continuous improvement:
 - promotion & education
 - set out rates
 - capture rates
 - contractor operations

You can't manage what you don't measure!



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Multi-Municipal Procurement Of Recycling Services

Cory Smith
The Town of Mississippi Mills

Logos for CIF, MHO, and Toronto are at the bottom.

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Project Highlights



- Project goal:
 - to develop a tender & contract administration model for multi-municipal approach within our Municipal Waste Recycling Group that is mutually beneficial for all
- Anticipated Impacts:
 - lower costs & improved contract management for group
- For more information:
 - csmith@mississippimills.ca
 - <http://www.mississippimills.ca>



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Background

- Mississippi Mills is part of a Municipal Recycling Waste Group (MRWG) with partners:
 - Beckwith, Carleton Place, Montague, Drummond, North Elmsley (formerly also Perth & Smiths Falls)
- MRWG used Multi-Municipal approach to procure waste collection & processing & recycling services (including Blue Box)
 - both used SO Tendering Model
- Very successful Blue Box Recycling Services Tender
 - last tendered in 2005; contract extended through negotiation in 2009 (CIF Project #153)



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Advantages of Multi-Municipal Procurement

- Allows purchasing power/leverage
 - Mississippi Mills has 800 tonnes of Blue Box recyclables
 - with Waste Group, 3,700 tonnes of Blue Box recyclables
- Coordination of knowledge & staff resources
- Benefits MRF & collection contractors
 - allows for consistent service
- Using SO Tendering Model
 - well laid out to help with standardization; allows for easier contract co-ordination under admin. portion
 - important decisions made up front
 - contract able to be extended with additional services



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Measuring Our Success

1. New contract negotiated in 2009
2. Materials collected increased
3. Operational costs decreased
4. Mississippi Mills Blue Box tonnes up 7.5% in 2010
 - number corrected for growth



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Coordination

- Coordination of the process
 - who takes the lead?
- Can be cause of delay
- Can limit effectiveness of program
 - not all municipalities have same ideas
- Can maximize staff effectiveness
 - many hands make light work



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Where Do We Go From Here?

- Preparation for next Tender/RFP
- Gather appropriate information for making up front system decisions
 - the industry is changing
- Allow appropriate time for review
 - many hands = many decision makers



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Conclusions

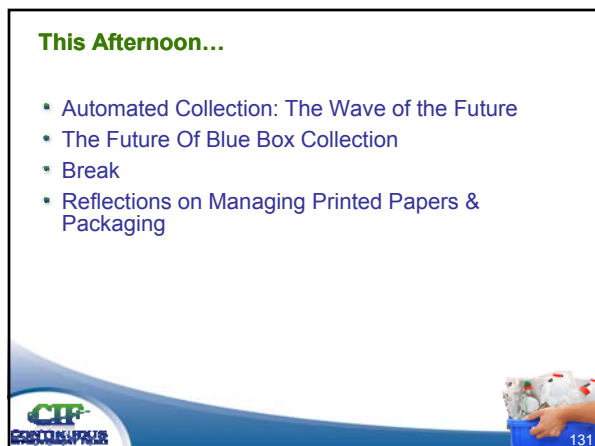
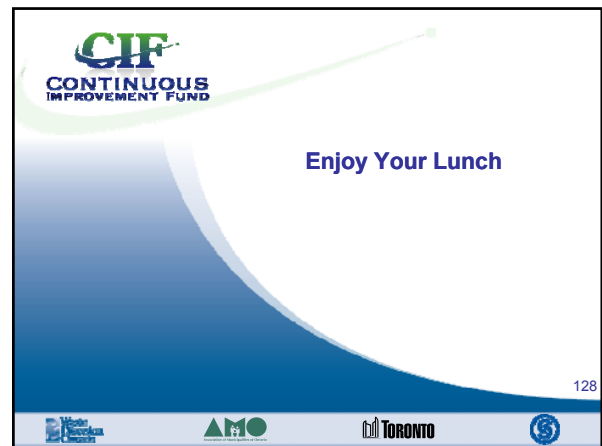
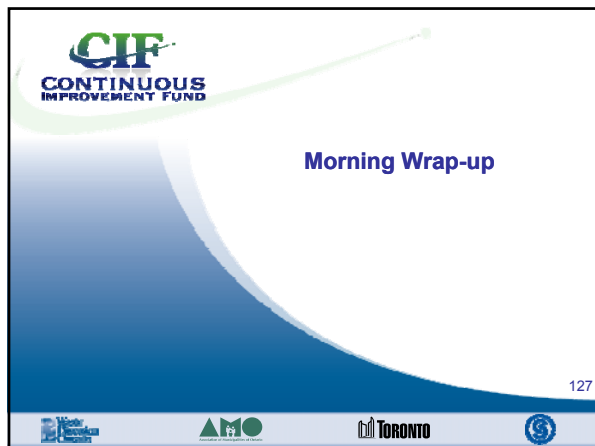
- Is Multi Municipal Procurement of Recycling Services BP?
 - for Mississippi Mills–yes
- Does Multi Municipal Procurement of Recycling Services allow for continuous improvement?
 - for Mississippi Mills–yes
- Are there Challenges with Multi Municipal Procurement of Recycling Services?
 - for Mississippi Mills–yes, but worth the effort



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QUESTIONS

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Background

- Auto cart collection has been an established practice in North America for decades
- Long standing debates about boxes, bags & carts
- Linger questions about user friendliness, capital costs, functionality in different conditions



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CIF Funding

- CIF has funded several cart based projects:
 - CIF 248 Guelph
 - CIF 548.11 Toronto
 - CIF 135 Bluewater
 - numerous multi-res applications
- Objective is to better understand their benefits & potential limitations



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Today's Speakers

- Our speakers will provide updates on:
 - current CIF projects
 - Francis Veilleux, Bluewater Recycling Association
 - Kevin Vibert, City of Toronto
 - related technologies
 - Paul Speed, Rehrg Pacific Company
 - vehicular innovations
 - Joe. C. Williams, Innovative Hydrogen Solutions



