Ontario Recycler Workshop

November 22, 2012

ORW begins at 9:30 a.m.

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Intro & Welcome

- Approximately 70+ people in Barrie
- Expecting 50+ online
- Audience members include:
  - municipal councillors, recycling & waste staff & other staff members
  - industry association representatives
  - program representatives, consultants & other stakeholders

Today's Program & Housekeeping

- Full day session (to ~4:00 p.m.)
- For webcast viewers
  - ❶sound slider (hover over black bar)
  - ❷"questions & comments for speakers"
    - not seen on other screens
  - ❸link to agenda & slides
  - ❹webcast technical assistance

Snapshot…Today's Program

- CIF and Partner Updates
- *Morning Break*
- Making it Work…
- *Lunch*
- Multi-res: KPIs to Super's Support
- Waste composition 2012 audit report/Evolving Blue Box in ON
- *Afternoon break*
- Overcoming challenging materials
- Concluding remarks

Thank You to All ORW Speakers

- Alec Scott, MIPC
- Anne Boyd, City of London
- Ben Bennett, Municipal Waste Association (MWA)
- Catherine McCausland, City of Guelph
- Claudia Marsales, City of Markham
- Joseph Hall, CPIA
- Karl Allen, Northumberland County
- Mustan Lalani, Stewardedge Inc.
- Perry Blocher, WDO
- Peter Veiga, Regional Municipality of Durham
- Renée Dello, City of Toronto
- Rick Denyes, Stewardship Ontario
- Sherry Arcaro, Stewardship Ontario
- Willma Bureau, County of Simcoe

CIF Update

Mike Birett

Director, CIF

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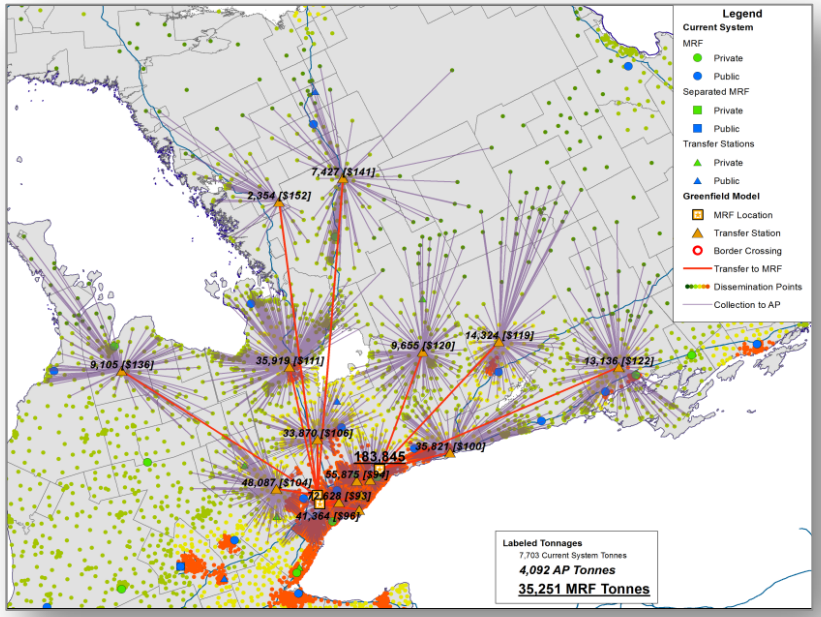
2012 Was All About Change

- Staff turn over
- Completion of MIPC infrastructure study
- New mandate & directives



Current Status

- 470+ projects funded to date
- 274 active projects
- Over $3M in new projects approved in 2012

Key Projects

- Problematic Materials
  - EPS
  - film
- Audits
  - seasonal audits
  - ABC audits
- Contracts management training course

2012 YE Projected Financials

Description	Value
2012 funding contribution	$4,450,757
Total funds received to date	$61,012,480
2012 project approvals	$3,245,395
Total project approvals to date	$34,426,150
Projected Closing Balance	$19,696,918

2013 Budget Overview

- CIF Ops Plan developed annually
- Based on existing Strategic Plan & MIPC directives
- Based on your feedback:
  - AMO outreach consultation
  - CIF “needs” assessment

Key MIPC Directives (1)

- 2011
  - allocate funds based on the merits of regionalization projects
  - develop & operate a knowledge centre
- 2012
  - three year extension of the fund's mandate
  - allocation of funds by June 2015

Key MIPC Directives (2)

- $4.62M in new funding for 2013
- Support to spend held back funds as recommended by municipalities & CIF

Municipal Feedback

- Increased focus on:
  - problematic materials
  - Blue Box (BB) harmonization
  - best practices (BP)
  - training & support
  - RFPs & contract services

Proposed 2013 Expenditures
Reference: Section 4 of 2013 Ops Plan

- **$4M:** support for voluntary initiatives consistent with the MIPC infrastructure study
- **$4M:** cost savings related projects
- **$4M:** additional funds to address existing demand

2013 Budget Highlights

- $2M to support BB harmonization
  - $300,000 to increase curbside capacity
  - $200,000 to improve P&E efforts

Proposed Guidelines

- Same evaluation process
- 2011 infrastructure applications to be evaluated
  - no requirement to re-apply but submission of updated data recommended

Centre of Excellence

Reference: Section 5 of 2013 Ops Plan

Item	Proposed 2013 Budget
General Support & Stakeholder Advisory Services	$125,000
Best Practice Development & Tool Kits	$150,000
RFP, Tender & Recycling Plan Support	$175,000
Training	$300,000
Problematic Materials Management	$150,000
Performance Auditing	$75,000
Total	$975,000

Ops Plan Summary

- Continued emphasis on outreach
- Development of Centre of Excellence
- Expanded training opportunities
- Next steps:
  - development of action plans
  - your feedback is important

Website: www.wdo/cif.ca

Mike Birett – Director, CIF

mbirett@wdo.ca 905-936-5661

Carrie Nash – Project Manager, CIF

CarrieNash@wdo.ca 519-858-2396

WDO: Progress Report

Perry Blocher

Director of Communications

Waste Diversion Ontario

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Progress in Waste Diversion

- How are we doing?
- What's new?

WDO – A Year in Review

- Minister's Action Plan of February 9
- Our new Board of Directors
- Strategic planning
- Datacall updates
- Staff changes

What's Next

- Stakeholder engagement
- December 7 forum
- Environmental Commissioner of Ontario's roundtable
- New website

Talk to me!

