



## Ontario Recycler Workshop

December 4, 2009  
9:30 a.m. to 4:00 p.m.  
(approximate)



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### Welcome!


- 9th Ontario Recycler Workshop (ORW)
- Presented by: CIF & partners
  - Waste Diversion Ontario (WDO)
  - Association of Municipalities of Ontario
  - City of Toronto
  - Stewardship Ontario




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### Today's Audience

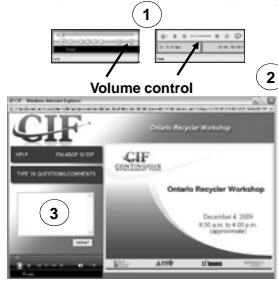
- Approximately 70 people in room
- Expecting ~40 people on webcast
- Audience members include:
  - municipal recycling & waste staff
  - other municipal staff members
  - stewards
  - industry association representatives
  - MoE staff
  - program representatives, consultants & other stakeholders



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### Today's Program & Housekeeping

- Full day session (to ~4 p.m.)
  - program & project updates
- For webcast audience
  - speaker moves slides
  - volume control (1)
  - enlarge slide (click "X" to go back to full console) (2)
  - "Questions/Comments" (3)
- Slides & webcast archive available after ORW




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### Discussion/Question Segments




- Follow 4 theme segments
  - Implementing Best Practices
  - MRF Issues
  - Open Spaces Recycling
  - Multi-residential Recycling
- Opportunity to discuss presentations & key questions
  - brief plenary session follows each
  - share responses; ask questions



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### Today's Agenda

- Session 1–CIF 2010 Action Plan
- Session 2–Implementing Best Practices
  - Morning Break (~10:45 to 11:05 a.m.)
- Session 3–MRF Issues
- Session 4–Stewardship Ontario Activities
  - Break for Lunch (~12:15 a.m. to 1:00 p.m.)
- Session 5 –Open Spaces Collection Initiatives
- Session 6–Multi-residential Recycling: Supporting BP
  - Afternoon Break (~2:30 to 2:45 p.m.)
- Session 7–Future Initiatives
  - ORW ends (~4:00 p.m.)



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## Today's Speakers

- \* Alec Scott
  - MIPC
- \* Allison Ross
  - Independent Consultant
- \* Ben Dunbar
  - AET Group Inc.
- \* Carrie Nash
  - Municipal Waste Association
- \* Cathy Smith
  - AECOM
- \* Catrina Switzer
  - Peterborough
- \* Craig Bartlett
  - Durham Region, representing MIPC
- \* David Pressey
  - Haldimand County
- \* Glenda Gies
  - WDO
- \* Guy Perry or John Dixie
  - Stewardship Ontario
- \* Jim McKay
  - Stantec
- \* Kelly Spitzig
  - York Region
- \* Lyle Clarke
  - Stewardship Ontario
- \* Mary Jean O'Donnell
  - ZeroWaste Solutions for StewardEdge
- \* Mike Schedler
  - NAPCOR
- \* Vince Cascone
  - Bruce Area Solid Waste Recycling
- \* Vivian DeGiovanni
  - Municipal Waste Association

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## CIF 2010 Action Plan

Andy Campbell  
Director, CIF

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## 2009 Results

Sorted by CIF Committee Priority Area	Approved			Funding		Percentages	
	# Projects	Funding	Total Project Value	Total (\$M)	Left (\$M)	Of Total Budget	Actual
Increase Existing Materials	26	\$2,966,260	\$12,988,712	\$3,220	\$0,254	12%	21%
Increase New Materials	1	\$10,080	\$10,080	\$4,830	\$4,820	18%	0%
Geographic Optimization	22	\$5,535,215	\$24,047,989	\$11,271	\$5,736	42%	40%
Technology Improvements	20	\$4,759,100	\$9,707,601	\$5,636	\$0,877	21%	34%
Other	15	\$587,850	\$824,729	\$1,879	\$1,291	7%	4%
<b>Total</b>	<b>84</b>	<b>\$13,858,505</b>	<b>\$47,579,111</b>	<b>\$26,836</b>	<b>\$12,977</b>		

Note: As at November 1, 2009

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## 2010 Operations Plan

- \* Build on 2008 & 2009 successes
- \* Identifies specific best practice (BP) & project priorities
- \* Funds for developing long-term mixed plastics solutions
- \* Evaluation to include if projects are an incremental approach in the event of 100% EPR



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## 2010 CIF Priorities (1)

Best Practices	
Project Initiative	Budget Allocation
Integrated Recycling Plans	\$1,750,000
Large Curbside Containers	
200,000 HH @\$7	\$1,400,000
Multi-res capacity	
Program 20,000 bldg @\$35/bldg	\$700,000
Bins/Carts	\$1,000,000
Co-operative marketing	\$200,000
ESCOs – energy efficiency	\$200,000
Public space recycling	\$100,000
MRF upgrades – 5@\$500K	\$2,500,000
Transfer Stations – 4 each @\$500K	\$2,000,000

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## 2010 CIF Priorities (2)

Innovation	
Project Initiative	Budget Allocation
Automated Collection	
50% funding Carts – 200,000 HH	\$6,500,000
\$50K Increase for Trucks – 35 ea	\$1,750,000
Polystyrene densification	\$150,000
Emerging Technologies	
3-7 Plastic (in addition to \$1.9M RFP)	\$250,000
Plastics diversion	\$250,000
Communications	
Multi-Res	\$50,000
Small muni media buy/internet	
70 muni @\$5,000 ea	\$350,000
<b>Sub-total Project Initiatives</b>	<b>\$19,150,000</b>
<b>Approved 2010 Budget</b>	<b>\$24,401,000</b>
<b>Budget Remaining for Additional Projects</b>	<b>\$5,251,000</b>

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### Integrated Recycling Plans (1)

- Designed for small municipalities
- Incorporates small urban/rural best practices
- Easy to use
  - simple data collection forms & models
  - simplified information on options
  - decision checklist
- Result: integrated recycling program plan



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### Integrated Recycling Plans (2)

- Timeline:
  - testing: January 2010
    - workshop
  - distribution of assessment survey: January 2010
  - template roll-out: Spring 2010
    - website, workshops, remote conferencing, online library



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### WDO's Draft Consistent Material Collection

- As soon as practically possible
  - Other printed paper & boxboard
  - Aluminum foil
  - Empty paint cans & aerosol cans
  - Tubs & lids, HDPE containers
- Depots within 3 years
  - HDPE/HPDE film (#2, #4) & polystyrene foam
- When reliable markets are available
  - Thermoform PET, polystyrene crystal (#6) & other rigid plastics (#7)
  - Gable top cartons & aseptic cartons

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### CIF Is Here to Assist Municipalities

- Will you need to change your operations for consistent material collection?
- Are there BP to implement?
- How will your municipality deal with 100% EPR?
- Higher levels of CIF funding may be available for strategic long-term facilities/programs

CIF grants must be approved in 2010

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Questions?



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Implementing Best Practices

Alec Scott, MIPC

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## Background

- Best Practice (BP) in Blue Box (BB) recycling has been major focus of the BB Program
- Have the 8 accepted Fundamental Best Practices to apply to all municipal programs
- Municipal program funding tied to meeting the Fundamental Best Practices



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## Issue

- BP can apply to various aspects of program operations beyond the fundamental BP
- CIF supports projects that will help define, determine & prove better & best practices
- Publish results of projects to be used by all recycling programs
- Goal is to help BB programs operate at the best level that they can



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## Speakers Profiling Better & Best Practice Projects

- Catrina Switzer, County of Peterborough
  - County of Peterborough Recycling Depot Optimization
- Cathy Smith, AECOM
  - CIF Municipal Model Contracts Tool
- Allison Ross, Independent Consultant
  - BP Clear Bag Project in Quinte
- Jim McKay, Stantec Consulting Ltd.
  - Recycling Collection Operations Review
- Gary Everett, The Emerald Group
  - BP Program Assessment Reports



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## For Later Discussion...



1. What do you see as your priority areas for implementing better & best practices?
2. Are there other BP in recycling collection that should be researched or proven?
3. What benefits to your program do you expect to achieve by implementing best practices?



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## County of Peterborough Recycling Depot Optimization E & E Fund Project #326

Catrina Switzer  
County of Peterborough

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## Project Highlights

- Project goal: design &
  - implement optimum 2 stream rural depot container/transportation system
- Anticipated impact: decrease in collection costs
- More information:
  - [cswitzer@county.peterborough.on.ca](mailto:cswitzer@county.peterborough.on.ca)
  - [www.county.peterborough.on.ca](http://www.county.peterborough.on.ca)



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## Background Information

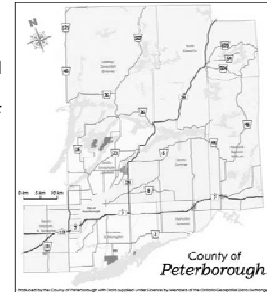
- \* 5 stream sort using segmented roll-off bins for containers, clear glass, coloured glass & newspaper, & rear load bins for OCC/OBB
- \* February 2008 conversion to 2 stream system – roll-off bins to be used for containers & rear load bins for fibres



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## Considerations for Improving Rural Depot Collection Efficiency

- \* 16 recycling depot locations across 4,000 sq km
- \* Curbside collection in 6 of 8 townships & a large seasonal population
- \* Distance from depots to MRF up to 76 km one way
- \* On-site limitations (space, hydro, water, etc.)



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## Project Implementation

- \* Prepared RFP for new front-end bins July 2008
- \* Award & delivery of 232 front-end bins to 16 depot locations throughout the County
  - October 20<sup>th</sup>, 2008 to November 28<sup>th</sup>, 2008
- \* Pre & post program audits to determine contamination levels in the old versus new system
- \* Monitor tonnages collected for 2008 & 2009



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## Findings

- \* Delivery process took twice as long as originally anticipated due to vendor transportation & manpower issues
- \* Front-end bins provide better accessibility for residents
- \* Graphic based 3' by 3' images well received



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## Financial Impacts

- \* Container collection costs down 27%
  - roll-off vs. front-end
- \* Fibre collection costs up 3%
  - rear-load vs. front-end

(cost comparison Jan to July 2008 vs. 2009)
- \* Front-end bin costs over budget due to increase in steel & oil market pricing in summer 2008



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## Lessons Learned

- \* Require vendors to visit all depot sites as part of the RFP process
- \* Vendor must provide detailed delivery schedule
- \* Early spring delivery is better; avoid winter conditions & peak depot season
- \* Inspect bins at manufacturing facility prior to delivery
- \* Significant staff time required to manage bin delivery logistics



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### Next Steps:

- \* Continue to improve collection schedule & monitor contract
- \* Promotion & Education campaign to encourage residents to break down OCC & OBB cartons
- \* Investigate the possibility of compaction at higher volume &/or remote sites
- \* Reduce collection cost in next RFP/Tender cycle



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## Municipal Model Contracts Tool

CIF Project #122

Cathy Smith,  
AECOM Canada Ltd.