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BRA Automated Collection Large Curbside Containers Project #559.3

Francis Veilleux
Bluewater Recycling Association

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Project Highlights



- Project goal:
 - convert collection system to fully automated
- Anticipated impacts:
 - decrease system cost
 - increase diversion
- More information:
 - bluebox@bra.org
 - www.bra.org



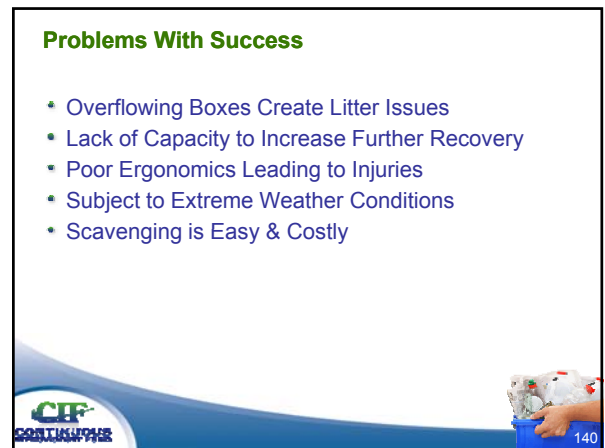
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Blue Box Program

- Launched in 1981
- Introduced Recycling
- UN Environment Award
- Undeniable Success



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Automated Collection



Why Automate?

- Higher Productivity
- Increased Efficiency
- Increased Workers' & Users' Safety
- Reduce Litter & Unsightly Setouts
- Easy to Handle by Residents
- Discourages Scavenging
- Improves Neighbourhood Esthetics

Recycling Container Option



Convenience Depot





City of Toronto Automated Cart Collection Project #548.11

Kevin Vibert
City of Toronto

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Project Background

- 2008: Toronto rolled out recycling & garbage carts
 - 454,000 residents with curbside collection
- Spring 2010: CIF issued REOI identifying priority projects with BP grants including:
 - automated collection
 - large curbside containers
- For more information:
 - kvibert@toronto.ca

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Project Scope

- Purchase 10,000 recycling bins for new residents.
- Purchase 46 automated collection trucks
 - 1st tender, 21 automated side loading trucks
 - delivery 2010 (20 diesel, 1 NG)
 - 2nd tender, 25 automated side loading trucks
 - delivery 2011 (23 diesel, 2 NG)
- Total Cost \$11.7M; CIF Contribution 1.4M

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Automated Collection

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Solid Waste Collection Districts

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Automated Collection Trucks



1st tender Labrie



2nd tender McNeilus



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Automated Collection Findings



- 21 semi-automated side loading trucks replaced with fully-automated side loading
- Automated side loading trucks cost approximately 70K more than semi-automated trucks
- Staffing
 - 2010 District 4 collection staff compliment 135
 - 2011 District 4 collection staff compliment 118
 - reduction of 17 staff or 13%



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Natural Gas Truck Findings

- NG trucks now cost approximately \$11,000 more than diesel
- Natural gas costs
 - in 2011, NG cost \$0.49/cubic meter
 - average cost = \$1.33/km
 - yearly cost based on 13,000 km = \$17,290
- Diesel costs
 - in 2010, diesel fuel cost \$1.01/litre
 - average cost = \$1.73/km
 - yearly cost based on 13,000 km = \$22,490
- Difference \$5,200

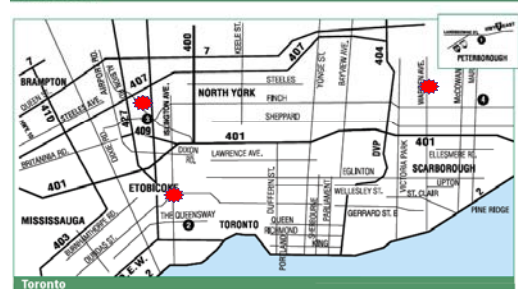


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Natural Gas Stations

ENBRIDGE GAS DISTRIBUTION

Franchise Area



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Natural Gas Truck Findings (2)

- Approximately 1 hour/day to fill truck
 - 20 minutes fueling time + travel time
- NG trucks have less power & operate slower
 - 10% slower (*estimate from crew)
- Enbridge fuel rental stations
 - connect to existing gas line
 - slow-fill overnight
 - cost approximately \$4,000/yr



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Best Practice Analysis & Next Steps

- Carts–Yes
 - reduce WSIB claims, reduce blowing litter & increase capacity; residence prefer over BB
- Automated Collection–Yes for Toronto
 - reduce staffing & operational costs
- CNG Truck–uncertain–further analysis required
- Next Steps:
 - Time motion studies comparing automated versus semi-automated collection
 - More detailed CNG truck monitoring
 - examine maintenance/repair costs compared to diesel; detailed fuel analysis
 - Final report to CIF fall 2012



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RFID Technology in Blue Box Recycling

Paul Speed
Rehrig Pacific Company

Rehrig Pacific

- Family-owned company founded in 1913
- Leading manufacturer of curbside containers for recycling, organics & refuse programs
 - 32M Blue Boxes & 25M carts on the street. 60% of all RFID systems in N.A.
 - Timmins, BRA & Toronto
- Developed Environmental Services Group in 2007 to support Toronto roll out. We provide the following services to our industry:
 - Asset Tracking**
 - C.A.R.T.S. – container inventory and work order tracking
 - RFID Tracking Services**
 - Service Verification Tracking, Participation, Lost Containers "Every Day Audits"
 - 2.8 million RFID enabled containers on the street in over 75 customer locations
 - On Street Services**
 - In-House A&D, RFID Retrofitting, Route Auditing, and Container Management

Agenda/Goal for Today

Illustrate How Technology Can:

- Automate the asset (carts/bins) tracking process
- Minimize the loss of containers
- Eliminate the possibilities of servicing non paying accounts
- Re-Coup Lost Collection Revenue
- Increase Revenues from Recycling Programs

What have we learned?