Perry Blocher

Director of Communications

Waste Diversion Ontario

perryblocher@wdo.ca

416-226-5799 or 888-936-5113

AMO Update

Alec Scott, MIPC

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Spring Consultation

- Sessions in Chatham; Smith's Falls; Kenora & North Bay
- Booth at ROMA/OGRA; FONOM; OSUM; NOMA & AMO conventions
- Spring ORW & webcast in Barrie

Funding Allocation Formula Update

What AMO heard:

- More payment should be on basis of reported net costs
- Maintain some tension to encourage continuous improvement & efficiency
- Best Practice questions did not apply equally to all programs & needed review
- AMO should push for caps & eventual elimination of the CNA/OCNA in-kind obligation in favour of cash payments

Funding Rules

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

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

2005 Cost Containment Plan requirement

- Municipal Blue Box (BB) recycling programs will, where possible, work to operate at best practices (BP) to minimize gross & net BB program costs

New Audit Rules

- WDO audits 20 programs/year
  - no audits for programs <500 tonnes/year; these may be reviewed by municipal MIPC staff
  - programs audited in 2010 don't get audited
  - 5 programs from 2008 & 2009 audits that over-reported costs by >2% get re-audited
  - 5 programs with largest % change in net cost/tonne from last year get audited
  - 1 program from each of groups 1 to 5 with largest & increase from last year get audited
  - 5 random programs from remainder get audited

2012 Funding Allocation

The old way – last year's Funding Allocation Model

2012 Funding Distribution Calculation

Issues – last year's Funding Allocation Model

- Allocation was a bit odd…
  - model used a complicated E&E Factor to rate relative efficiencies within groups … & then …
    - multiplied it by whatever a municipality declared for net cost
  - model used a percentage BP score … & then …
    - multiplied it by a performance measure – municipality's percentage of total tonnes recovered
  - model accepted municipality's declared net cost without limit
    - net costs/tonne (T) ranged from $27/T to $5,670/T

2013 Funding Allocation

The new way – this year's Funding Allocation Model

2013 Funding Distribution Calculation

- Changes …
  - model starts by determining an upper reasonable limit on net costs/tonne by program group
    - uses municipality's net cost/tonne below this limit
    - uses limit value for your net cost if municipality is above
  - pays fixed rate/ tonne for tonnes you recover instead of applying a performance factor
  - scales BP payout on basis of reported net cost
    - uses the limitation of net costs here too

Program Goals

Client – Municipality

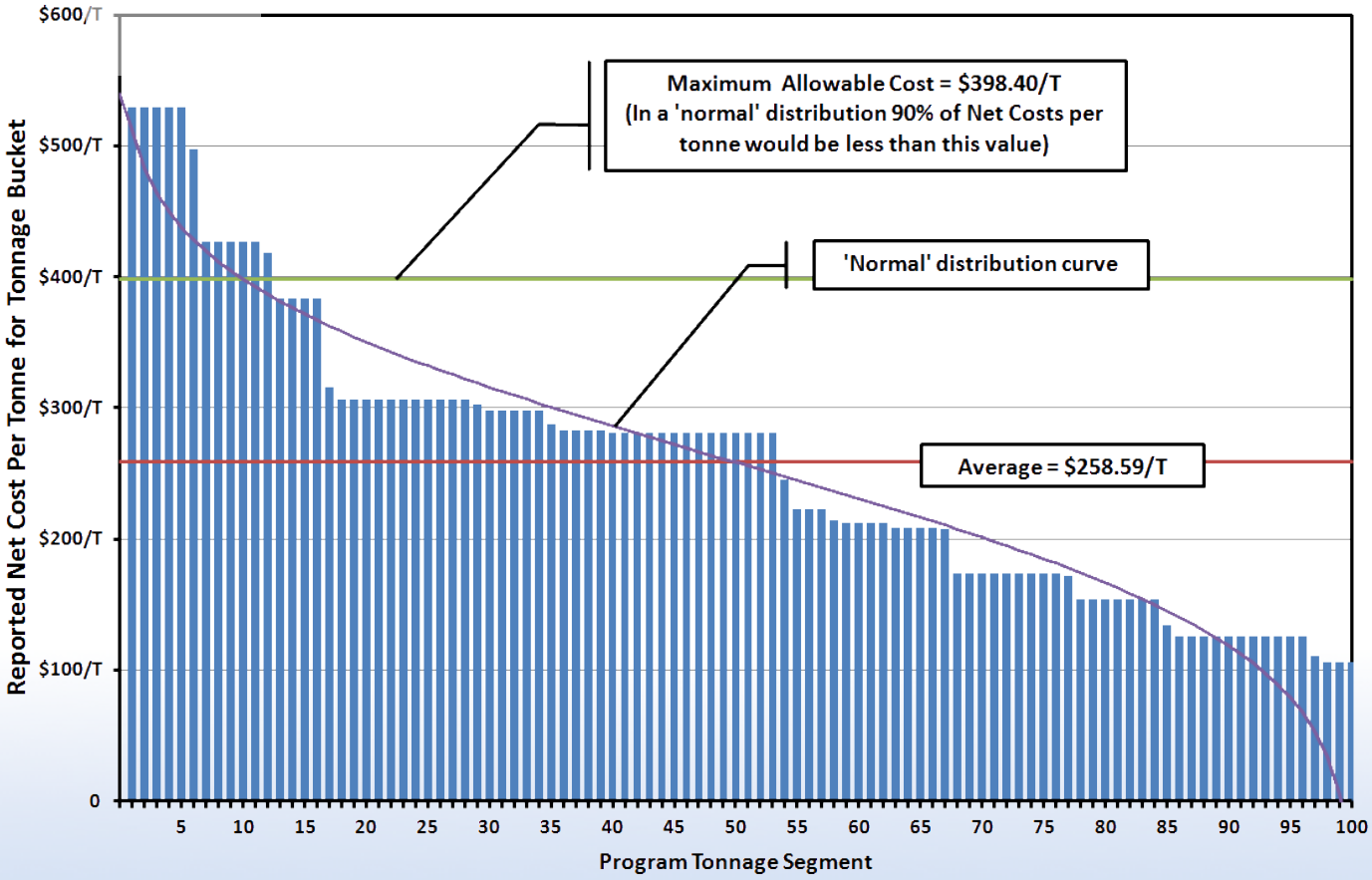
- Demonstrate effective diversion & keep BB materials out of landfill
- Control costs so BB represents cost-effective diversion alternative

Client WDO/Stewardship Ontario (BBPP authors)

- Continuously increase recovery rate for BB materials
- Demonstrate effective cost controls
- Continuously improve practices
  - cost control
  - new materials

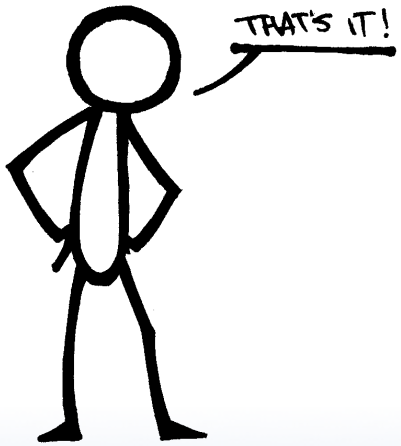
Limiting Net Cost Value – Demonstrating Cost Control (1)