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### Project Highlights



- \* Project goal:
  - to assist municipalities with the procurement of recycling collection & processing services
- \* Anticipated impacts:
  - provide municipalities the tools to put together procurement documents that meet best practices (BP)
- \* More information:
  - csampson@wdo.ca; Robert.Lippett@aecom.com
  - www.wdo.ca/cif



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### Situation

- \* Majority of programs contract for recycling collection &/or processing services
- \* High variability between municipalities in the availability of resources (technical, legal) to undertake these procurement processes
- \* BP have been identified & utilized by some but no single tool available to identify all relevant BP
- \* Felt such a tool was needed to assist municipalities to meet procurement BP



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### Project Description

- \* Sourced & reviewed 20+ municipal tenders/RFPs
- \* Reviewed industry procurement best practices & legal literature
- \* Identified clauses that reflect BP, better practice & those that need improvement
- \* Developed model RFP's—Collection & Processing—using sounder technical & legal components from reviewed tenders/RFP & literature



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### Results

- \* Model RFPs have notations with FYIs, BP, constructive comments & "red flags" for the user
- \* Developed the Models based on the most common method for service provision—an RFP
- \* User-friendly—can be accessed as a template for individual municipal RFP/tender documents
- \* Models are designed to provide for 'one stop shopping' for municipal recycling service provision



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## Preview...!



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## Findings & Analysis

- Municipal staff do the best with what they have
- There is high variability in resources ( i.e., high level legal review) available to municipal staff
- This project provides further resource for staff to reduce errors or omissions, & adopt best practices standards in procurement
- Models essentially designed to "stimulate thought" with RFP/tender development
- Should save \$\$ over long term



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## Next Steps

- Two Models are annotated/under final review
- Developing & inputting information in database
- Will be testing over the next week
- Anticipate "going live" by December 17
- Will be able to access through the CIF website
- Thanks again to those programs who participated in the project



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## Clear Bag Requirements for Garbage: A Better Practice of Program Compliance

(E&E Fund Project #312)

Results of the Clear Bag Program in Madoc Township & Municipality of Centre Hastings

Allison Ross  
Independent Consultant

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## Project Highlights



- **Project Goal:**
  - document the development & implementation of a clear bag program, & examine the program impacts
- **Study Area:**
  - Madoc Township & the Municipality of Centre Hastings (total population: 6,326; total Households: 3,262)
- **Anticipated Impacts:**
  - increase in blue box diversion
  - Quinte Waste Solutions (QWS) conducted pilot test following background research on clear bag programs (E&E 177)
- **More information:**
  - aeross77@gmail.com & rick@quinterecycling.org



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## Issues

- **Waste Management**
  - how to extend the lifespan of the landfill
  - concern with the amount of recyclables entering the landfill
- **Project Objectives**
  - assist the municipalities in developing & implementing their clear bag program
  - gather pre & post-program monitoring data
  - examine all aspects of the program process, summarize results, & make recommendations



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### Program Requirements

- \* All garbage must be placed in clear bags
- \* No recyclables & HHW allowed in clear bag
- \* Privacy bag is permitted in each clear bag (20" x 22" maximum)
- \* Non-compliant bags left at curbside not accepted at landfill



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### Program Features

- \* Promotion & Education
  - hauler education & retailer education
  - media launch, newspaper articles, & radio interviews
  - newspaper & radio advertisements; direct mail
  - 3 public information sessions–300 attendees
- \* Barriers
  - unrealistic timing-clear bag program start date (Jan. 7, 2008)
  - enforcement date: Feb. 4 (extended to June 2)
  - social barriers
    - privacy issues were not a major concern
  - inconsistent supply of clear bags



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### Impacts

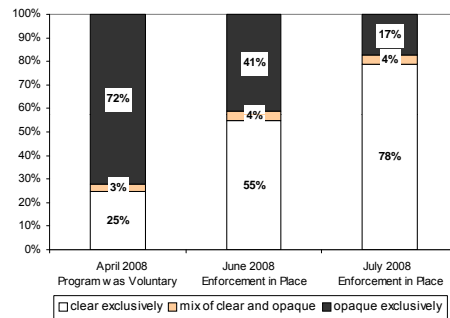
- \* Blue box diversion rate increased by 12% from 33% to 45%
- \* Municipal recycling tonnage increased by 9%
- \* Municipal garbage tonnage decreased by 34%
- \* Enforcement was key component of clear bag program's success



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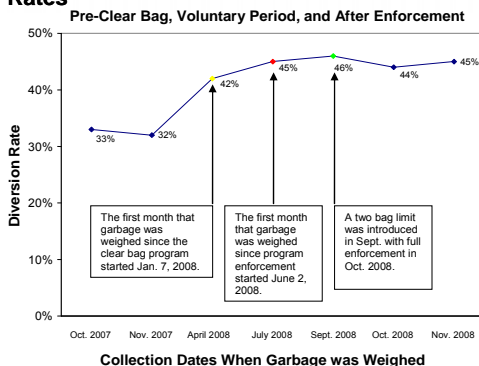
### Garbage Set-Outs Using Clear Bags- All Areas Combined

(As a Percent of Total Household Set-Outs each Month)



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### Centre Hastings' Blue Box Diversion Rates



Collection Dates When Garbage was Weighed

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### Important Items to Consider

- \* Provide at least one year's notice to stakeholders
- \* Provide opportunities for public input
- \* Anticipate & address needs in advance (e.g., bag exchange program, privacy issues)
- \* Inform public using a variety of media forms including direct mail before the program starts
- \* Be persistent in communicating with retailers
- \* Sell clear bags to help with transition



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### A Better Practice of Program Compliance


- Clear bag requirement for garbage supports recycling program compliance
- Supports continuous improvement

*Next Steps*

- Results have been shared with municipalities serviced by QWS
- Some of these municipalities are considering clear bag programs & will use findings & recommendations

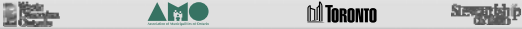
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## Recycling Collections Operation Review

CIF Project # 176

Jim McKay  
Stantec Consulting Ltd.



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### Project Highlights

- Project goal:
  - verify efficiency & effectiveness of automated cart collection in rural areas
- Anticipated impacts:
  - provide data on efficiency of automated vs. manual collection
- More information:
  - jim.mckay@stantec.com
  - www.stantec.com







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### Why This Project? What Problem Does it Address?



- Provides data on:
  - automated vs. manual collection
  - capture & contamination rates
  - resident container preference

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### Project Description


- Recycling collected by Bluewater Recycling Association with carts (single stream) & blue boxes (two-stream)
- Stantec collected time & motion data for 2 weeks in 2 communities in Southwest Ontario
- AET Group Inc. conducted waste audits
- Stantec conducted a participant survey to measure resident satisfaction with collection container & collection service

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### Impacts/Anticipated Results

- Anticipated that automated collection would:
  - be more time-consuming
  - have a higher rate of contamination
  - be less suitable for rural areas



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### Analysis of Progress/ Results/Findings

- Automated collection is more efficient, can collect more material per minute, & unloading/loading containers is more efficient
- Community with single stream & carts had increased capture rate, less contamination & less recyclable material in waste stream
- Respondents to survey indicated that:
  - majority praised the new bin & the lack of required sorting
  - 92% preferred the cart over blue boxes
  - 42% reported recycling more with the cart



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### Best Practice Improvement Impact

- Provides evidence of efficiencies gained in converting to a cart-based, automated collection system in rural areas (by 7.7 seconds/stop)
- Provides evidence that lower contamination rates are possible with cart-based programs
  - contamination rates: 6.92% (carts) vs. 9.99% (blue boxes)
- Provides evidence of higher capture rates
  - 85.17% (carts) vs. 62.57% (blue boxes)



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### Next Steps

- Summary Report prepared by Stantec
- available at: [www.wdo.ca/cif/pdf/reports/176/176\\_report.pdf](http://www.wdo.ca/cif/pdf/reports/176/176_report.pdf)



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### Best Practice Assessment Reports CIF Project #158

Gary Everett  
The Emerald Group

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### Project Highlights



- Project goal: To develop best practice (BP) recycling program assessments for participating volunteer municipal programs
- Anticipated impacts: Provide an objective assessment of their blue box programs & make recommendations for improvements
- More information:
  - Gary@Egroup1.com
  - www.Egroup1.com



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### Project Process

- REOI issued for interested municipalities to investigate BP opportunities
  - 3 municipalities selected
  - identify opportunities to enhance selected programs
  - publish generic results to help other municipalities
- Develop a BP template for use in other municipalities
- Evaluate utility of the assessment process



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### Project Description

- \* Develop assessment template based on datacall BP section & KPMG Best Practice Project report
- \* Perform assessment = program review, site visit, program analysis & report
- \* Compile generic report & index
- \* Provide final evaluation



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### Impacts/Results

- \* Participating municipalities believed the assessments provided valuable & useful information
- \* 8-10 program improvement recommendations provided to each participating municipality
- \* 8 CIF funding apps. generated, 4 approved, 4 waiting & several more pending
  - 3 web based recycling portal
  - collection RFP development



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### Typical Program Observations/ Recommendations

- \* Several opportunities for multi-municipal cooperation identified
  - collection/processing joint contracts
  - shared promo info & purchasing
- \* Need for integrated recycling plans & diversion goals
- \* Need for staff training
  - budget, staff time
  - available resources



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### Project Evaluation

- \* Template should be adequate guide to build a valid assessment...BUT
  - good assessment requires significant knowledge level of Best Practice Project content, site visit procedure & multiple program operating procedures
- \* Evaluation process with external resource support would have the greatest impact in small municipalities
  - site visit should be mandatory part of assessment



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### Next Steps

- \* Info. template & generic report will be available on CIF's website
- \* BP assessments may be CIF fundable, but possibly better done as part of integrated recycling master plan
- \* Program funding to BP is here, so please:

**Be Proactive!**



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### Discussion



1. What do you see as your priority areas for implementing better & best practices?
2. Are there other BP in recycling collection that should be researched or proven?
3. What benefits to your program do you expect to achieve by implementing best practices?