Improved cart management can save money!

- A&D/Retrofit Audit Programs**
 - Rehrig Pacific conducted a review of 32 programs (over 600,000 addresses) that used C.A.R.T.S. to distribute new carts or retrofit existing carts with RFID tags
 - found that approx 3% of customers serviced were not on the original customer account list
- Route Audit Program Findings – findings savings**
 - Rehrig found several cases in mature programs where 10% or more of homes were only paying for one trash container, but had two or more
- Customer Case Study**
 - a long term customer with 30,000 billable accounts, purchased 38,000 carts over 10 years = 2.6% container loss per year. Estimated at roughly \$400,000 in excess container purchases!

Cost of Servicing Misplaced Carts

Operational Cost for Misplaced Refuse Carts	
Description	Inputs
# of Carts Misplaced	1
Tipping Fees Per Ton	\$45.00
Average Pounds of Trash Per Cart Per Week	40
Collection Frequency Per Week	1
Cost Per Cart	\$45.00
Pounds Collected Per Cart Per Year	2,080
Annual Collection Cost for Every Misplaced Cart	\$46.80
Work Order Cost to Replace Misplaced Cart	\$10.00
Capital Loss Associated with Every Misplaced Cart	\$45.00
Total Annual Operational Cost for Every Misplaced Cart	\$101.80
Existing Cart Float	50,000
Average % of carts that are misplaced per year	2%
Total Annual Operational Cost Related to Misplaced Carts	\$101,800

Account Number	Account Name	Service Type	Installation Date	Original	Replacement	Original Number	RFID	Original Date	RFID Date
12345	1234567890	WHD	2013-07-26 12:00:00	WHD-450	1	600012345	00000000000000000000	26-07-2013	26-07-2013
12346	1234567890	WHD	2013-07-26 12:00:00	WHD-450	2	600012346	00000000000000000000	26-07-2013	26-07-2013
12347	1234567890	WHD	2013-07-26 12:00:00	WHD-450	3	600012347	00000000000000000000	26-07-2013	26-07-2013
12348	1234567890	WHD	2013-07-26 12:00:00	WHD-450	4	600012348	00000000000000000000	26-07-2013	26-07-2013
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12350	1234567890	WHD	2013-07-26 12:00:00	WHD-450	6	600012350	00000000000000000000	26-07-2013	26-07-2013
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12417	1234567890	WHD	2013-07-26 12:00:00	WHD-450	73	600012417	00000000000000000000		

Accurate Billing Database


C.A.R.T.S. ROI		
C.A.R.T.S. Customer Audit ROI		
Use C.A.R.T.S for A&D, Retrofits or a Route Audit and Identify Non Paying Customers		
Description		Inputs
Number of Homes in Address List Provided		50,000
% of Customers Not on Billing List as Identified in the Field with C.A.R.T.S.		2.00%
Estimated Cost of Collection Service Per Month		\$15.00
Term of Collection Contract in Months		60
A&D Cost Per Cart		\$5.00
Recouped Monthly Revenue		\$15,000.00
Customer ROI		\$650,000.00

		Inventory Summary	
		2/26/2008 3:25 PM	
Location	Item Type	Status	Quantity
Distribution			
35	Gallon Recycle Cart	All Residence	0
35	Gallon Recycle Cart	In Stock	12,285
35	Gallon Recycle Cart	In Transit	1
35	Gallon Recycle Cart	Newly Manufactured	0
45	Gallon Recycle Cart	All Residence	0
45	Gallon Recycle Cart	In Stock	91,374
45	Gallon Recycle Cart	In Transit	1,289
45	Gallon Recycle Cart	Newly Manufactured	0
95	Gallon Recycle Cart	All Residence	0
95	Gallon Recycle Cart	In Stock	4,886
95	Gallon Recycle Cart	In Transit	0
Location Type Subtotal:			68,458
MFG Plant			
35	Gallon Recycle Cart	Newly Manufactured	4,854
45	Gallon Garbage Cart	Newly Manufactured	3,360
45	Gallon Recycle Cart	Newly Manufactured	1,525
95	Gallon Recycle Cart	Newly Manufactured	11
Location Type Subtotal:			9,750
Multi Family Home			
35	Gallon Recycle Cart	All Residence	614
45	Gallon Recycle Cart	All Residence	6,767
95	Gallon Recycle Cart	All Residence	739
Location Type Subtotal:			7,320
Single Family Home			
35	Gallon Recycle Cart	All Residence	6,472
45	Gallon Recycle Cart	All Residence	73,023
95	Gallon Recycle Cart	All Residence	15,538
Location Type Subtotal:			85,011
Report Total:			164,839

[illegible]

RFID Features (1)

- Eliminates cost of printing work orders
 - on a program with 3500 work orders per month, this could result in a \$350-\$1,000 monthly cost savings
- Minimizes Administrative & IT Support
 - eliminate three hours of admin work per day and save \$900. per month
- Reduces lost containers/capital loss
 - program with 30K carts that experiences 2% container loss over 1-year, can result in \$30,000 loss of capital
- Minimizes purchases of excess containers
- Inventory, Work Order & Warranty Tracking
 - provides Online Visibility of Inventory, work orders & streamlines the warranty process
- Provides accurate billing data & maintains your billing database
 - avoid servicing non paying accounts
 - pro-actively track lost or stolen assets



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RFID Features (2)

- Asset Management Programs
 - proactively track lost & stolen containers
 - “every day audit”
- Collection Data Tracking Programs
 - service verification
 - recycling participation
 - pay-as-you-throw programs
 - typically volume based
 - incentive based recycling programs
 - rewarding people for their recycling efforts
- Improving Collection Efficiencies
 - visibility of your operations
 - route optimization & balancing
 - collection time studies