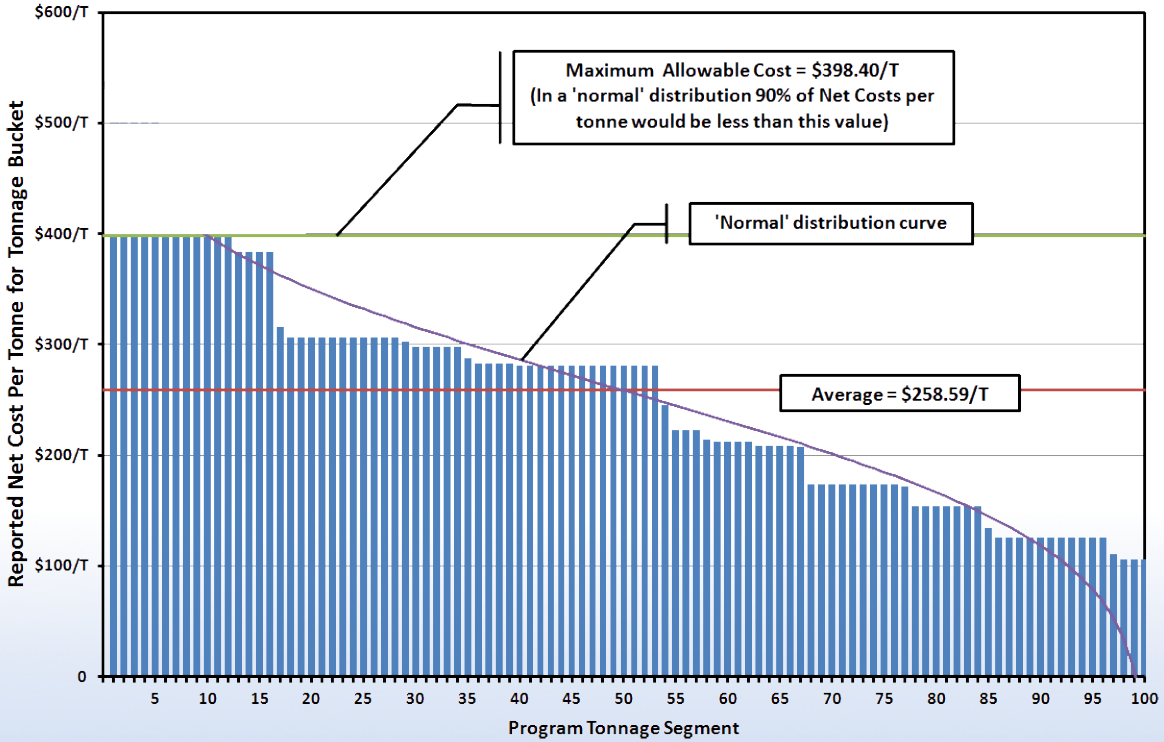
- Depends on cost characteristics of program group
- Determines maximum net cost/tonne for group



Limiting Net Cost Value – Demonstrating Cost Control (2)

- Programs above maximum allowable net cost/tonne have their per tonne costs trimmed to this value
- Net cost for further calculations then becomes reported tonnes × maximum allowable net cost





Recovered Tonnage Factor – Increasing Recovery Rate

- One of primary program goals – recover tonnage of BB materials
- Grouping of municipalities has already demonstrated consideration of regional & program size disparities
- Setting group-wise limit on cost has already demonstrated a commitment to efficiency
- Simply stated:
  - in this category, we set aside a fixed 'pot' of funds (35% of cash obligation) to pay for recovered tonnes
  - if you recovered 5% of tonnes in province, you get 5% of the pot

Best Practices Factor – Demonstrating a Will to Improve

- Municipalities said:
  - don't think BP questions apply to everyone equally
  - 'big picture' idea of BP applied to everyone
    - planning & effective program management
    - P&E & staff training
    - good policies
- AMO set aside a 'pot' of 15% of cash obligation for BP
- Maximum share = your allowable net cost ÷ total allowable net costs from all programs × this pot of funds
- Actual share is this amount × your BP score from Datacall questions

Final Polishing Up – Making It All Fit

- No-one received 100% BP score; surplus funds remained
- Some programs ended up with pay-out of >75% of their reported net cost
  - need low net cost/tonne to get this
  - MIPC rules allow maximum of 75%
  - this represents a very minor adjustment (>0.1%)
- Funding subtotal was your net cost funding + recovered tonnage funding + BP funding
- Final adjustment applied in 2 steps:
  - proportional distribution of BP funding surplus to all programs
  - proportional distribution of >75% funding to under 75% programs

Benefits of the New Pay-out Allocation

"Great, you've done more math, what's in it for me?"

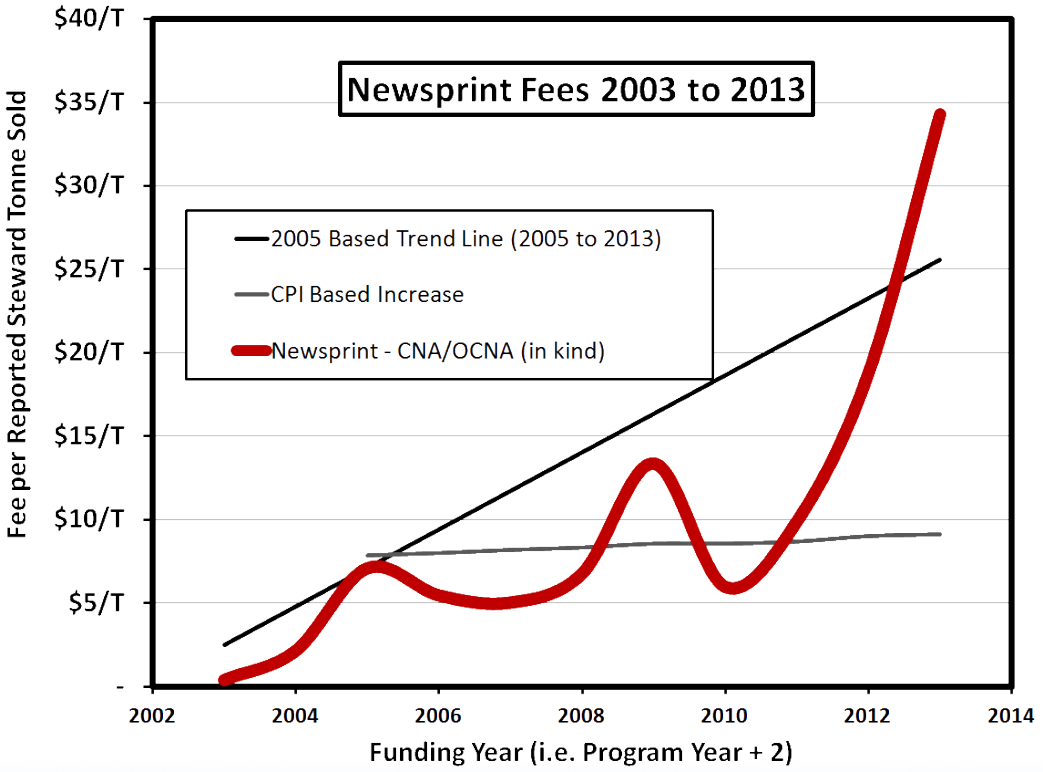
- This represents what you told us – consensus opinion
- It meets requirements of the "Rules"
- Municipalities/programs can reproduce the calculations
  - no hidden generation pages
  - no weird E&E factor balancing act
  - maximum cost is a bit complicated, but can be done – you have all the information
- It's transparent & (reasonably) simple

CNA/OCNA Issue – Life Throws Us a Curve Ball

CNA/OCNA in-kind amount increased by 71% from 2012 to $6,140,409

- Originally capped at $1.3M
- Cap removed in 2005 with modification to BBPP
- Funds deducted from total steward obligation

Historic CNA/OCNA Fees	
2008	$1,829,057
2009	$3,301,404
2010	$1,424,501
2011	$1,703,976
2012	$3,571,471
2013	$6,140,409



Reaction to CNA/OCNA Issue

Posting of 2013 funding delayed until December 2012

- Municipal MIPC currently seeking fuller understanding of reasons for increase in in-kind obligation
- SO explanation:
  - increased net costs for newspaper processing
  - reconfiguration of their Activity Based Costing model
- MIPC working with SO & WDO to review changes

Questions?

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Enjoy your break!