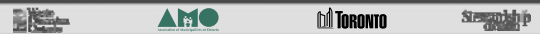



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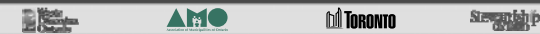
## Plenary & Questions

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## Refreshment Break

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## Welcome Back!

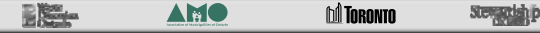
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## MRF Issues

Mike Birett  
CIF


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### MRF Developments

- Spring ORW :
  - described challenges to anticipate future MRF infrastructure needs & CIF goals related to MRF infrastructure development
  - “Regional” projects under development
- This session updates on projects under way
  - Bluewater collection system
  - Optical sorting status review
- Highlight 2 new initiatives
  - Haldimand/Norfolk system review & BASWR eddy current installation


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### Related Projects

- Renfrew County MRF Plan (#121)
- Simcoe Processing Options Review (#155)
- Timmins Transfer Station (#162)
- Halton Transfer Station (#186)
- Kenora Transfer Station (#187)
- Fort Frances Transfer Facility (#194)
- Emerging Technologies Evaluation (#145)
- EPS Densification (#130)
- Decision Tree Tool (#148)
- UofW Waste Shed Analysis (#179)
- Eastern Ontario MRF Opportunities (#172)
- Hamilton MRF Upgrades (#118 & 119)
- Niagara MRF Upgrades (#140, 142 & 161)
- London MRF (#146)

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### Today's Speakers

- Dave Pressey, Supervisor, Waste Management Capital Projects, Haldimand County
  - MRF Optimization Study in Counties of Haldimand & Norfolk
- Vince Cascone, General Manager, BASWR
  - Addition of Dings 91 Series Eddy Current System
- Guy Perry, Director, Technical Services, StewardEdge
  - Stewardship Ontario & CIF Update on Optical Sorting Installations in Ontario MRFs



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### For Later Discussion...



- In light of the uncertainty created by the EPR discussion how CIF can assist with MRF/processing infrastructure development?
- Should CIF place more of an emphasis on:
  - identifying new technologies to improve MRF operations
  - optimizing existing technologies (i.e., more analysis & reporting back on things like optical sorters)
  - developing markets for problem materials



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### Material Recovery Facility Optimization Study in the Counties of Haldimand & Norfolk

CIF Project #103

David Pressey  
Haldimand County

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### Municipal Structure

- Pre-2001: Regional Municipality of Haldimand Norfolk
- Amalgamation split the region into 2 counties in 2001
  - Haldimand & Norfolk County with jointly vested waste management infrastructure (MRF & Landfill Sites)
  - Norfolk County operates the MRF; Haldimand County operates the landfill
  - separate curbside collection (HGC Management)
- For more information:
  - David Pressey, Haldimand County; email: [dpressey@haldimandcounty.on.ca](mailto:dpressey@haldimandcounty.on.ca)
  - Jennifer Wilson, Norfolk County; email: [jennifer.wilson@norfolkcounty.ca](mailto:jennifer.wilson@norfolkcounty.ca)



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### Location of Haldimand & Norfolk County



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### Recycling Program Information (2008)

- Haldimand Residential - 2,942 tonnes
- Norfolk Residential - 4,345 tonnes
- 4-stream set out / 6-stream curb side sort
- Corrugated cardboard, boxboard, news & bagged film, comingled containers, clear glass, & coloured glass



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### Existing Haldimand-Norfolk MRF

- \* Located in Simcoe, Ontario (Norfolk County)
- \* Jointly used by both Counties since 1994
- \* Need of repair: bailer, eddy current, magnet, etc.
- \* Decision to modify MRF or look elsewhere for processing capacity



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### MRF Optimization Study

- \* Haldimand & Norfolk retained 
  - MRF Options
    - \* do nothing
    - \* partial upgrade
    - \* full upgrade
  - Transfer Options
    - \* various transfer options using Simcoe & Canborough as base points
    - \* standard transfer stations vs. Transtors



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### Woodstock Transfer Station



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### Transtor Transfer Station



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### MRF Optimization Study Results

- \* Consider opportunities to invest in Transtor Transfer Station
- \* Consider reducing the collection streams from 6 to 2 streams
- \* Consider opportunities to optimize curb side collection contracts (minimum 7 year term)
- \* Conduct formal price inquiries from surrounding 3<sup>rd</sup> party processors to achieve long term rates
- \* Implement an aggressive P&E campaign
- \* Investigate funding availability from the CIF



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### From Here.....

- \* Haldimand County
  - moving to a 2-Stream program
  - divestiture of the MRF in progress
  - capital investment pending budget approvals
  - CIF application in progress
- \* Norfolk County
  - continuing to investigate processing options



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**CIF**  
CONTINUOUS  
IMPROVEMENT FUND

## Addition of Dings 91 Series Eddy Current System

CIF Project #138

Vince Cascone, General Manager  
Bruce Area Solid Waste Recycling


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## Bruce Area Solid Waste Recycling

- Began in 1989 servicing approximately 6,000 households
- Grown to service over 35,000 households
- Partnership of 7 of 8 municipalities in Bruce County

**Bruce County**



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## Project Highlights

- Project Goal:**
  - to eliminate costly aluminum processing
  - increase sorting room efficiencies while improving product specifications
  - also attempting to reduce summer overtime due to seasonal population increase
- Further information:**
  - [www.brucewasterecycling.com](http://www.brucewasterecycling.com)




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## Project Reasoning

- Growth area had resulted in more product to the point of unbalanced shifts
- Larger building was not economically feasible

## Project description



- Implementation of Eddy Current to remove waste & lower aluminum processing times
- Visit from CIF representative resulted in unexpected reduction of costs
  - plan was already in place to purchase the system
- Projected immediate reduction in labour costs

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## Project Difficulties

- Eddy Current operational problems would shut down entire line until repaired
- Area to install machine very restricted
- Aluminum bunker required unexpected modifications
- Sorted steel line was required due to space restrictions






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## Impacts

- Decreased sorting staff from 4 to 3
- Sort system running 7 ½ hours /day from 6 ½
- Eliminated extra sort of aluminum before baling
- Baling product requires 10 min. labour for 1 employee instead of 2 employees manually sorting material @ 1 hour
- Unexpected impact of cleaner steel
- Less time required to sort & bale material
- Eddy Current allows for future population growth
  - can accept more material but no new products


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### Eddy Current System



DINGS 91 Eddy  
Current



Steel & Garbage  
Conveyors



UBC bunker

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### Project Costs

	Budget	Actual
Eddy Current	\$58,405	\$90,266
Labour to Install	\$36,195	\$24,342
Modifications to Plant	\$17,000	\$20,843
<b>Total</b>	<b>\$111,000</b>	<b>\$135,451</b>
<b>Additional Costs not included in Budget</b>		
Aluminum Conveyor		\$8,856
Steel Conveyor		\$6,971

CIF project funding: \$49,500 plus GST

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### Annual Savings

	Total
Sort staff reduced by one person	\$26,436.80
Waste removal from UBC	\$10,020.40
Stop sort line for waste removal	\$19,827.60
<b>Total</b>	<b>\$56,284.80</b>

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## Stewardship Ontario & CIF Update on Optical Sorting Installations in Ontario MRFs

Guy Perry  
StewardEdge

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### Objectives of Presentation

- \* Overview of optical sorter installations in Ontario
- \* To encourage the development of a body of knowledge on optical sorting technology
- \* Options for communicating information on OST in the future
- \* For more information:
  - gperry@stewardedge.ca

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### Optical Sorter Installations (1)

- \* 5 E&E funded OST project implemented
  - Durham, Essex-Windsor, Peel, Toronto-Dufferin, Toronto-Metro Waste
- \* 5 CIF funded OST projects
  - Guelph, London, Niagara, Bluewater, Hamilton
- \* At least 3 others installed in province
  - Ottawa-Metro Waste, Northumberland, Waterloo, & plans underway for others e.g., York



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## Optical Sorter Installations (2)

Program	BSPP Funding	Status	Stream	Manufacture #	Materials Targeted
Bluewater	CIF	Under commissioning	containers & fibres	Pellenc (2 units)	PET, HDPE, polycarb, non-fibre
Durham	E&E	Dec-07	Containers	Pellenc (2 units)	PET, HDPE, polycarb, tubs & lids
EW/SLA	E&E	Jun-08	Containers	Pellenc	PET, HDPE
Guelph	CIF	to be installed	containers	TiTech	PET, polycarb, mixed plastics
Guelph	N/A	Sep-08	glass	TiTech	glass
Hamilton	CIF	Jul-08	containers	TiTech	PET, mixed plastics/polycarb
London	CIF	to be installed	containers	tbd	tbd
Niagara	CIF	expected March 2010	containers	Pellenc	PET, polycarb/aluminum
Northumberland	N/A, monitored by E&E	Oct-08	fibres	MSS	OCC/OBB, non fibre (residue & containers)
Ottawa-Metro Waste	N/A	since 2005	containers	Pellenc	HDPE
Peel	E&E	Nov-07	Containers	MSS	PET, polycarb
Toronto (Dufferin)	E&E	Feb-08	Containers	Pellenc	PET, Polycarb
Toronto-Metro Waste	E&E	Oct-07	Fibres	MSS (2 units)	OCC/OBB, non-fibre (i.e., plastics, steel, Al, film, etc.)
Waterloo	N/A	operating	containers	Pellenc	HDPE, PET

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## OST Performance for OCC/OBB from Primarily E&E Fund Reports

- Capture rate range for OCC/OBB:
  - 29% to 76%
- Purity rate range for OCC/OBB:
  - 66% to 83%
- High variance in range due to:
  - throughput level of incoming material
  - operating conditions (e.g., decreased performance with wet material)
- Greater than anticipated maintenance issues:
  - initial commissioning problems
  - regular upkeep (cleaning & adjusting)
  - problems related to design (incasing, belt placement)
- Recognition problems: coloured OBB & white OCC



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## OST Performance for Containers