CTE

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Partial City of Cleveland Facilities										
Facility ID	Address	Street	Latitude	Street Name	City	State	ZIP	Transect	Latitude	Longitude
00000001	21100 E	1100	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000010	21100 E	1100	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000020	20000	1114	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000030	20000	1114	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000040	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000050	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000060	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000070	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000080	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000090	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000100	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000110	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000120	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000130	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000140	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000150	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000160	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000170	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000180	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000190	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000200	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000210	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000220	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000230	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000240	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000250	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000260	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000270	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
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00000290	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000300	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000310	20000	1109	41.895313	WENTWORTH DR	LAKESIDE	OH	44108	17	41.895313	-81.500000
00000320	2000									

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	Today	Tomorrow
Homes	72,000	72,000
Annual Residential Recycling Tonnage	17,486	26,609
Participation rate	46%	70%
Average Pound Per House Per Pickup	40.61	40.61
Collection Frequency/Pickups Per Year	26	26
Total Number of Homes Participating	33,120	50,400
Annual Recycling Tons from Increased Participation		9,123
Revenue from Recycling MRF	\$35.00	\$319,312.30
Disposal Cost Avoidance	\$45.00	\$410,544.39
Total Annual Revenue/Cost shift from Participation Increase	\$729,856.70	

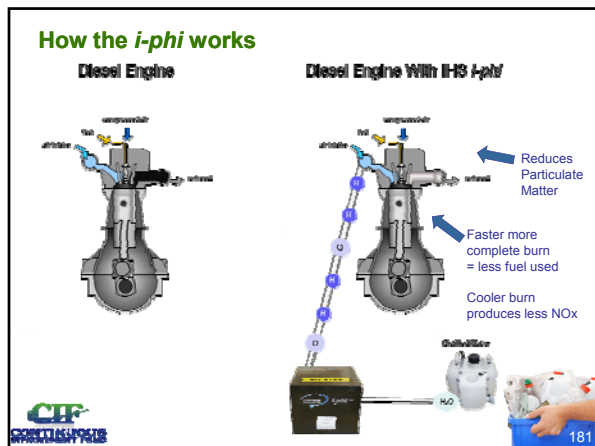
Joe C. Williams, President,
Innovative Hydrogen Solutions Inc.



- **Project goal:**
 - demonstrate effectiveness of IHS i-phi system in curbside recycle truck application
- **Anticipated impacts:**
 - increased mileage
 - cleaner engine
 - reduced emissions
 - reduced carbon footprint
- **More information:**
 - icw@ihstruck.com
 - www.ihstruck.com

- No maintenance—just add distilled after once a week
- Only connections are to the battery, alternator & air intake
- Uses only about 25 amps
- Safe & reliable





Expected Benefits

- Cleaner burn means cleaner engine & exhaust
- Reduce frequency of oil changes
- Fewer if any EGR replacement
- Fewer Regen cycles on DPF filter
- Cleaner exhaust & cleaner vehicle

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Continuous Improvement Fund Field Trials

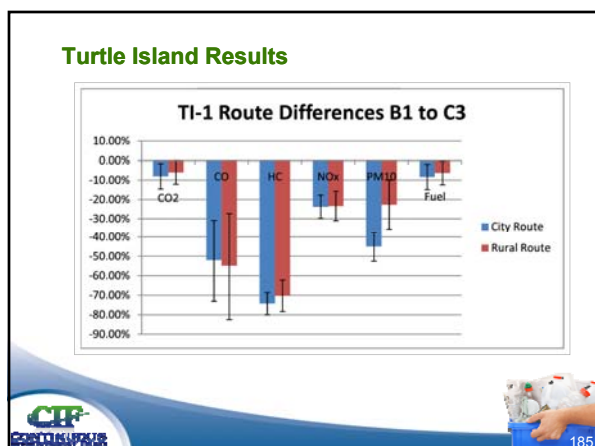
- From April 3, 2011 to October 2, 2011
- Tested on five recycling trucks—urban & rural curbside pickup runs
 - Plein Disposal in Waterloo Region
 - Turtle Island in York Region
- Tests conducted by Global MRV—independent testing company that manufactures Portable Emission Measuring equipment
- Results
 - fuel savings averaged 7.27%
 - particulate matter reduced by an average of 38.26%
 - NOx reduced by average of 29.89%

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CIF Test Results

- Fuel savings averaged 7.27%
- Particulate matter reduced by average of 38.26%
- NOx reduced by average of 29.89%
- One of five test trucks had non-related maintenance during the trial & excluded from final results

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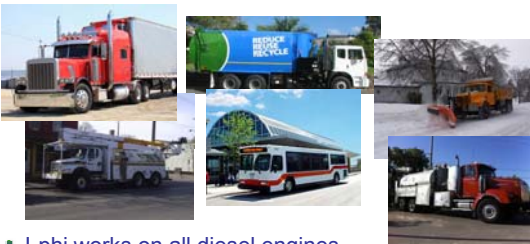
Customer ROI Model

Sample ROI	Monthly	Annual
Km / Month	4,000	48,000
Litres / Km	0.6	
Litres / Month	2,400	28,800
Cost / Litre	1.20	
Cost / Month	2,880	34,560
Average Fuel Savings	7.27%	
Fuel Savings / Month	\$209	2,513
Oil Change Frequency (Kms)	15,000	
Cost	300	
Km / Yr	48,000	
Oil Changes / Yr	3.2	
Cost of Oil Changes	960	
Reduction in Oil Changes	50%	
Oil Change Savings	\$40	\$480
Total Savings	\$249.38	\$2,993

Unit cost:	\$9,995
Typical installation:	\$1,000
Total cost:	\$10,995
Typical monthly lease:	\$375
Payback period:	3.6 years
*Rental program available	

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Other Uses



- I-phi works on all diesel engines
- Better results & payback on highway runs



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Help Clean-up the Environment