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Welcome back…

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Making it Work

Carrie Nash, CIF

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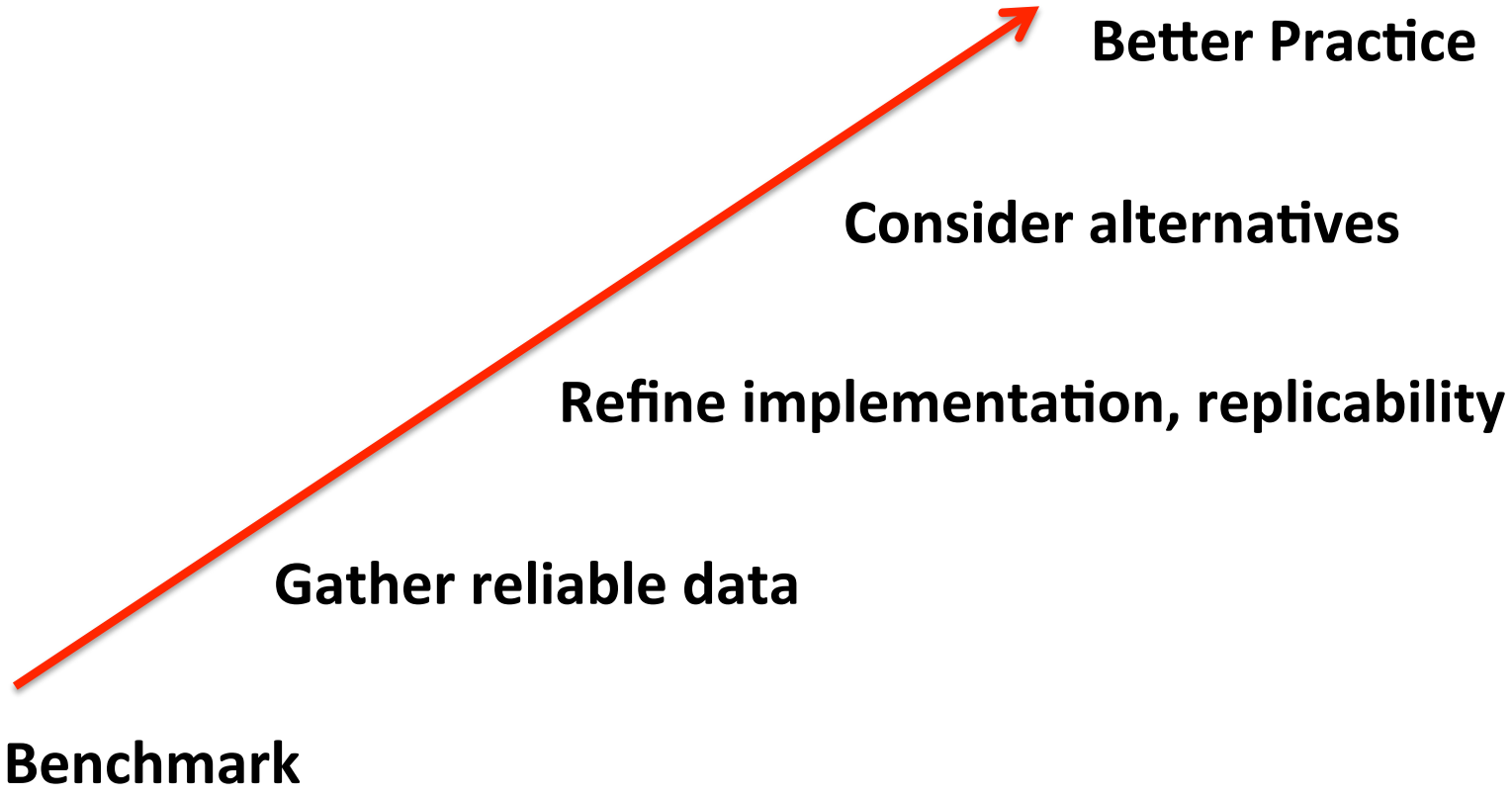
‘Making it Work’, What It Means to CIF

- CIF is always seeking projects that:
  - lower/control costs
  - increasing material capture & recovery, particularly materials not currently captured
- In 2012, funding priorities included collection & recycling of more material, especially plastic packaging
- Projects were sought that identified potential solutions & helped lead toward better practices

How Do We Know It's Working?



Where Are We Making it Work?

Curbside

Processing

Marketing

Speakers

- Willma Bureau, County of Simcoe
  - Providing More Capacity at the Curb
- Catherine McCausland, City of Guelph
  - Going Automated
- Karl Allen, Northumberland
  - Container Baler Upgrade
- Claudia Marsales, City of Markham
  - Polystyrene Densifier Project

Providing More Capacity at the Curb

Willma Bureau
County of Simcoe

CIF Project #665.3

Blue Grew

- Project goal
  - increase existing Blue Box (BB) material capture rates
  - add new plastics to the program
- Anticipated impacts
  - increase BB tonnages
- More information

  willma.bureau@simcoe.ca

  Simcoe.ca

The Need

- Best practices indicate that if sufficient BB capacity is not provided there is the potential that recyclables will end up in the garbage
- County's Solid Waste Management Strategy recommended analysis of data to determine if we needed to increase recycling container size in order to maximize capture rates
- Analysis indicated that the containers/BB were full 89% of the time & those that were not full were very near capacity when placed out for collection
- Feedback from residents indicated a strong desire to include additional plastics (particularly thermoforms) in the County's recycling program

Increased Blue Box Capacity

- New BB are 83 litres in size (~30% larger)
- Contain 60% post consumer content
- CIF procurement process for boxes
- Funded 50% by CIF due to concurrent addition of mixed plastics to program

Distribution

- Curbside distribution by contracted collection service providers
- 1 box distributed per household (~ 135,000)
- Commenced mid April, completed prior to May 18th
- Major seasonal areas completed last

Promotion & Education

- Comprehensive marketing campaign
- Campaign was multi-faceted & cost effective
- Included some new advertising mediums which utilized humorous & engaging messaging

Promotion & Education Components (1)

- Boxes were distributed with some educational material including:
  - handy ‘fridge magnet
  - information card with a sticker for box outlining acceptable & unacceptable materials

Promotion & Education Components (2)

- Waste Wizard search tool on County website

www.simcoe.ca/wastewizard

Promotion & Education Components (3)

- Managing Your Waste newsletter featured new program highlights

MANAGING YOUR WASTE

Spring 2012

COUNTY OF SIMCOE

For the Greater Good

Blue Grew

New larger blue boxes are being distributed to residents across the County. Larger blue boxes are necessary to make room for the new materials added to the County of Simcoe's recycling program, including:

- Plastic plant pots and trays
- Plastic "clamshell" (produce/bakery packaging)
- Small yogurt, pudding, and fruit cup containers
- Coffee/tea plastic lids
- Rigid plastic containers and lids marked 1 through 7 (max. size 4 litres or 1 gallon)

Do not include: Styrofoam, plastic film, and plastic bags. Full details on the new materials will be delivered with the new blue box.

Data indicates on average, recycling containers are already full or very near to capacity when placed out for collection.

"Provision of larger blue boxes will assist in increasing the capture rate of recyclable materials, as we understand some residents throw recyclables in the garbage when their recycling bin is full. We are therefore pleased to provide residents with a new blue box, which is more than 30 per cent larger in order to help divert more recyclables from landfill," said Cal Patterson, County of Simcoe Warden.

"We are also fortunate to have obtained some significant funding from the Continuous Improvement Fund to offset the cost of these larger blue boxes," said Patterson.

The Continuous Improvement Fund is mandated to help Ontario municipalities undertake best practices initiatives to improve the effectiveness and efficiency of blue box recycling programs. Funding for the boxes is provided as the distribution is being completed concurrent with the addition of new plastics to the County's recycling program.