- Capture rate range for containers:
  - PET: 60% to 90%
  - HDPE: 75% to 85%
  - Polycarb: 80% to 95%
- Purity rate range for containers:
  - PET: 65% - 90%
  - HDPE: 65% - 80%
  - Polycarb: 55% - 80%
- Throughput range:
  - 1 to 4.5 tph of incoming material
- Variance in range due to:
  - different objectives of installations (i.e. primary positive sorting vs. "cleaning")
  - configuration of eject
  - quality of incoming material
- recognition issues:
  - dirty sensor lens
  - some difficulty differentiating between HDPE/LDPE
  - PVC & other labels that cover entire container
- Captures small-single serve aseptic & PET containers typically missed with manual sort

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## Lessons Learned

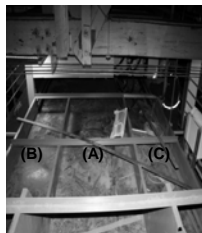
- Quarterly reporting to-date shows regular maintenance a driving factor of performance:
  - design considerations:
    - air quality & airflow and temperature/humidity settings
    - In-feed belt configurations
  - ongoing maintenance considerations:
    - regular monitoring & cleaning of lens and valves
    - continued calibration required to correctly identify materials
- Need for technical support & good staff training
- Fibre optical sorting not yet fully proven due to material recognition issues



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## Most Recent OST Installation

- Bluewater Recycling Association received CIF funding for 2 Pellenc machines:
  - fibre line single eject for non fibres
  - container line (2.8 m wide)
  - 3 channels instead of 1 (photo):
    - A) 1st pass dual eject HDPE & polycarb
    - B) 2nd pass dual ejection of PET & mixed plastic
    - C) 3rd pass quality control on re-circulated batches of PET or HDPE




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## Next Steps: Develop Body of Knowledge

- Requests for:
  - information on performance, maintenance, technical issues
  - information on monitoring requirements for CIF funded OST projects, audit methodology, etc.
- In the past: ORW updates, panel discussions, OST working group of technical members
- In future: workshops, panel discussions, technical event days, re-engage OST working group
- Reports will be posted as projects completed
- More information:
  - John Dixie jdxie@stewardedge.ca
  - Guy Perry gperry@stewardedge.ca
  - Mike Birett mbirett@wdo.ca

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**Discussion**



1. In light of the uncertainty created by the EPR discussion how CIF can assist with MRF/processing infrastructure development?
2. Should CIF place more of an emphasis on:
  - identifying new technologies to improve MRF operations
  - optimizing existing technologies (i.e., more analysis & reporting back on things like optical sorters)
  - developing markets for problem materials





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**Plenary & Questions**

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**Stewardship Ontario Activities**

Andy Campbell  
Director, CIF

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**Background**

- Stewardship Ontario is the Industry Funding Organization for the Blue Box (BB) Program
- Responsible for administering the operation of the BB Program Plan
- Also undertakes activities that will help support the BB program

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**Stewardship Ontario Activities Update**

- Development & implementation of a municipal recycling training: an important opportunity
  - Vivian DeGiovanni (Municipal Waste Association) to update on recycling training project highlights
- Update on Stewardship Ontario activities: planned & in progress
  - Lyle Clark (Stewardship Ontario)

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**Project Update for 3 Year Ontario Blue Box Recycler Training Program**

E&E Fund Project #341

Vivian De Giovanni  
Municipal Waste Association

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### Project Highlights

- Project goal for 3 year program:
  - fundamental training: 200 existing municipal staff trained
  - specialized training: 140 individuals
- Anticipated impacts:
  - facilitate continuous improvement & informed decision making
- More information:
  - [vivian@municipalwaste.ca](mailto:vivian@municipalwaste.ca)
  - [www.municipalwaste.ca](http://www.municipalwaste.ca)



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### Project Outline

- Implement 3 year, \$1.75M strategy & delivery
- Develop & deliver training with 2 elements
  - fundamental training to cover broad range of competencies at high level
  - specialized training in promotion & education, contract management, markets & marketing, & data management
- Aided by steering group & subject matter team



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### Project Team

- Steering group: 25 volunteers including training experts, representatives from colleges, municipal operations staff & key recycling organizations
- Subject matter team: 12 volunteer municipal & technical subject matter experts (SMEs)
- Trainers: 18 volunteer municipal staff trained at train-the-trainer sessions in Oct. & Nov.
- Training Coordinator: Municipal Waste Association
- Curriculum Developers: Stantec & MWA



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### Project Deliverables & Update

- **Fundamental Principles** course has been finalized
- **Train the Trainer**—held Oct./Nov. 2009
- **P&E and Contract Management** pilots held—Nov. 2009
- **Markets & Marketing and Data Management** pilots to be held—Spring 2010



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### Best Practices

- Ensure this best practice is delivered to high standards & incorporates ongoing improvements
- The training incorporates current BP knowledge
- Training is linked to WDO Datacall best practice questions & corresponding funding



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### Next Steps

- Finalize P&E & Contract Management curriculum - post pilot
- Stantec developing Markets & Marketing & Data Management specialized courses in association with municipal subject matter experts
- Team is actively seeking involvement from municipal staff to participate in 2010 specialized pilots
- Start scheduling courses for 2010 (i.e., Fundamental Principles & Specialized courses)



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## Next Steps continued...

Upcoming training events:

Markets & Marketing (pilot)	Feb 23 & 24, 2010	Hockley Valley
Fundamental Principles	1st week in March, 2010	Location TBD
Data Management (pilot)	March 23 & 24, 2010	Hockley Valley

Find out more by contacting: Vivian De Giovanni, MWA  
vivian@municipalwaste.ca



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## Stewardship Ontario Update

Lyle Clarke  
Stewardship Ontario

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## Questions?

- \* Lyle Clarke, VP Operations
- \* (416) 323-0101 x154
- \* lclarke@stewardshipontario.ca



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## Questions



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**Afternoon Agenda**

- Session 5 –Open Spaces Collection Initiatives
- Session 6–Multi-residential Recycling: Supporting BP
  - afternoon break (~2:30 to 2:45 p.m.)
- Session 7–Future Initiatives
  - ORW ends (~4:00 p.m.)

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**Morning Session Concludes**

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**Enjoy your Lunch!**

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**Welcome Back!**

Clayton Sampson, CIF

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**Open Space Recycling,  
Defining Better Practises**

Clayton Sampson, CIF

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**Open Space Recycling**

- Many municipalities have open space recycling
- Numerous pilots & studies have been completed
- Interest into the subject remains high
- CIF is seeking to define the better practices to create a basis for pre-approved funding
- This session is intended to highlight:
  - CIF research into open space recycling to date
  - recent Open Space initiatives
  - solicit input & advice on next steps



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## Today's Speakers

- \* Jim McKay, Stantec Consulting Ltd.
  - Open Space Recycling Better Practices Review
- \* Kelly Spitzig, York Region
  - Public Space 3-Stream Waste Diversion Parks Pilot
- \* Mary Jean O'Donnell, representing StewardEdge
  - Sarnia's Public Spaces Recycling Pilot
- \* Ben Dunbar, AET Inc.
  - Public Space Recycling: The Auditors' Perspective on Toronto Parks Waste Audit 2008

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## For Later Discussion...



1. Are you planning to implement or expand open space recycling in your program?
2. What do you consider better or best practice in open space recycling?



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## Open Space Recycling Better Practices Review

CIF Project # 159/202

Jim McKay  
Stantec Consulting Ltd.

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## Project Highlights

- \* Project goal:
  - identify better practices for open space recycling
- \* Anticipated impacts:
  - provide guidance for implementing an effective open space recycling program
- \* For more information:
  - jim.mckay@stantec.com
  - www.stantec.com



Stantec



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## Why this Project?

### What Problem Does it Address?

- \* Identify better practices to assist municipalities with open space recycling programs
- \* Response to request to "provide recycling in parks"
- \* Identify parameters for funding by CIF
- \* Develop list of fundable better practices



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## Project Description


1.
  - \* CDN Research Associates Inc. retained to conduct online literature search to identify best practices
2.
  - \* Stantec retained to review results of literature search
  - \* list of defensible better practices identified
  - \* Best Practices Review report prepared
3.
  - \* 20 Canadian municipalities surveyed to identify additional programs
  - \* Best Practices Review report updated



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### Analysis of Progress/Results/Findings

- \* Most municipalities in Ontario do very little open space recycling
- \* Most municipalities in Canada with deposit/return systems do very little open space recycling
- \* cost & contamination are major factors identified as inhibiting implementation of these programs




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### Best Practices Identified

- \* Clear & consistent signage
  - full colour images
  - high quality images or photographs vs. line drawings
  - overhead signage
  - minimal amount of text
  - white text on coloured background

People spend less than 5 seconds on average reading waste management advertisements




From www.treehugger.com




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### Best Practices Identified

- \* Placement of recycling bins
  - 3 to 14 m apart is most effective
  - areas with high traffic flow or activities that generate most litter
  - put where people expect to find them
  - paired with garbage can
  - place side by side, not back to back




Award winning designs in Changi Airport, Singapore



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### Best Practices Identified (2)


- \* Communication with park staff, vendors, collection crew
  - impacts on collection vehicle for increased streams retrofit or purchase?
  - advice on bin placement
  - food packaging options for vendors
  - signage for recycling containers




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### Best Practices Identified (3)


- \* Design of recycling bins
  - top loading vs. front loading
  - indoor vs. outdoor
  - clear vs. solid
  - metal vs. plastic
  - foot pedal vs. flaps



Bins in San Francisco, CA




From www.treehugger.com



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### Next Steps

- \* Purpose of study is to invite discussion
- \* CIF wants to gauge interest in this area
- \* Thoughts? Ideas?