- Reduce your carbon footprint
- Reduce particulate matter & NOx emissions
- While cleaning the environment you also:
 - reduce your maintenance
 - keep trucks on the road longer
 - **SAVE MONEY**

Let's Clear the Air!

www.ihstruck.com



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Questions



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Enjoy Your Break

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Welcome Back

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The Future of Blue Box Collection

Mike Birett
CIF

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Background

- Blue Box composition is an evolving thing
 - addition of new products
 - evolution of existing products
- Potentially significant implications to collection & processing
- Today's speakers will give us a glimpse at what:
 - we're seeing at curb
 - we might expect in future



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The Changing Evolution of Blue Box Composition

Larry Freiburger
AET Consultants

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Highlights

- Purpose:
 - to discuss changing evolution of Blue Box recycling composition & identify key trends including common themes
- For more information:
 - lfreiburger@aet-consultants.com www.aet-consultants.com



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Considerations

- Is the changing evolution based on weight or volume or both?
- How has Blue Box composition evolved?
- What has caused the evolution of Blue Box composition?
- What are some key indicators driving changing composition?
- What are the composition studies telling us?



196

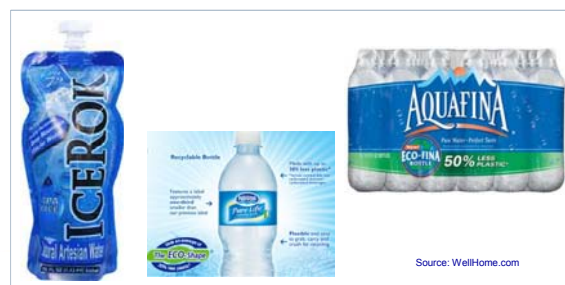
3 Main Themes

1. Volume vs. weight
2. Municipal Blue Box recycling programs
3. Changes in types of packaging used



197

1. Is it a matter of weight or volume?



Source: WellHome.com



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1. Is it a matter of weight or volume?



2006 Study: 1 blue box eq. + overflow = 1.69kg



2011 Study: 2.5 blue box eq. = 2.34kg or 0.94kg/blue box



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2. More Blue Box Materials Accepted



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3. Changes in type of packaging

- Shift to more recyclable packaging (e.g. PET packaging)



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3. Changes in type of packaging

- More plastic overwrap & mixed resins



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Conclusions

- Blue Box composition has & is evolving
- Volume density needs to be considered—optimized, greener packaging means less weight by volume but not always less material composition by volume
- Expanded municipal recycling programs directly affect Blue Box material composition
- Packaging industry directly impacts Blue Box composition



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Markets for Ontario Blue Box Paper Fibres (Printed Paper & Paper Packaging)

Maria Kelleher
Kelleher Environmental

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Presentation Outline

- Amount of printed paper & paper packaging and how this will change
- Markets and how these will change
- Considerations for future planning
- For more information
 - Maria Kelleher, Kelleher Environmental
 - maria@kellenv.com



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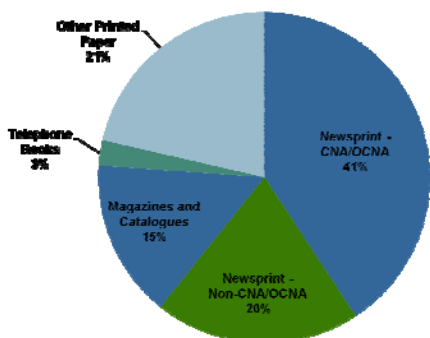
Ontario Blue Box Paper Fibre Quantity Estimates – 2009 – Big Numbers!

	Generated	Diverted	Disposed
Total Printed Paper and Packaging	913,267	674,843	238,425
Printed Paper	555,369	439,341	116,029
Paper Packaging	357,898	235,502	122,396



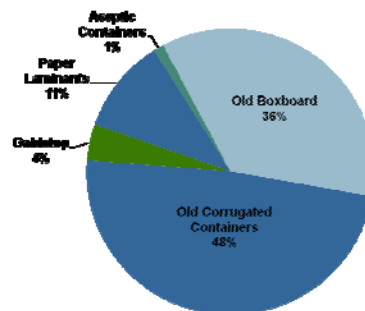
206

Printed Paper Generated in 2009



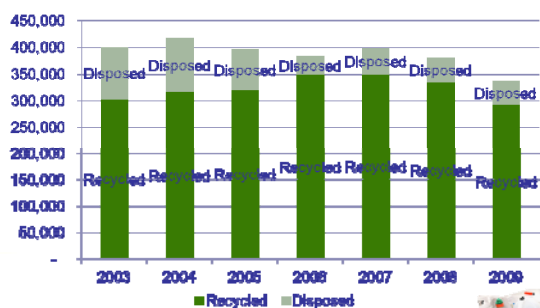
207

Packaging Paper Generated in 2009



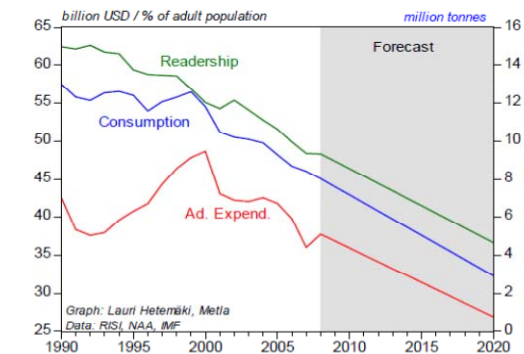
208

ONP Numbers Dropping Significantly 2006 to 2009



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The Death of Newspapers



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Trends That Impact on Fibres in Blue Box

1. Decline in newspaper generation and recovery
 - because of electronic media
2. Reduction in telephone directory distribution
 - reduction of 3,300 tonnes in Toronto
3. Printers in every home, more home offices & working at home
 - more residential writing papers
 - shredded paper an issue
4. Increased internet sales
 - more corrugated containers and/or boxboard