The County's recycling program is still a 'two-stream' system, meaning paper must be separated from the containers stream. Residents are asked to only use the new larger blue box for containers, not for paper due to weight restrictions. The smaller blue box can still be used for containers overflow and can continue to be used to collect newspapers, magazines, and flattened boxes.

Many Shades of Blue

Residents may notice their new recycling box isn't quite the same shade of blue as the old one, and may even be a different shade of blue from one bin to the next.

This colour variation is due to the very high recycled plastic content of these new boxes. The colour of the recycled flake varies by batch and affects the colour of the finished plastic.

If you look closely you may even see little flecks of grey in the plastic, which are caused by contamination in the recycled material.

This is why it is important to be aware of what is and is not acceptable in your recycling program!

FOR MORE INFORMATION:
County of Simcoe Customer Service
1-800-263-3199 / simcoe.ca

PRINTED ON RECYCLED PAPER

- Full page newspaper ads
- Newspaper website 'takeovers'
- Press releases, media interviews

Blue Grew

COUNTY OF SIMCOE

For the Greater Good

Now Accepting:

- Clear plastic clamshells (baked goods and produce)
- Plastic plant pots and trays
- Small yogurt, pudding, and fruit containers
- Plastic coffee/tea lids
- Rigid plastic containers marked 1 through 7 (max. size 4 litre or 1 gallon)

Customer Service Centre
(705) 735-6901 | 1(800) 263-3199 | simcoe.ca

SOLID WASTE MANAGEMENT

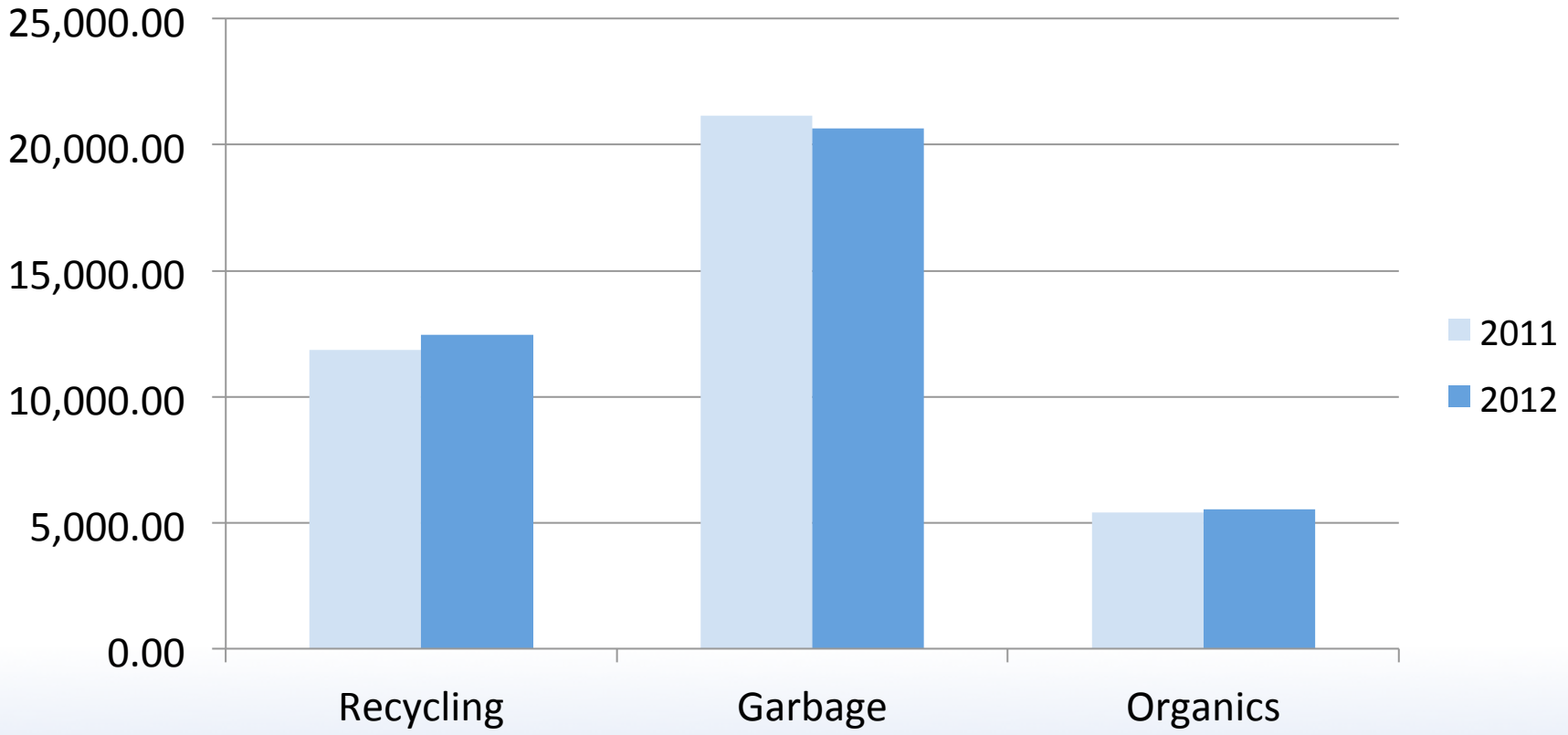
Waste Wizard
simcoe.ca/wastewizard

Promotion & Education Components (4)

- Two minute promotional video humorously depicts program changes
- 30 second version utilized as CTV commercial
- Four different 30 second radio commercials
- Entertaining = elevates the mundane
- Entertaining = increased memory retention
- Entertaining = increased forwarding of message

Progress to Date – Tonnage

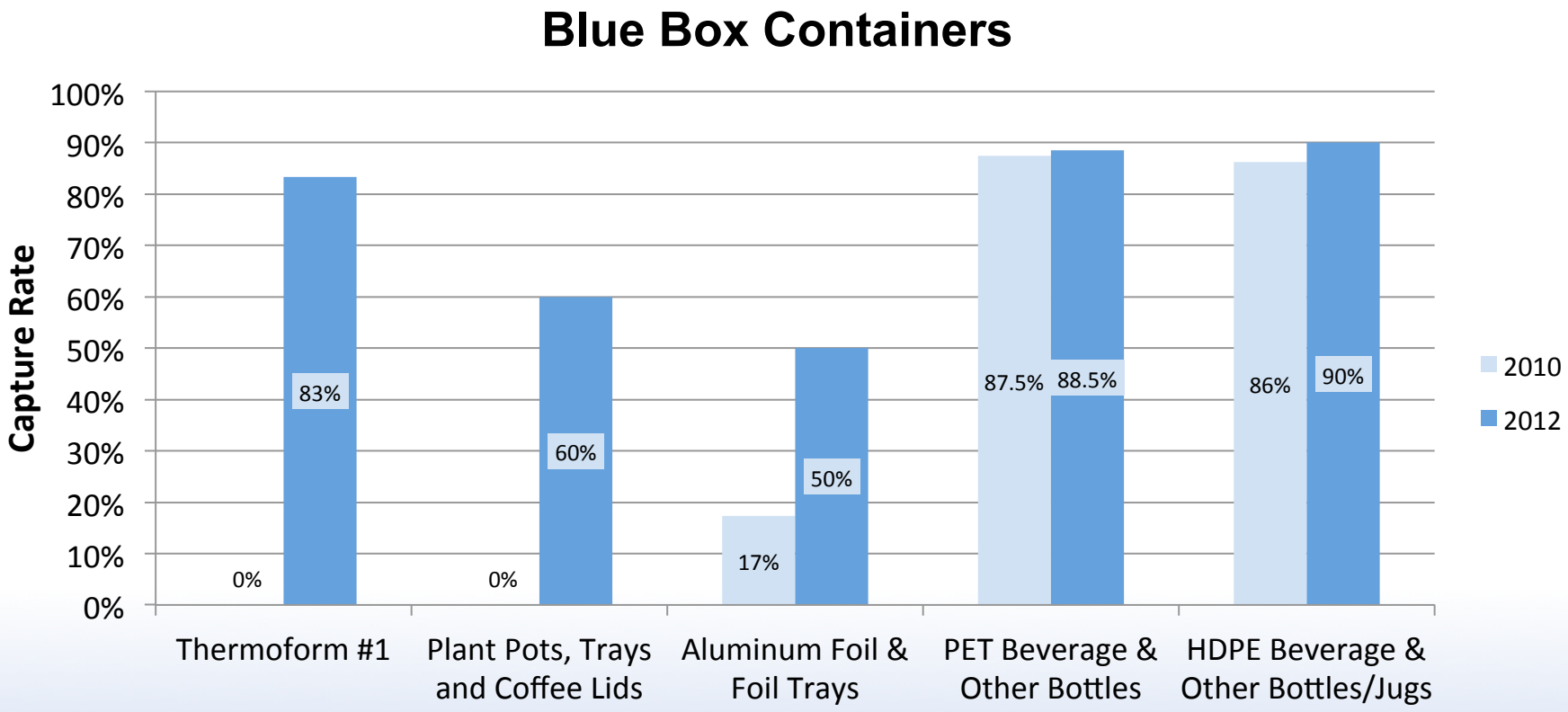
- 6 month period (May – Oct.) vs. same period last year:



Recycling ↑5% Garbage ↓2.5% Organics ↑2.3%

Progress to Date – Capture Rates

Two week comprehensive waste audits conducted during June 2012 vs. same period in 2010 – some highlights:



City Of Guelph
Going Automated

Catherine McCausland, City of Guelph

CIF Project #284 & #177

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Overview

- Purpose: automate PET sorting in the MRF & waste collection at the curb
- Anticipated impacts: these projects will provide cost savings through improved operational efficiencies
- More information:
  - catherine.mccausland@guelph.ca
  - www.guelph.ca

Automated Collection (1)

- City required to phase out collection of organic waste in plastic bags
- Decision made to go to a full cart based program
- Required purchase of carts & automated collection vehicles
- Engaged in extensive promotion & education campaign to communicate with residents

Automated Collection (2)

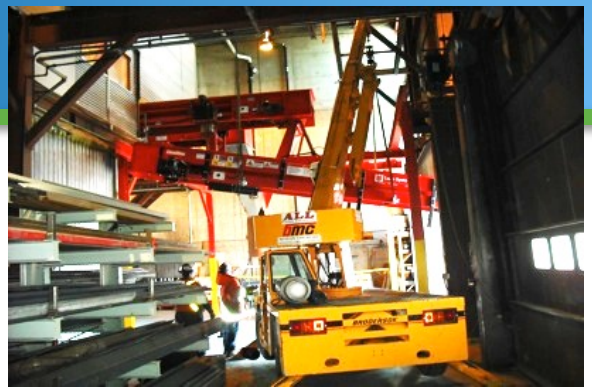
- Fleet will drop from 18 to 15 trucks
- Reduction in labour force
- Reduced repetitive strain injuries, WSIB claims as well as associated costs of modified & return to work programs
- Program should result in operational savings of ~$460,000
- Savings realized through staff reductions, improved program efficiencies & reduced trucks & fuel

PET Optical Sorter

- Manually pulling PET from recycling stream was inefficient
- There were space constraints when designing process flow
- We needed to design, build & install an auger system to handle dedicated PET
- Originally we programmed unit to separate both PET & polycoat/ tetrapaks

PET Optical Sorter

- Installing the unit improved capture rates for PET & Polycoat/ tetrapaks
- Resulted in reduced staffing levels of 3 sorters
- Recommend optical sorting for plastics
- Has reduced labour force, reduced operating costs & increased revenues through increased capture rates



Project # 284 – Automated Collections

Long Term Savings	Amount
Labour Savings	$342,000
Yard Waste Collection Program	$87,000
Fewer Vehicles and Fuel	$31,000
Annual Savings	$460,000

Project # 177 – PET Optical Sorter

Material	Pre Installation	Post Installation	Increased Capture (lbs)	Savings/Gain
PET	11.77%	5.00%	20,467	$5,730.70
Polycoat & Tetrapaks	10.00%	5.06%	13,226	$661.29
Residue	29.38%	19.82%	75,655	$1,994.53
Labour Savings				$177,500.00
Maintenance				-$15,000
Annual Savings				$170,886.52

Conclusions

- Automating collections enables us to offer better service to residents of Guelph
- New cart program will allow residents to have their yard waste collected weekly
- Optical sorter provides flexibility in the operation
- Unit can be programmed to capture other material types if necessary

Container Baler Upgrade

Karl Allen, Northumberland County

CIF Project # 271

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Project Highlights

- Project goal:
  - to improve overall processing performance & reduce operating costs
- Anticipated impacts:
  - reduce downtime & maintenance costs
  - increase bale density
  - improve revenue from material sales
  - increase processing capacity
- More information:
  - allenk@northumberlandcounty.ca
  - www.northumberlandcounty.ca

Background

- Northumberland County owns & operates our MRF
- Single & Dual Stream Processing to residents & IC&I sectors
- Since 2008 Northumberland has invested in:
  - fiber processing line upgrades
    - drum feed, triple deck fibre screen, fibre optical sort
  - ESCO Study resulting in new energy efficient lighting installed in 2012
  - container Dual Ram Baler
  - Fiber Baler Single Ram

Project Highlights (1)

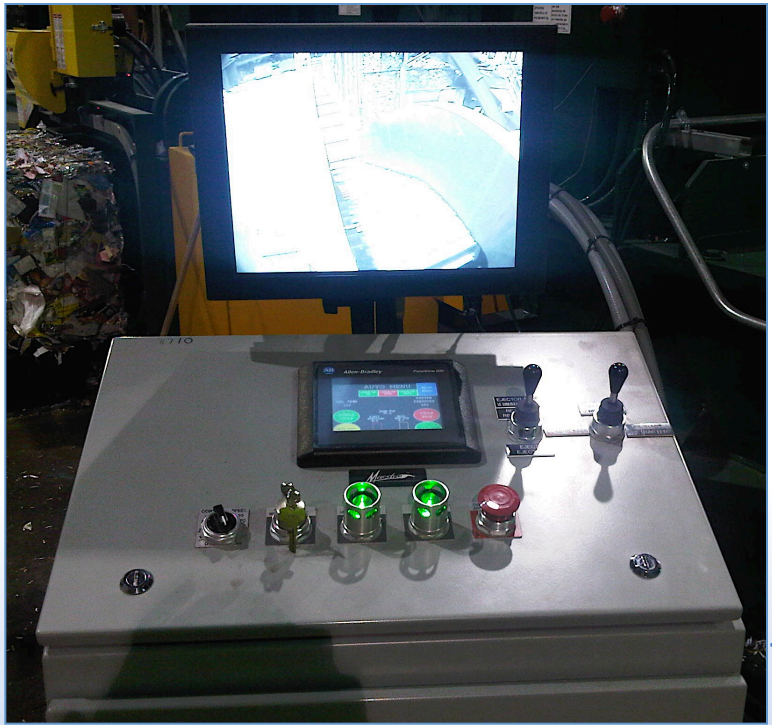
- Why this project?
  - original baler was old & fatigued
  - required continuous maintenance & service
  - new market technology available