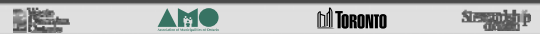
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## Public Space Three Stream Waste Diversion Parks Pilot


Kelly Spitzig  
York Region

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### Who & What

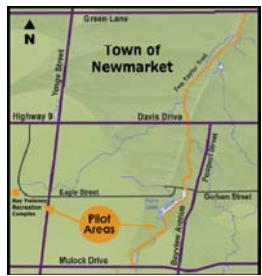
- Who & What:
  - York Region partnered with Town of Newmarket to conduct a public space three-stream waste diversion pilot in 2 parks
- Project Goals:
  - Determine level of contamination
  - Assess effective promotion & messaging modes
  - Identify operational challenges with collecting & processing materials
- For More Information:
  - Kelly.Spitzig@york.ca




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### Where & When

- Tom Taylor Trail & The Ray Twinney Recreation Complex
- Pilot began in June & finished in September 2008





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### Why


- Public spaces are an untapped source of potential waste diversion for municipalities
- Identified in the Region's Joint Municipal Waste Diversion Strategy as a way to increase diversion



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### How

- 6 different container types & 3 variations of lid types were tested
- 105 containers were set out



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### Promotion & Education

- 3 main types of P&E media were used including:
  - container labelling
  - pilot information brochure for the public
  - park signage



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## Monitoring

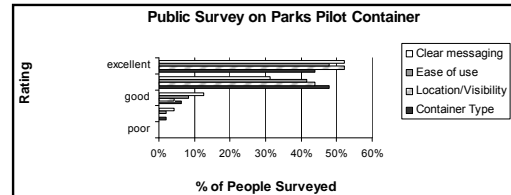
- 5 waste audits were conducted throughout the pilot
- 3 public surveys were conducted throughout the summer
- A project feedback meeting was held with Operations staff



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## Results

- Recycling & source separated organics containers had 23% & 11% contamination rates respectively
- Operations staff rated the Tri-sorter units most favourable & the Mesh units least favourable



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## Next Steps-2010

- Parks pilot will continue in the spring
- Emphasis on lowering contamination
- Enhanced outreach strategies
  - additional P&E & outreach materials
  - mobile event station
- Indoor pilot proceeding in the fall in cooperation with the Town of Markham



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**Sarnia Public Space  
Recycling Project**  
CIF Project #152

Mary Jean O'Donnell  
StewardEdge

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## Project Highlights



### Project goal

- design & implement improved performance public space recycling & measure the impacts

### Anticipated impacts

- increase recyclables recovery rate from public spaces & overall

### Funders

- Nestle Waters Canada, Refreshments Canada, Continuous Improvement Fund (\$25,000)

### For more information

- Ken Friesen (kfriesen@stewardedge.ca)



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## Public Space Recycling: Is this Really Something New?

- Away from home beverages: large part of market
- Beverage container stewards prepared to address away-from-home recovery
  - public space recycling is key to meeting recovery targets
  - effective recovery is fundamental
- Effective recovery systems benefit everyone
  - effective PSR may also improve residential recycling – more research needed
  - consistent messaging at home & away-from-home



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### Public Spaces Recycling (PSR) in Parks & Arenas

- \* Literature review findings
- \* New bin & signage design
- \* P&E directed at on-site consumer
- \* Municipal participation key
- \* Coordinate city staff, media, volunteers, sign-makers, bin manufacturers, . . .



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### Sarnia: Recovery Impacts

Diversion Increases		
PET Plastic Beverage Container	44% →	76%
Clear Glass	62% →	84%
Aluminum Cans	51% →	83%
Coloured Glass	65% →	77%
HDPE plastic	26% →	68%

- \* Beverage container diversion increased by 64%
  - overall beverage container diversion: 77%

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### PSR Can Work!

- \* Completed Phase 1; Phase 2 in progress
- \* Learnings to date:
  - need strong municipal buy-in at all stages
  - order bins early
  - many bin designs can work
  - strong results on beverage containers
  - fibre recovery weak; much contamination
  - consistency between residential & away from home recycling is helpful

**Communicate, Communicate, Communicate!**

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### Best Practices Connection

- \* Research suggests best practices include:
  - more than one way to be successful
  - container function & design
  - twinning garbage & recycling containers
  - consider impact of events
  - reduce contamination through effective signage
  - cost containment - important to everyone
  - monitor program effectiveness
- \* Significant improvement from previous performance
- \* Consistent systems in residential, public spaces & some commercial spaces (Mac's stores)



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### Next Steps

- \* Report will be produced in January including:
  - research findings
  - methodology description
  - actual results from all phases



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### Public Space Recycling: The Auditors' Perspective

**Toronto Parks Waste Audit 2008**

Ben Dunbar  
AET Group Inc.

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## Project Highlights

- Project goal: Generate detailed information on waste composition & management systems in City of Toronto Parks
- Anticipated impacts: Support efforts to achieve Parks, Forestry & Recreation diversion goals
- More information:
  - bdunbar@aet-group.com
  - www.aet-group.com



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## Project Background Information

- Previous Studies:
  - 2002 (Visual), 2004 (Surface Litter), 2006 (Parks Internal)
- Waste Management System in TO Parks:
  - 2 streams: litter & recycling (since 2004)
  - no parks-wide source separated organics program, but green bin pilot targeting dog waste in multiple locations
- 2008 Parks Waste Audit
  - AET contracted to audit randomly selected parks across city (157 total parks audited)
  - composition & waste management system data



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## Methodology/Procedures



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## Methodology/Procedures

- Consultation with park supervisors
- 8 week audit schedule developed
- 2 audit teams (2-3 pp each) dispatched to specified list of parks each day
- Each bin in each park audited separately on site
- Composition audit: weight by material category, fast food contributors
- Bin audit: type, lid? label? twinned? location?



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## Methodology/Procedures



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## Results

### Recycling Bins

- Labelled = 5% less contamination
- Twinned & Labelled = 10% less contamination
- Lids = 10% less contamination than no lids



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**Recommendations**

- Organics
  - dog parks & community gardens easy targets
- Twin, label & lid all bins
  - labelling accepted & non-accepted materials
  - bin locations (inconvenience illegal dumping)
- Special Events
  - be proactive (over capacity)
  - consider vendor waste restrictions

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**Discussion**

?

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**Discussion: Open Space Recycling**

?

1. Are you planning to implement or expand open space recycling in your program?
2. What do you consider better or best practice in open space recycling?

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**Plenary & Questions**

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**Multi-residential Recycling  
Supporting Best Practices**

Anne Boyd  
City of London & CIF

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Stewardship  
Ontario

**The Issues**

- 20%–50% in some programs (1.2M ON households)
- poor capture rate; only half of single family
- under resourced in municipalities
- limited information on costs & tonnes

**Opportunities:**

- next least cost tonnes
- needed to get to 70% diversion
- funding opportunity–100,000 tonnes over 5 yrs
- IC&I tonnes under revised WDA

**REGION OF PEEL** 905-791-5141  
www.peelregion.ca

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### In this session

- Funding Multi-residential (MR) Best Practices CIF MR Policy & Guidelines (CIF Project 113)
  - presented by Anne Boyd, CIF MR project (& City of London)
- Measuring Municipal MR Recycling Performance Indicators (CIF Project 183)
  - presented by Carrie Nash, Municipal Waste Association & project consultant (& City of London)



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### For Later Discussion



- Are you planning improvements to your multi-residential recycling program?
- Consider how the CIF Multi-res Policy & Guidelines could assist you to implement best practices
- Sharpen your pencils for a math question at the end of this segment!



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### Funding Multi-residential (MR) Best Practices CIF MR Policy & Guidelines

CIF Project #113

Anne Boyd, City of London  
Seconded to CIF

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### CIF MR Best Practice Policy & Guidelines

- Policy goal:
  - pre-approved funding for MR projects
- Anticipated impacts:
  - increased tonnage
- For more information:
  - [aboyn@london.ca](mailto:aboyn@london.ca)
  - [www.wdo.ca/cif](http://www.wdo.ca/cif): CIF Policy on Funding Municipal Projects to Implement Multi-residential Best Practices



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### CIF MR Policy & Guidelines: Why

- What do the MR best practices (BP) tell us?
  - build a database of properties
  - benchmark performance
  - provide enough containers
  - provide promotion & education (P&E)
- How can CIF support MR projects to implement BP?
  - 'How to' guidelines
  - funding



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### CIF MR Policy & BP Guidelines: What they Are

- Pre-approved funding formula for:
  - staff time to implement BP
  - container purchase
  - P&E
- Follow established guidelines
- Standard CIF agreement with municipality
- Document at [www.wdo.ca/cif/](http://www.wdo.ca/cif/)



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### Funding for ... 50% of Staff Time

- \* CIF funding - \$35 per building:
  - site visits
  - building evaluation
  - update database
  - distribute P&E
- \* CIF Guidelines include:
  - procedures, forms, database templates, communications materials & strategies
- \* \$2,000 - final project report

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### Funding for... Container Purchase

- \* CIF funding at 50% of costs
  - containers, labels, distribution, RFID tags
  - container purchase to BP levels
  - 50 litre/unit
  - based on 70% diversion target
  - large variability between buildings



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### 50% Funding For Carts or Bins



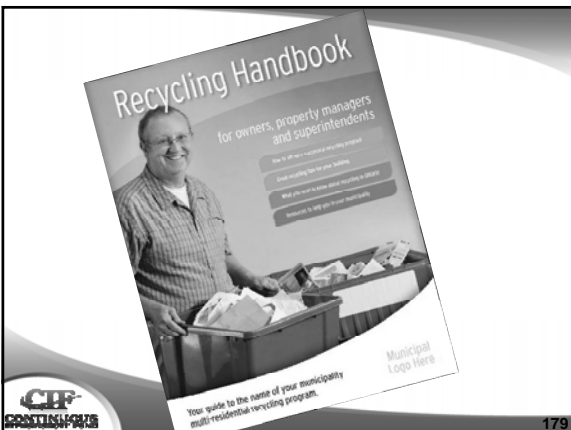
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### Funding for 50% of P&E Costs

- \* CIF Project #166 developed P&E package:
  - resident flyers, posters, labels & signage
  - property owner/superintendent handbook
  - customized for municipalities
  - funded on a functional cost split, i.e., design/production



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### Example 1: Mid-size Program

200 buildings, 8,000 households, 700 carts

Staff support	200 x \$35/building	\$7,000
400 new carts	50% x \$100/cart	\$20,000
P&E	under CIF #166	
Final report		\$2,000
Total pre-approved funding upset limit		\$29,000

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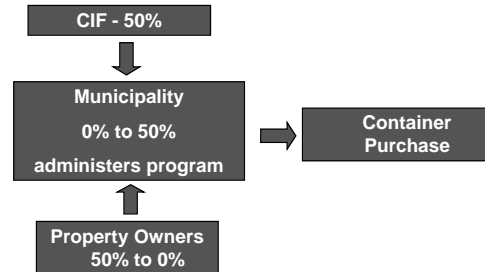
### Example 2: Large Program