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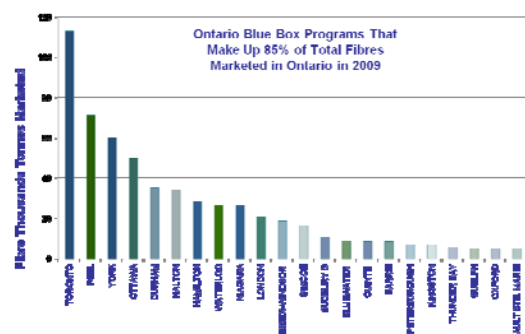
Impacts of Lifestyle & Packaging Changes on Future Blue Box

- Conclusions of Toronto Future Blue Bin Study:
 - fibres: 18% decrease (46kg/sf hh) in 10 years
 - containers: weight stays the same (-2kg/hh) but composition changes significantly
 - +17% plastic
 - -50% glass
 - no change to metal
- Significant implications for collection, processing, revenues of Ontario (ON) Blue Box System



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85% of ON Fibres (675,000 tonnes) Collected From "Top 21" Programs



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Top 21 Single Stream vs. Two-Stream Collection Programs

Single Stream	Single St Paper Fibre Tonnes	Two Stream	Two Stream Paper Fibre Tonnes	Two Stream Below 10k/y	Two Stream Paper Fibre Tonnes
Toronto	112,981	Ottawa	49,928	Quinte	8,486
Peel	71,081	Durham	34,918	Barrie	8,457
York	60,173	Hamilton	28,318	Peterb	6,949
Halton	34,168	Waterloo	26,464	Kingston	6,711
Bluewater	8,626	Niagara	26,351	Thunder B	5,669
Guelph	5,088	London	20,679	Oxford	4,988
Sudbury	10,670	Essex W	18,626	Sault	4,905
		Simcoe	16,353		
TOTAL	303,000		222,000		46,000



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Single Stream & Two Stream Collection in ON

- Single stream recycling decisions by municipalities driven more by efficiency of organics collection than Blue Box interests
- In theory, single stream results in higher capture of materials BUT...
- Concerns with single stream collection at MRF:
 - higher MRF residue rates
 - challenges with paper quality – concern particularly for domestic mills
 - Is it a zero sum game?
- Two-stream programs still commonplace & belief has been that they are "more efficient" in terms of recovering "clean, more marketable fibre materials"
 - Ottawa; new London MRF; Durham; Hamilton; Niagara



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Single Stream vs. Two-Stream

- No-one goes back from single stream
- Original belief that it was cheaper & achieved higher recovery rates
 - not proven using 2009 ON data
- Variables that impact on pure analysis:
 - % of MF households makes a difference to stats on kg/hh & \$/tonne
 - curbside garbage collection frequency (weekly or bi-weekly) impacts on recycling system participation
 - bag limit & user pay policies impact on participation



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Processing at Blue Box Programs >10k Tonnes/Year Fibres

Single Stream	MRF Operators	Two Stream	Two Stream Paper Fibre Tonnes (> 10k t/y)
Toronto	Canada Fibres – Dufferin Canada Fibres – New Merch MRF Cascades – Scarborough Merch MRF	Ottawa	Cascades
Peel	Canada Fibres	Durham	Cascades
York	Miller	Hamilton	Canada Fibres
Halton	Emterra (2014)	Waterloo	Waterloo
Bluewater	BRA	Niagara	Niagara
Guelph		London	Miller
		Essex W	EWSWA
		Simcoe	Misc
		Sudbury	Canada Fibres
TOTAL	303,000		222,000



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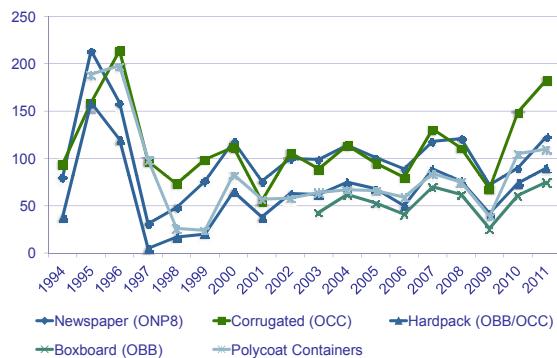
Fibre Revenues

- Paper fibre revenues are backbone of Blue Box program
- Toronto:
 - 71% to 75% of revenues from paper
 - 10% of revenues from aluminum
 - 10% to 12% of revenues from HDPE and PET
- Fibres traded as global commodity
- Prices vary by economy, supply/demand balance, price of virgin pulp, etc.
- Mills will substitute one fibre for another depending on price & demand
 - less picky about quality when economy good
 - very picky about quality in weak economy
 - i.e. will work with high contamination levels in buoyant economy, but not in weak economy



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Ontario Fibre Prices (\$/t) 1994-2011



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Typical Fibre Bale Prices (Aug 2011)

- Significant drop in prices by October, 2011
- Very volatile market conditions with slowdown in China
- August 2011 prices:
 - OCC (Old Corrugated Containers) - \$180/t
 - ONP (#8) – Newsprint mills – no one makes anymore (except BRA)
 - ONP #6 – not a newsprint bale
 - combo of OCC, ONP, OBB – used in packaging mills
 - Mixed Paper - \$125/t (July, 2011)
 - Fine Paper (Sorted Office Paper SOP) - \$204/t
 - Polycoat - \$114/t
 - Hardpack (OCC & OBB) - \$93/t
 - Boxboard (in US called Paperboard) - \$77/t



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Where Do Paper Fibres Grades Go?