Project Highlights (2)

- Project description
  - tender process, with 4 bidders
  - awarded to Metro Compactor Service
    - Nexgen, Marathon, Dual Ram, 2R 250 84, 100 HP
- Total price $445 k (includes $25 k trade-in allowance)
  - baler $330 k
  - metal infeed conveyor $100 k
  - installation $15 k

New Baler – Key Features

- Dual Ram – maximum density
- 2 cameras – infeed conveyor & hopper/chamber
- Touchscreen controls



Impacts (1)

Material	Old Baler Kg/ft3	New Baler kg/ft3	Overall Change in Bale Density
PET	9.71	11.54	19%
HDPE	7.79	13.35	71%
Mixed Plastics	8.6	14.11	64%
Aluminum	6.87	10.46	52%
Steel Cans	13.52	18.61	38%

Increase bale density in all materials 19 – 71%

Impacts (2)

- Increased floor space
- Reduction in downtime
  - 347 hours annually
    - resulting in $11,000 labour costs

Impacts (3)

Faster bale times

Material	Old Baler (minutes)	New Baler (minutes)	Time Difference %
Aluminum Cans	12.24	4.4	63.87
HDPE	16.46	5.23	68.12
Mixed Plastics	17.01	5.53	67.53
PET	21.85	7.19	67.02
Steel	13.54	4.21	68.92
AVERAGE	**16.21**	**5.31**	**67.09**

Average 67% faster bale times

Impacts (4)

- Shipping Trailer Weight
  - single ram baler plastic loads averaged 38,500 lb.
  - new Dual Ram Baler – trailer loads average 48,000 lb.
  - resulting in an average increase of $0.01 /lb. sold
    - multiplied by annual tonnage
      - results in $17,000 increase to sales revenues

Savings Summary

Summary of cost savings

Activity	Annual Savings
Non-Productive Baling Time	$11,308
Part-time Operator	$16,998
Additional Revenue	$17,359
Annual Baler Maintenance	$25,000
Annual Savings	**$77,665**

Annual savings of $77,665

Summary

- Summary:
  - reduced downtime & maintenance costs
  - increased bale density
  - improved revenue from material sales
  - increased processing capacity

Polystyrene Densifier Project

Claudia Marsales, City of Markham

Senior Manager, Waste &
Environmental Management Division

CIF Project #291

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IMPROVEMENT FUND

Overview

- Project goal: streamline handling, storage &shipping of clean polystyrene
- Impacts: significantly reduced costs & environmental pressure associated with collecting polystyrene (PS)
- More information:
  - cmarsales@markham.ca
  - www.markham.ca

Polystyrene in Markham

- Not collected in curb-side Blue Box (BB)
- Markham's 4 Community Recycling Depots accept over 20,000 kg of clean polystyrene (PS) per year
- Use large clear plastic bags for storage
- Extreme space limitations
- High handling & transportation costs - shipped to CPRA in Port Hope with no revenue

Polystyrene Storage Issue

2009 Pilot - Pilot #1

- Thermal processing
- Many issues:
  - difficult to find local market
  - melting of impure material caused internal fires
  - required additional sorting & conveyer
  - worker Health & Safety concerns
- Pilot concluded ... returned machine

2010 Pilot - Pilot #2

- 2010 – partnered with EPIC & CIF to pilot compression technology
- Funding: $56,080
- Up-front costs:
  - machine purchase: $42,000
  - initial wiring set-up: $10,000
  - additional re-wiring: $15,000
  - CSA approval: $5,500
  - consultant's fees: $5,594
  - sub-total: $78,094
- Issues
  - electrical compliance
  - location
  - staff resources

Surplus Building

“Polymax” – Pilot #3

- PS Densifier Machine compresses material into condensed polystyrene bricks.
- Can now be transported in gaylords
- Before PS Densifier, a truckload of undensified polystyrene would carry ~191 bags
- One truckload of densified polystyrene carries the equivalent of 1,240 bags or 8,250 lb.

Analysis of Polystyrene Densifier

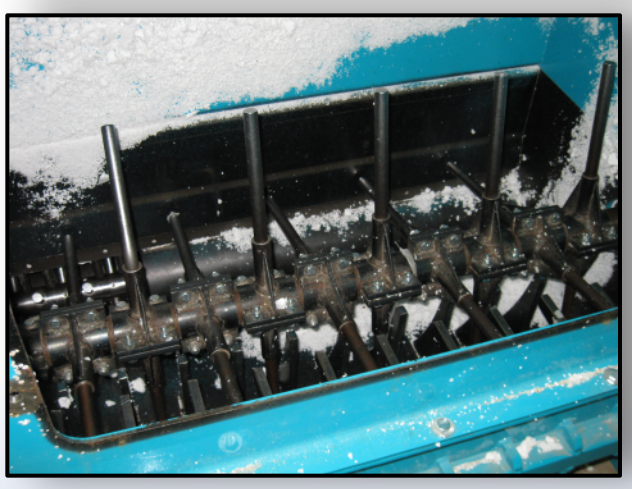
- 34,660 kg collected per year
- Compressed into 203.57 gaylords = avg. densification factor of 21.35
- Processed by The Recycle People under contract

Reduced Operating Costs

Annual Transportation Costs	Pre PS Densifier	Post PS Densifier
Transport cost of PS from depot to 8100 Warden	$20, 800	$20,800
Average cost per truck	$750/ week	--
Average # of trucks sent	65	6.97
Average cost for trucking	$48,750	0
Total Transportation Costs	$69,550	$20,800
Handling Costs	$11,943	$35,265
Labour for PS handling	$3,380	--
Operating Densifier	--	$18,036
Bags	$8560	$8560
Revenue	--	$3,816
Total Annual PS Recycling Costs	**$81,493**	**$56,248**

Project Results

- Annual Operating budget for polystyrene recycling program reduced $16,000/year
- PS Densifier produces high quality, densified log that is well accepted by market
- Reduced transportation by 5803 km & CO_2 emissions by 9% per year



End Product

Densified PS is made into crown moulding and picture frames

A Summary…


Polystyrene Recycling Building
(Authorized Personnel Only)
MARKHAM

Questions?

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In Summary…

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Enjoy your Lunch!

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Welcome Back…

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Afternoon Agenda

- Multi-res: KPIs to Super's Support
- Waste Composition 2012 Audit Report
- Break
- Managing Other Materials

MR: Key Performance Indicators (KPIs) to Superintendent's Support

Anne Boyd, City of London

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Why the Multi-Residential (MR) segment

- CIF has invested in 45 MR projects
- ~$5.5M including muni contribution
- Most at the municipal level – implementing BPs
  - increasing containers, site visits, P&E development
- Final reports – 5 complete, 15 are 90% done
- Highlights of 2 completed projects:
  - EWSWA – added 170 buildings & from 70 to 90 kg/unit
  - North Bay – recycling participation increased from 90% to 97% buildings & from 42 to 72 kg/unit

Today's presentations

3 diverse projects looking at different MR issues

1) Tracking MR performance – continuous improvement requires KPIs
2) Municipal implementation of MR best practices
3) Taking the next steps – building relationships with Property Managers & Superintendents

Our speakers

- Ben Bennett, Municipal Waste Association
  - Improving Data Capture for Recycling Programs in ON Multi-Residential Buildings
- Renée Dello, City of Toronto
  - Toronto's Multi-Residential Waste Reduction Workshop for Property Managers and Superintendents
- Peter Veiga, Durham Region
  - Multi-Residential Recycling Program Update "Sort it, Bag it, Tote it, Recycle it!"