800 buildings, 60,000 units, 4,000 carts + 100 bins

Staff support	800 x \$35/building	\$28,000
1,000 new carts	50% of \$100/cart	\$50,000
190 new bins	50% of \$1,200/bin	\$114,000
P&E – CIF #166 + additional P&E	50% of costs	\$10,000
Final report		\$2,000
<b>Total pre-approved funding</b> upset limit		<b>\$204,000</b>

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### Options For Container Funding



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### Some conditions

- 50% funding for containers is based on costs
- Containers cannot be sold to property owners at a profit to municipality
- Programs are expected to implement all best practices as per the guidelines
- Funding subject to availability
- 2010 budget–\$1.7M for MR



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### Two Projects Already Underway

- Niagara Region: 570 buildings, 22,000 units
  - from 12 municipal programs to region wide program
  - add 2,800 carts, increase service levels
  - pre-approved funding \$161,000
- London: 750 buildings, 48,000 units
  - focus on doubling # container capacity in system & front-end OCC, equivalent to adding 3,000 carts
  - pre-approved funding \$190,000
- Potential impact: upwards of 4,000–6,000 new te/yr



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*“CIF Policy on Funding Municipal Projects to Implement Multi-residential Best Practices”*

[www.wdo.ca/cif](http://www.wdo.ca/cif)

[aboyd@london.ca](mailto:aboyd@london.ca)



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### Municipal Multi-Residential Recycling Performance Indicators

CIF Project #183

Carrie Nash  
Municipal Waste Association

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### Project 183 Description

- **Project goal:**
  - benchmark performance indicators (cost & capture) of Multi-Residential (MR) waste management services in mid-size to large Ontario Municipalities
- **Anticipated impacts:**
  - guidelines for improved performance & recommended changes to MR datacall reporting
- **For more information:**

carrie@municipalwaste.ca  
www.municipalwaste.ca



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### Multi Residential (MR) Program Challenges

- Potential penalties for municipalities with low performing MR sector (lower E&E factor)
- Balancing the impact of low MR performance against the efforts & cost to counteract it.

But before these issues can be addressed, reliable data is needed to tell us where the problems are



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### Project Approach

Waste Category	Unit of Measure
Recycling Data	Boxes
	Units
	Containers
	Volume
	Weight
	Cost
Garbage Data	Net Cost
	Financing
	Boxes
	Units
	Weight
	Cost

Contacted 12 municipalities in southern Ontario to carry out a 3-Step Process

**Step 1:** Document Program Delivery Details

**Step 2:** Calculate Performance Indicators

**Step 3:** Review Program Funding

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### Initial Project Findings

- Initial data collection & review are complete. Early results show:
  - cost/unit ranges from \$15/unit to \$42/unit
  - kg/unit ranges from 72kg/unit to 108kg/unit
- Factors affecting cost/unit:
  - recycling collection frequency
  - cart costs (included or not included)
  - P&E (\$ dedicated to MR)
  - garbage: limits, collection frequency

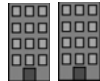


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### Impacts/Anticipated Results

- Guidelines to standardized MR datacall reporting
- Improved comparability of data from multiple municipal sources

Program A



Program B



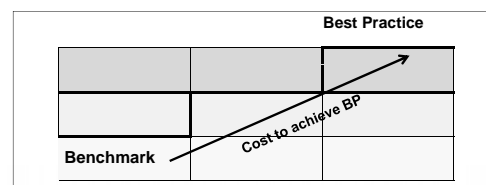
- Increased opportunity to learn from other communities



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### Best Practice/Continuous Improvement Impact

- Improved ability to identify costs to implement Best Practices & improve E&E factor





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**Next steps:**

- Analysis will be completed & reviewed by the partners
- Meetings will be held to present/share results
- Report will be published on the CIF site
- The MR Working Group will be re-established through MWA to implement some of the recommendations of the report & to allow the group to continue to share data

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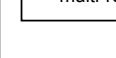
**Discussion: The MR Challenge:**

**Situation:**

- A municipality has 25,000 MR households in 450 buildings, is a cart-based program & has 2,300 carts in their program
- BP recommends – 1 cart for every 7 units

**Estimate:**



1. How many additional carts are recommended for this program
2. CI funds municipality would be eligible for to implement multi-res best practices

194


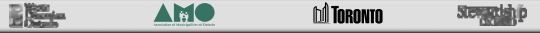
**CI Funding for MR**

- Implement best practices at \$35 per building
  - 450 buildings x \$35 ≈ \$16,000
- Recommend ≈ 3,600 carts, or 1,300 additional
  - 50% funding ≈ \$65,000
- CI funding approx \$80,000



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**Plenary & Questions**

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**Refreshment Break**

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**Welcome Back!**

Andy Campbell, CIF





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## Future Initiatives

Andy Campbell, CIF

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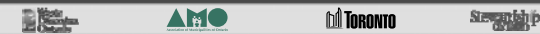



## 2009 NAPCOR Work Plan to Recycle PET Thermoformed Packaging

CIF Project #207


Michael Schedler  
NAPCOR: National Association for  
PET Container Resources

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### NAPCOR Overview

- What is NAPCOR?
  - NAPCOR is the trade association for the PET packaging industry (bottles, jars & thermoforms) in the United States & Canada
- NAPCOR's primary objectives are to:
  - facilitate the recycling of PET packaging
  - communicate the attributes of the PET container as an environmentally sustainable package
- For more information:
  - [mschedler@napcor.com](mailto:mschedler@napcor.com)
  - [www.napcor.com](http://www.napcor.com)



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### Canadian Member Companies

- Amcor PET Packaging
- Associated Packaging Technologies
- Husky Injection Molding Systems
- Pactiv
- Par-Pak LTD
- Plastrec Inc.




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### Thermoformed PET Package Definition


PET packaging other than bottles & jars, that have the resin identification code #1, including but not exclusively, clamshells, cups, trays, covers & lids

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### Thermoformed PET Recycling Project

- Primary Objective:
  - eliminate the barriers that prevent PET thermoformed packaging from being recycled
- Secondary Objective:
  - provide additional volumes of RPET to the market, especially sheet producers



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### Program Plan for Recycling Thermoformed Packages: Overview

- \* Target 4 streams of PET thermoformed packaging to develop reclamation capacity & end markets:
  - bottle reclaimer residuals
  - mixed rigid bales
  - out throws from MRF autosorts
  - cups from arenas/stadiums



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### Program Plan for Recycling Thermoformed Packages: Methodology

- \* Provide technical assistance, education & technology transfer to all segments of PET packaging recycling industry:
  - collection
  - intermediate processing
  - reclamation
  - end use
- \* Identify & nurture targets of opportunity
- \* Identify technical barriers & address through appropriate research
- \* Share financial risk
- \* Ensure system is economically sustainable



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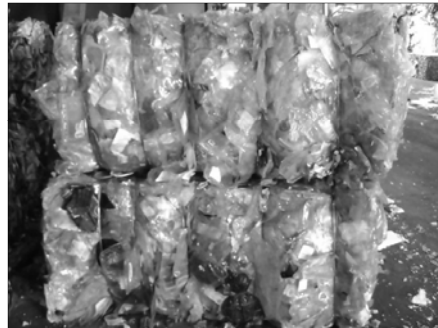
### Program Plan for Recycling Thermoformed Packages: Progress to Date

- \* Loads of thermoform out-throws for PET MRF autosorts shipped to 4 reclaimers
- \* Market identified for PET derived from mixed rigid bales
- \* 6 US & Canadian reclaimers now working with the project
- \* Beer cups from an arena included in recent load
- \* Over a dozen markets waiting to receive clean flake samples
- \* Scope of bottle/thermoform mix research being finalized



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### Program Plan for Recycling Thermoformed Packages: Progress to Date



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### Program Plan for Recycling Thermoformed Packages: Anticipated Results

- \* Specifications & market options developed for post consumer thermoformed PET packaging collected & offered to the market as:
  - dedicated stream of PET containers either from autosort units or manually sorted at MRFs
  - mixed rigid plastic packaging bales
  - PET cups collected at venues & special events
- \* An education plan to convey these results to the recycling industry




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### Critical Involvement of Canadian Partners

- \* The CIF & Stewardship Ontario are providing funding & logistical support for Ontario component of the program
- \* Region of Waterloo & EFS Plastics (Elmira) are shipping sample thermoform PET loads to reclaimers



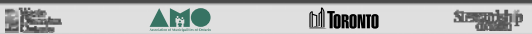
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## WDO Updates

Glenda Gies  
Waste Diversion Ontario


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### Presentation Overview

- Minister's August 14 direction re BBPP
  - consistency of materials & problematic materials
  - revised BBPP
- Other Program Updates
  - Consolidated MHSW
    - propane policy, services REOI, consultation on collection vendor standard
  - WEEE
    - ABC study re \$165/tonne collection incentive
- BB Funding Distribution Methodology


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### Minister's Direction re BBPP

- Material management issues
  - consistency of materials
    - definition of "consistency"
    - materials appropriate for consistent collection
    - timing, benefits, barriers
    - financial implications
  - problematic materials
    - process to identify & address
    - parties to be involved & role of parties
    - possible steps


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### Material Management Issues

- Consultation workshop held on Nov 24
  - webcast archived – link via WDO website
  - written submissions until Dec 15
    - to BBPPReview@WDO.ca
- WDO Board process
  - draft preliminary report at January meeting
  - draft final report at February meeting
  - final report with recommendations submitted to Minister by February 28, 2010


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### Minister's Direction re BBPP

- Revised BBPP due April 30, 2010
  - achieve diversion target of 70% by Dec 31, 2011
  - improve methodology for calculating diversion
    - by including additional avenues where residential BB materials are collected
  - include packaging-like materials sold as products
    - that are compatible with current collection & management systems
- Consultation workshop early February 2010


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### Revised BBPP

- Process led by Stewardship Ontario
  - MIPC-BB to review issues during process
- Revised BBPP
  - including previous amendments
  - achieving 70%
    - additional residential collections
    - packaging-like products
    - BB materials re-used
  - disentangling BB & MHSW containers
  - update market development as required