- ONP
 - mostly to recycled newsprint mills
 - used to make boxboard (e.g. Strathcona)
 - some to building applications if newsprint market not available
- OCC, boxboard, mixed paper
 - containerboard mills (linerboard or medium board)
 - if fine paper in mixed bale, to containerboard to improve quality
- Fine paper (not a residential grade) and polycoat
 - tissue mills
 - pulp suppliers to tissue mills
- All of these fibres can go to lower grade applications, depending on market prices & conditions



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ONP Markets – ON MRFs

- Newsprint mills
 - Abitibi Thorold (only newsprint mill remaining in Ontario)
 - Kruger, Montreal
 - White Birch, Quebec City (formerly Diashowa)
 - Atlantic, Whitby (now closed)
- Other markets
 - Sonoco (Trent Valley and Brantford both take recycled fibres)
 - Strathcona (Quinte – makes clay coated spiralwound)
 - overseas (Peterborough, BRA)
 - ONP going to boxboard more than OCC



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OCC Markets – Ontario MRFs

- Atlantic (two sites in Scarborough, Progress Avenue)
- New Forest Scarborough (only new mill in Canada completely new mill four years old – owned by Atlantic)
- Cascades
- Norampac (owned by Cascades – six locations: Cabano, Jonquiere, Kinsey Falls, East Angus, QC; Mississauga & Trenton ON)
- Sonoco (Trent Valley)
- Strathcona, Napanee
- Smurfit US (Peterborough)
- Kruger Montreal
- Various mills in ON, QC, US



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Boxboard & Mixed Paper Markets – ON MRFs

- Most MRFs report they do not produce “hardpack”:
 - mainly to medium board mills as filler
 - price discounted to % of OCC in bale
- Mills in ON, QC & Michigan
 - Brokered through Canada Fibres & Cascades Recovery Inc.
- Norampac Niagara Falls NY (Niagara) – existing 100% recycled mill
 - new mill to be constructed on property next door
 - 100% light weight containerboard, 540,000 t/y
- Sonoco (Quinte produces source separated Blue Box)



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Mixed Paper & Polycoat Markets – ON MRFs

- Fine Paper
 - not a residential grade – all residential writing papers go in mixed paper bale
 - fine paper from offices to tissue mills ON, QC, US
- Mixed Paper
 - includes residential printing and writing paper
 - mostly overseas (China)
 - Cascades (Durham)
- Polycoat
 - South Korea (through brokers); some US
 - Cascades, QC



225

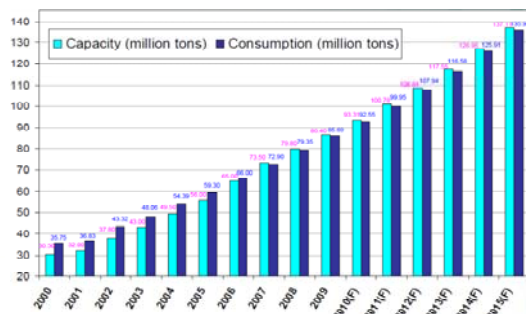
China Factor

- More of ON fibres going to China
- China provided market when NA markets collapsed in 2008
- Split opinion on long term sustainability of China market
- Significant concern re: depending on China market & they “pull the plug”
- Caution not to let domestic industry close down & then be dependent on China



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China–Projected Paper Industry Growth to 2015



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Chinese Demand Increasing Chinese Domestic Recovery Also Increasing

(Million tonnes; rounded figures.)

	Domestic RP	RP imports	TOTAL collection
2010	39.3	24.5	63.8
2009	34.1	28	62.1
2008	31.3	24.5	55.8
2007	28	23	50.7

Source: RISI, China Paper Assn, US Dept of Commerce, Bureau of Census.



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Blue Box Fibre Markets (2006)

- Lowest prices in 10 years
- Mills are closing – Sonoco, Abitibi, Domtar, Cascades, Tembec, Weyerhaeuser;
- Abitibi still running two ONP lines; #8 news \$50 less than today's price
- OCC prices lowest in 10 years; 50% < than today
- OBB, gable & tetra markets just developing
- 62% (\$62.5M) of Blue Box revenue is fibres
- Imports exceed exports by 1M tonnes
- Asian investments in fibre processing booming



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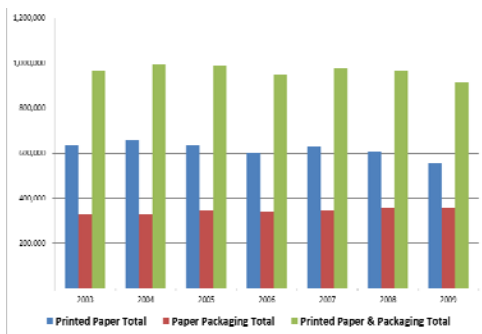
Blue Box System Today (2011)

- Big SS programs: York, Peel & Halton (plus Bluewater and Sudbury) on line
- 300,000 tonnes ss fibre; > two-stream for first time
- Co-collection, bag limits, user pay, every other week garbage collection all increase fibres collected
- Over a dozen optical sorters installed; fibre trials not successful
- Amounts of fibre available and recycled beginning to drop
- Costs of Blue Box system costs have increased to \$327/t gross; \$257/t net



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Available Paper Dropping 2006 to 2009



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Blue Box System Today (2011)

- Changing Blue Box fibre composition will have significant impact on collection, processing and revenues
 - 8-10% decrease in overall paper available in ON Blue Box
- Pulp and paper companies continue to build & expand where market is buoyant
 - closing newsprint mills
 - expanding & building containerboard capacity
- Price tag \$450 million for 1 new US mill
- Cascades building new \$450 million containerboard mill in Niagara Falls, NY



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Blue Box System in Five Years (2016)

- ONP sorting costs rise
- Shredded paper as % of residue grows
- Depending on price differentials, more mixed paper bales may be sold
- More Blue Box fibres co-processed with IC&I materials
- More multi-family co-processed with single family
- Blue Box costs will continue to rise as fibre revenues drop (because of lower fibre tonnages)



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Bottom Line Re: Blue Box Fibres