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### MHSW Program Update

- Propane Policy
  - requires processors to recover residual gas from all cylinders (including 1 lb)
  - notification of municipalities with Shared Responsibility Agreements
    - policy comes into effect 90 days later
- REOI for MHSW services posted on SO website
  - submissions due December 9, 2009
- Consultation on collection vendor standard
  - webcast scheduled for December 8, 2009



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### WEEE Program Update

- Reviewing \$165/tonne collection incentive
- OES retained AECOM to undertake field work using ABC methodology to assess costs
  - depot, special event & curbside collection
  - 4 materials groups - Phase 1 & 2 materials
    - possibly by items within material group e.g. TVs
  - various service providers
    - retailers, municipalities, non-profits
  - collection methods
    - pallets, gaylords, bags



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### WEEE Program Update

- Field work process
  - preliminary site visits to inform ABC methodology
  - 15 site visits & 6 time/motion studies
- Revised WEEE Plan
  - carried 30% contingency (\$215/tonne)
  - if higher, stewards' fees would require adjustment
- May be multiple collection incentives
  - by material group or item
  - by type of collection or collector



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### 2008 Best Practice System Cost

- MIPC-BB
  - reviewed/updated Best Practice Cost Model
  - inputted 2008 data into Model

Reported Gross System Cost	Best Practice Model Gross Cost	Difference (\$)	Difference (%)
\$275,688,046	\$260,767,540	\$14,920,506	5.41%

- MIPC-BB agreed to set cost at mid-point
  - \$268,227,793



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### BB Funding Distribution

- Municipal Funding Allocation Model
  - 2004, 2005, 2006 funding
- Reasonable cost bands
  - 2007 funding
    - 80% of cost band reduction shared by all programs
    - 20% from programs with E&E Factors above cost band
  - 2008 funding
    - \$700,000 redistributed from programs with E&E Factors above cost band to programs below



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### BB Funding Distribution


- 2009 funding to best practices
  - responses to 2007 Datacall best practice questions considered incomplete
  - 2008 methodology used again
- 2010 funding to best practices
  - 5% on best practice questions in 2008 Datacall
  - 30% on E&E Factors capped at 75% of costs
  - 65% on net costs



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**Best Practices**


- BB recycling plan
  - < 5 years old
  - goals, objectives, targets
  - performance monitoring & review
- Defined performance measures
  - compile baseline data
  - define & implement objectives
  - on-going measurement
  - continuous improvement



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**Best Practices**


- Multi-municipal planning
  - provide services jointly
    - collection, processing, depot, marketing, P&E
  - synchronize contract expiry
- Effective procurement & contract management
  - municipally operated services
    - assessed within past 2 years
  - contracted services
    - tender/RFP developed using procurement tool



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**Best Practices**


- Capital asset optimization
  - collection equipment & MRFs
  - application for E&E Funding/CIF
- Training of key staff in core competencies
  - certification workshops/courses in past 3 years
- Appropriately planned/funded P&E
  - communications plan with measurable objectives
  - monitoring & evaluation



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**Best Practices**


- Enforced policies that induce diversion
  - no cost collection containers
  - bag limits
  - pay as you throw program
  - garbage collection less frequent than recycling
  - recycling incentive program
  - reduction in garbage collection/clear bags
  - tag & leave policy for unacceptable set-outs



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**Best Practices Next Steps**

Allocation Method	2010	2011	2012
Datacall Best Practice questions	5%	15%	25%
Program performance	30%	40%	45%
Net cost	65%	45%	30%



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**CIF<sup>®</sup>**  
**CONTINUOUS IMPROVEMENT FUND**

**Best Practices & Performance Funding Update**

Craig Bartlett  
Manager – Waste Operations  
Region of Durham  
Municipal MIPC Member



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## Summary of Presentation

- Funding Breakdown
- Best Practice Funding
  - evaluation of Best Practice Questions – 2008
    - calculation of BP Funding for 2010
  - evaluation of Best Practice Questions – 2009
  - trends in Best Practice Funding 2010 to 2012
- Program Performance (E&E) Funding
  - evaluation of Performance Funding
    - calculation of Performance Funding for 2010
- Future Direction of BP & E&E Funding



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## Funding Breakdown

Allocation Method	2010 (2008 Datacall)	2011 (2009 Datacall)	2012 (2010 Datacall)
Datacall Best Practice questions	5%	15%	25%
Program performance	30%	40%	45%
Net cost	65%	45%	30%



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## Allocation of 2010 Municipal Funding (Based on 2008 Datacall)

WDO Approved Net Costs		\$168,370,434.74
Best Practices Calculated Net Costs		\$165,601,269.61
Negotiated Net Costs (Average)		\$166,985,852.18
50% of Negotiated Net Costs		\$83,492,926.09
<b>DEDUCTIONS</b>		
CNA/OCNA In-Kind ~ 1 %		(\$1,442,510.15)
CIF Contribution ~ 10 %		(\$16,410,097.97)
<b>Total Municipal Funding Balance ~ 39 %</b>		<b>\$65,640,317.97</b>
2010 Distribution of Funds Available to Municipalities		
Net Cost Allocation	<b>65%</b>	\$42,666,206.68
Performance Allocation	<b>30%</b>	\$19,692,095.39
Best Practices Allocation	<b>5%</b>	\$3,282,015.90



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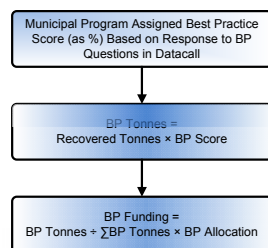
## 2010 Allocation of Balance to Municipalities (Based on 2008 Datacall)

\$65,640,317.97 Balance	% of Funding Balance	% of WDO Approved Net Costs
Percentage of Net Costs	65%	<b>25.3% (Fixed)</b>
Efficiency (\$ / tonne Recovered)	30%	<b>Calculated</b>
Effectiveness (Recovery Rate)	5%	<b>Calculated</b>
Improvement (Using BP Questions)		
Total funding to municipalities ranges from 25.3% to 75% of WDO Approved Net Cost		



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## BP Funding - Calculation



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## 2008 Best Practices Questions

1	Development & implementation of a up-to-date plan for recycling as part of a Waste Diversion System or Integrated Waste Management System	12.5%
2	Multi-municipal planning approach to collection & processing of recyclables	16.7%
3	Establishing defined performance measures, including diversion targets, monitoring & a continuous improvement program	8.3%
4	Optimization of operations in collections & processing	12.5%
5	Training of key program staff in core competencies	8.3%
6	Appropriately planned, designed, & funded Promotion & Education program;	8.3%
7	Established & enforced policies that induce waste diversion.	16.7%
8	Following generally accepted principals (GAP) for effective procurement & contract management	16.7%



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### 2009 Best Practices Questions

1	Development & implementation of a up-to-date plan for recycling as part of a Waste Diversion System or Integrated Waste Management System	12.5%
2	Establishing defined performance measures, including diversion targets, monitoring & a continuous improvement program	25%
3	Multi-municipal planning approach to collection & processing of recyclables	8.3%
4	Optimization of operations in collections & processing... ...following generally accepted principals (GAP) for effective procurement & contract management	12.5%
5	Training of key program staff;	8.3%
6	Appropriately planned, designed, & funded Promotion & Education program;	8.3%
7	Established & enforced policies that induce waste diversion.	25%

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### Key Focus for 2009 - Planning

#### Question 2: (25 %)

Establishing defined performance measures including diversion targets & monitoring & a continuous improvement program

#### Recycling Plan

- Defined timeframe for recycling objectives & targets
- Collection of Data to evaluate program effectiveness
- Analysis of data used to continuously improve programs



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### Key Focus for 2009 – Established Policies

#### Question 7: (25 %)

Established & enforced policies that induce waste diversion

#### Encouraging Diversion

- Provision of Blue Boxes at cost or free

#### Enforcement Policies

- Bag Limits
- Pay as you throw (PAYT)
- Reduced collection frequency



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### Evaluation of 2008 BP Questions

- Questions grouped into weighting categories
  - each question had multiple sub-questions
  - score for all sub-questions applied to entire weighting category
    - Questions 1 & 4 were evaluated together for a total score out of 25%
    - Questions 2, 7 & 8 were evaluated together for a total score out of 50%
    - Questions 3, 5 & 6 were evaluated together for a total score out of 25%
- Final score out of 100%



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### Evaluation of 2009 BP Questions

- Questions grouped into weighting categories
  - each question had multiple sub-questions
  - score for all sub-questions applied to entire weighting category
    - Questions 1 & 4 will be evaluated together for a total score out of 25%
    - Questions 2 & 7 were evaluated together for a total score out of 50%
    - Questions 3, 5 & 6 were evaluated together for a total score out of 25%
- Final score out of 100%



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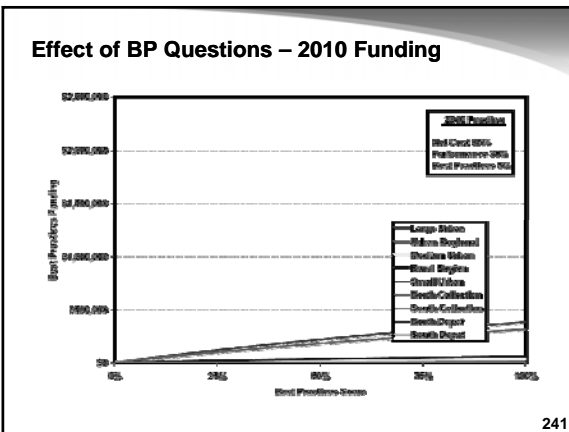
### Significance of BP Questions to Funding

If a municipality has a Best Practice score of 0% in the Datacall, they will lose this amount of funding:

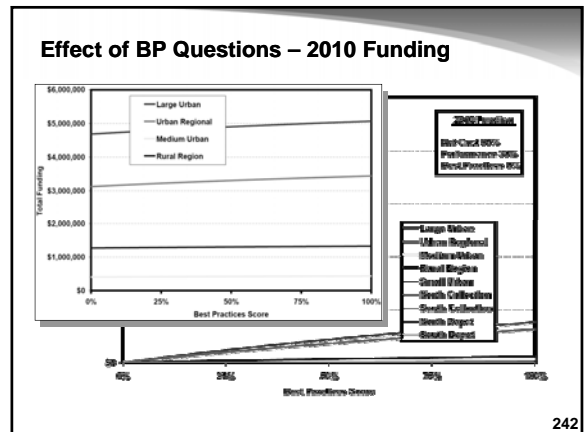
Municipal Band	Annual Tonnes	2010 (2008 Datacall)	2011 (2009 Datacall)	2012 (2010 Datacall)
Large Urban	79,161	\$382,082	\$1,146,248	\$1,910,413
Urban Regional	65,410	\$315,712	\$947,136	\$1,578,560
Medium Urban	6,132	\$29,598	\$88,794	\$147,990
Rural Regional	11,604	\$56,011	\$168,033	\$280,056
Small Urban	2,682	\$12,945	\$38,835	\$64,726

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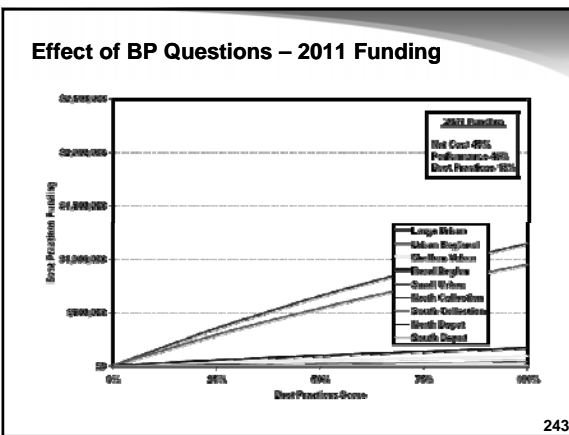




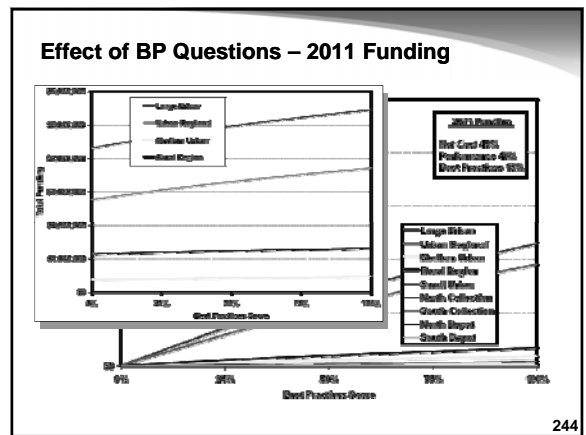
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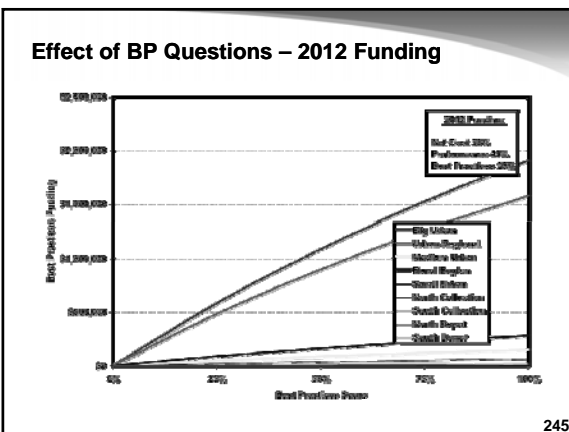
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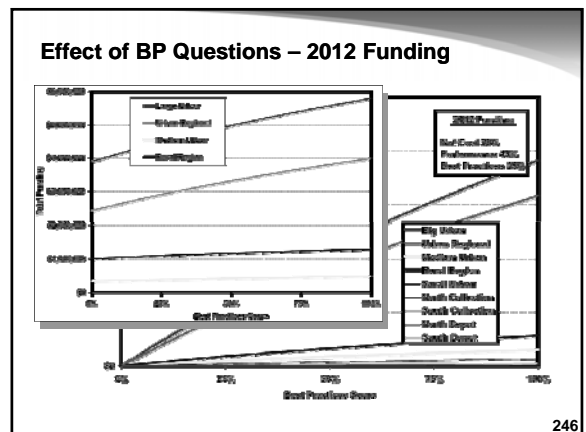
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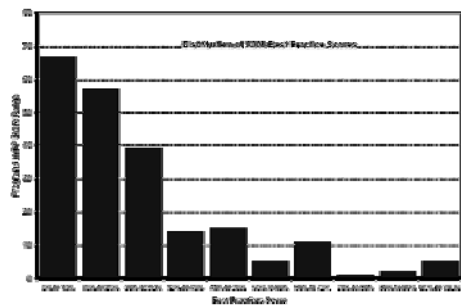


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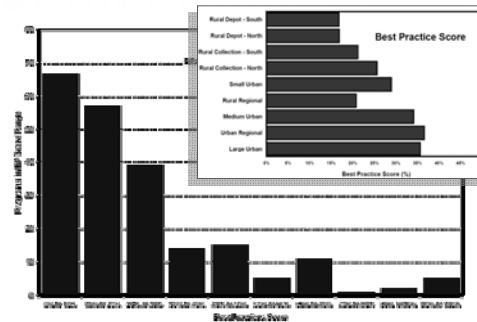
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### Best Practices Performance - 2008



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### Best Practices Performance - 2008



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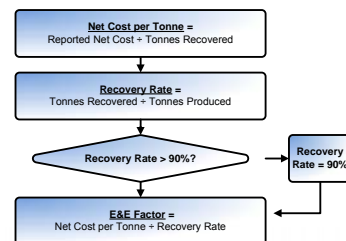
### Program Performance Funding

- Performance accounts for Efficiency & Effectiveness of programs
  - Efficiency is measured by Net Cost per tonne of material recovered
  - Effectiveness is measured by percentage of produced material recovered
- E&E factor is Efficiency ÷ Effectiveness
- Funding is awarded on the basis of the following:
  - Calculated E&E factor for the lower 70% of programs or
  - Maximum cutoff value for upper 30% of programs



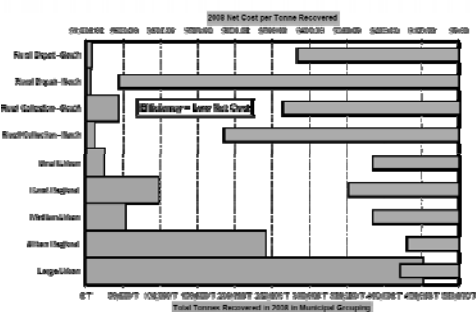
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### Calculation of Performance Funding



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### Recovery – Net Costs per Tonne



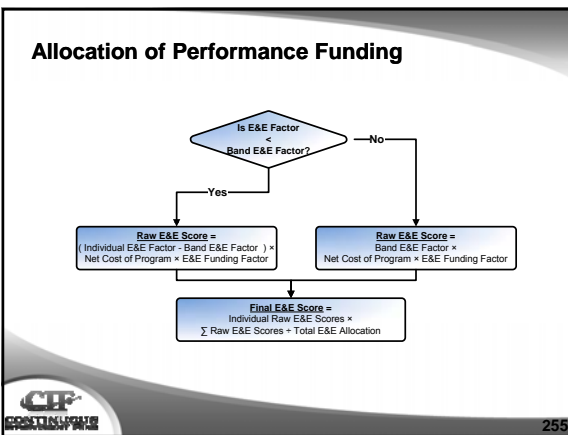
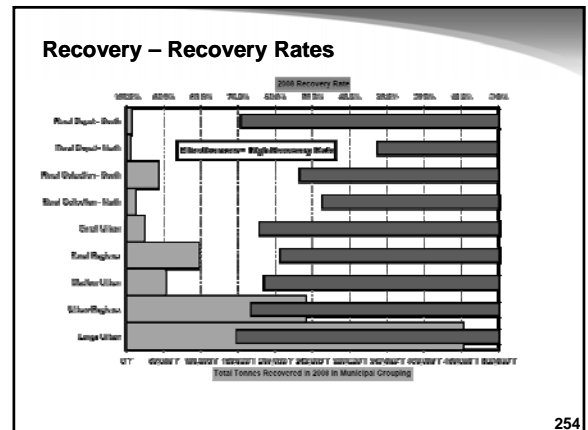
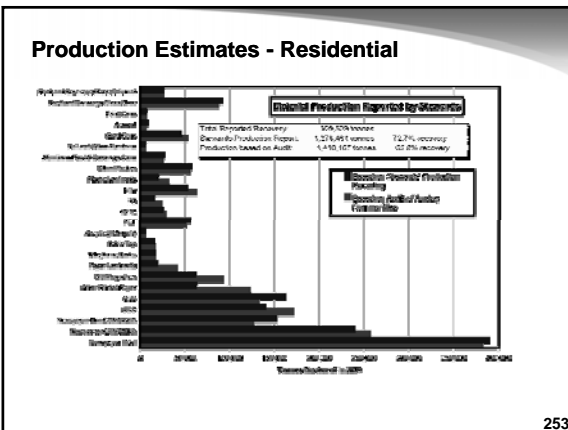
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### Production Estimation – Analog Communities

Analog municipalities represent typical communities representative of the 9 municipal groupings used to assess program performance

Grouping	Municipal Band
Hamilton	Large Urban
Region of Durham	Urban Regional
Peterborough	Medium Urban
Quinte Waste Solutions	Rural Regional
Orillia	Small Urban
Timmins	Regional Collection - North
Township of Russell	Rural Collection - South
Township of Casey	Depot Collection - North
Township of Amaranth	Depot Collection - South

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### Summary - Improving Funding

- Optimize responses to BP questions
- Monitor & reduce program costs
- Communicate with other municipalities
- CIF Fund opportunities
- Take advantage of Blue Box Training
- Be aware of funding changes

Allocation Method	2010	2011	2012
Net cost	65%	45%	30%
Performance	30%	40%	45%
BP Questions	5%	15%	25%

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For further information contact:  
 Alec Scott  
 MIPC Blue Box Program Coordinator  
 (705) 722-0225  
 archenv@sympatico.ca

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### Questions

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**Key Points to Consider**

- \* CIF 2010 Operations plan available at CIF website
  - departure from current; be sure to review
- \* Be engaged in BB Plan review
- \* Will you need to change your operations for consistent material collection?
- \* Will the draft list of consistent materials change your program?

**Apply for CIF funding  
before program ends next year!**

**CIF**  
CONTINUOUS  
IMPROVEMENT FUND

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**Thank you to all ORW  
speakers & attendees!**

**CIF**  
CONTINUOUS  
IMPROVEMENT FUND

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**CIF**  
CONTINUOUS  
IMPROVEMENT FUND

**For more information:**

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