- Fibre recovery good, could be much better
 - still losing 238,000 tonnes per year
- Single Stream here to stay
 - need to live with it & make it better
- Multi family housing here to stay –
 - need to start keeping better records, tracking data for MF & SF separately in Datacall
 - need to figure out effective way to increase fibre recovery
 - mixed waste processing may be an option
- Fibre composition changing
 - need to address impacts on collection, processing, costs
- Export markets are here to stay (at some level)
 - adapt & understand what this means long term
 - recognize sustainability of local markets in long term planning




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Questions





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EPR Insights

Andy Campbell, CIF

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Reflections on Managing Printed Papers & Packaging

Glenda Gies


Glenda Gies & Associates

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Presentation Overview

- BC Initiatives
 - full producer responsibility for printed papers & packaging
- Ontario's Blue Box System
 - where we started
 - where we've been
 - where we are
 - where (I think) we're headed




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BC Initiatives (1)

- October 2004 – Recycling Regulation (RR)
 - obligates producers to submit stewardship program plan for approval by director – or comply with specified stewardship program requirements
 - if producer fails to comply, producer may no longer sell, offer for sale, distribute or use product in BC
 - obligates 75% recovery rate – no timeline specified
- May 2011 – RR amended to include Schedule 5
 - defines packaging & printed paper (PPP)




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BC Initiatives (2)

- Packaging
 - excludes beverage containers, which are managed under deposit-return program
 - milk containers not under deposit, included in definition of packaging under Recycling Regulation
- Printed Paper
 - includes paper that is printed, or is intended to be printed, with text or graphics
 - includes telephone directories
 - excludes other types of bound books



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BC Initiatives (3)

- Key differences between BC & Ontario (ON)
 - producer choice
 - BC producers must choose to associate with a producer responsibility organization
 - ON producers obligated to pay fees to Stewardship Ontario unless exempted via ISP
 - municipal choice
 - in BC, no mandatory municipal role through regulation
 - not all BC municipalities provide PPP services
 - full producer responsibility
 - no 'shared responsibility' or cost sharing formula



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BC Initiatives (4)

- Multi-Material BC retained consulting team
 - Glenda Gies, Maria Kelleher, Geoff Love, Liz Parry, Usman Valiante, Maura Walker
 - to undertake current state analysis
 - who, what, how much, at what cost
 - to develop & assess program design options
 - options for MMBC to interface with marketplace
 - evaluation with pros, cons, risks, opportunities
- Many are watching BC as a possible template for implementing full EPR in other jurisdictions



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Ontario's System – Where We Started

- Local initiatives
 - volunteers operating drop-off depots
 - small community enterprises, often for training, employment for minorities, other social objectives
- Evolved into municipal services
 - driven by waste management planning requirements
 - residents demanded diversion before disposal
 - provincial/industry grants for start-up capital, P&E
 - expected that material revenue would offset costs



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Ontario's System – Where We've Been

- Provincial/industry grants ended after roll-out
- Market revenue fell in early '90s during recession
- Municipalities looked for financial assistance
- RCO/MOE/AMO/CSR sponsored 'Who Pays' study
 - settled on 'shared responsibility' as middle ground
- Shared responsibility expected to deliver
 - co-operative partnership between producers & municipalities
 - motivation for both parties to contain costs



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Ontario's System – Where We Are (1)

- Municipalities
 - frustrated with changing product mix & end-of-pipe responsibility
 - frustrated with cost containment & BP
 - would like more producer financial responsibility but reluctant to relinquish system design/delivery
- Producers
 - increasingly accepting their responsibility for EOL
 - now defining their role as responsible producers
 - looking to establish provincially optimized system



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Ontario's System – Where We Are (2)

- Service levels
 - reasonable for single-family households
 - multi-family households still lag behind
- Inconsistent materials accepted
 - limits broad P&E
 - frustrates stewards of products excluded
 - constrains market development – SO's initiatives viable only if new products accepted for collection
 - decision required by each municipality which slows market development process



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Ontario's System – Where We Are (3)

- Difficult annual negotiation to establish BP net system cost & producers 50% share
 - frustration on both sides with calculation of net cost & methodology to distribute available funding
- Continued pressure from producers to find system design & cost efficiencies
 - used to continuous improvement within their own businesses, expect same in Blue Box system delivery
- Leads to tension & conflict between producers & municipalities



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Where (I think) We're Headed (1)

- Need a different basis for the relationship between municipalities & producers
 - to support transition to full EPR
 - producers responsible to achieve program performance objectives & associated program costs
 - to redefine shared responsibility
 - originally 'responsibility' was defined as financial
 - under full EPR, producers responsible for program costs, no longer 'shared' responsibility
 - going forward, 'shared responsibility' could be redefined to build on strengths of municipalities & producers
 - build more collaborative, less rancorous relationship



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Where (I think) We're Headed (2)

- Looking to strengths of each party
 - Municipalities – resident interface, collection
 - producers – processing, marketing, market development
 - activities linked to remanufacturing
- Developing more collaborative relationship
 - negotiate roles & responsibilities linked to strengths
 - allows each to deliver their role within context of defined & (hopefully) more productive partnership
- All to achieve larger objectives
 - more diversion, more market demand, lower net cost
 - sustainable consumption by moving externalized EOL costs into product price



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Questions









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Thank You All!





- | | |
|---|--|
| • Abby Barclay, Town of Arnprior | • Maria Kelleher, Kelleher Environmental |
| • Larry Freiburger, AET | • Mary Little, 2cg Inc. |
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| • Francis Veilleux, Bluewater Recycling Association | • Paul Speed, Rehrig Pacific Company |
| • Glenda Gies | • Rick Clow, MIPC |
| • Jay Stanford, City of London | • Sherry Arcaro, Stewardship Ontario |
| • Joe. C. Williams, Innovative Hydrogen Solutions | • Shirley McLean, Halton Region |
| • Kevin Vibert, City of Toronto | |



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Wrap-up

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