Improving Data Capture for Recycling Programs in Ontario Multi Residential Buildings

Ben Bennett, Municipal Waste Association

CIF Project #183

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Project Highlights

MWA | Municipal Waste Association
Dedicated to Waste Minimization and Diversion
Formerly known as AMRC

- Project goal: to benchmark recycling performance indicators for 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
- More information:
  - ben@municipalwaste.ca/www.municipalwaste.ca
  - 519-823-1990

Basic Project Information

- Partners: London, Guelph, Peel , Niagara, Ottawa, Halton , Waterloo, & City of Peterborough
- Funded jointly by partners & CIF
- Municipal Waste Association (MWA) undertook earlier research, & GENIVAR Inc. retained to help complete work

Project Scope

- Part 1:
  - examine several MR programs
  - develop guidance for the calculation of key performance indicators for the different waste streams
    - include cost/unit, cost/tonne, kg/unit collected/diverted
- Part 2:
  - formulate recommendations to WDO regarding reporting MR numbers as part of municipal Datacall process

What are Key Performance Indicators?

- Key performance indicators (KPIs) measure & track municipal waste management programs over time
- KPIs serve as benchmarks that can show the impacts of internal program changes & be used to compare recycling & garbage programs among municipalities
- MR KPIs fall into 3 major areas:
  - diversion
  - cost
  - community involvement

KPIs: Diversion, Cost & Community Involvement

- Indicators of diversion, cost & community involvement look at program performance in MR recycling in terms of:
  - what could be diverted & what is actually diverted
  - how much money is spent on various activities on an overall & a per-unit basis
  - participation, public awareness & correct use of system

KPIs: Data Requirements & Data Sources

- Detailed report outlines data necessary to measure each KPI
- From early data collection efforts, it became clear that many municipalities do not have immediate access to data they need to calculate KPIs
- Report outlines where some data can be acquired & methodologies by which missing information can be assessed to produce a meaningful result

Data Acquisition

- Methodologies suggested to separate MR program costs from other costs include:
  - use of cost information from a neighbouring or similar municipality
  - use of contractor-provided detailed cost break-downs
  - cost allocation work
  - inclusion of future procurement clause requesting separate MR costing data

Recommendations for Waste Diversion Ontario (1)

- Phase in reporting of MR info as part of Datacall in several areas:
  - Section 3.2 Set-out limit/user pay
    - require MR data on set-out limit/user pay
  - Section 3.3 P&E
    - require P&E spending for MR, including annual budget
  - Section 3.4 Best Practices questions
    - e.g., site-plan approval process for new constructions, provision of bins/carts

Recommendations for WDO (2)

- Section 4 Services Received (by contract) – additional recycling information
  - quantify number of carts/bins & litres/unit capacity
  - report on actual or estimated tonnes
- Section 4 Blue Box costs (collection & processing)
  - report on actual, estimated or % of cost that are MR

Conclusion

- Tracking data will give municipalities tools to evaluate their programs & take steps to implement effectiveness & efficiency measures
- Competitive nature of funding program should reward programs actively improving operations

Toronto's Multi-Residential Waste Reduction Workshop for Property Managers & Superintendents

Renée Dello, City of Toronto

CIF Project #434.2

CIF
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Project Highlights

- Project goal: to improve customer service and use adult education techniques to aid in long term retention of information
- Anticipated impacts: inspire action to improve waste diversion in multi-residential properties
- More information:
  - rdello@toronto.ca
  - www.toronto.ca/garbage/multi/index.htm

TORONTO

Background

- Service ~4,500 building locations (425,000 units)
- City of Toronto has been working on improving waste diversion in multi-residential dwellings for years
- Initiatives include:
  - volume-based rate system for waste
  - in-unit recycling containers
  - initiating organics collection
  - 3Rs Ambassador Program
  - free information materials including annual calendar to all residents
- Want to improve customer service
- Need Property Managers/Superintendents on board for success

Project Description

Participants at workshop

- Hosted 2 workshops AM/PM
  ~50 people at each
- Wanted to incorporate adult learning techniques with facilitated discussions & still target a larger audience
- 5 staff involved in planning workshop content (total of 91 hours)
- Betty Muise consulted on presentation content & led group through practice run & facilitated overall workshop
- 9 staff involved as table facilitators
- 5 staff for registration & available for specific questions (billing, contracted collection, communications)

Evaluation: Participants

- 50 participants filled out an evaluation form (50% response)
- 78% preferred facilitated discussions vs. lecture format
- What respondents liked best:
  - having a group leader at each table
  - contact with staff
  - free handouts
  - update on what is recyclable
  - seeing how recyclables are processed (virtual tour)
  - sharing information/discussions
  - real case scenarios
  - sorting exercise

Evaluation: Staff Perspective

- What worked:
  - Betty as overall facilitator
  - group leader at each table
  - sorting exercise
  - virtual tour
- What needs improvement:
  - capture rate exercise
  - need simpler messaging around 50% capture rate and contamination messaging
  - food/timing/waste-free glitches

Best Practice/Continuous Improvement

- Facilitated discussions allow everyone a chance to speak & be heard
- Relationship building
- Improves customer service
- Access to resources

Next Steps: Building on Success

- Plan to make workshop an annual event
- Plan to develop a shortened mini-workshop (1.5 hour) to go “on the road”
  - corporate meetings (Dell, Minto, Greenwin, etc.)
  - apartment & Condo association meetings
- Investigate targeted workshops:
  - Superintendents vs. Property Managers
  - in-house customers vs. Miller Waste contracted customers
- Develop a virtual tour DVD that managers can borrow to show to tenants
- Other materials based on feedback

Multi-Residential Recycling Program Update
"Sort it, Bag it, Tote it, Recycle it!"

Peter Veiga

Regional Municipality of Durham

CIF Project # 189

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Project Highlights (1)

Part of Durham's 70% diversion strategy

1. Increased recycling tonnage
2. Decreased garbage tonnes
3. Meet best management practices of 50 litres collection capacity per unit &/or 1 cart for every 7 units
4. Promote other waste diversion programs: tires, HHW, E-waste & polystyrene recycling at Regional waste management facilities

- More information:
  - peter.veiga@durham.ca
  - www.durham.ca/waste

Why this Project?

Durham Multi-Residential Diversion Rates 2008-1010

Year	2008	2009	2010
Recycling	2,493t	2,125t	2,136t
Waste	13,613t	13,695t	13,446t
Diversion Rate	15%	13%	14%

- Multi-residential sector is diversion is stagnant at 14%
- Compared to 53% overall diversion rate
- This sector had not been addressed in many years
- Good opportunity for improvement

Project Highlights (2)

- Increase multi-residential recycling by addressing barriers to increased recycling
  - convenience for residents (sorting/transport)
  - convenience for property managers/superintendents (sufficient collection capacity)
  - awareness of acceptable materials
  - awareness of sorting requirements
  - accessibility to recycling areas

Distribution Details

Resident Kits

- 1 Reusable recycling tote bag
- 1 Fridge magnet
- 1 Three-fold brochure

Building Kits

- Superintendent / property manager
- Brochures
- Updated recycling cart/bin sticker labels
- Recycling posters
- Additional totes/bins
- Website update with online order form

Refrigerator Magnet

Graphics & a material stream colour coding system makes it easy

Distribution Details (1)

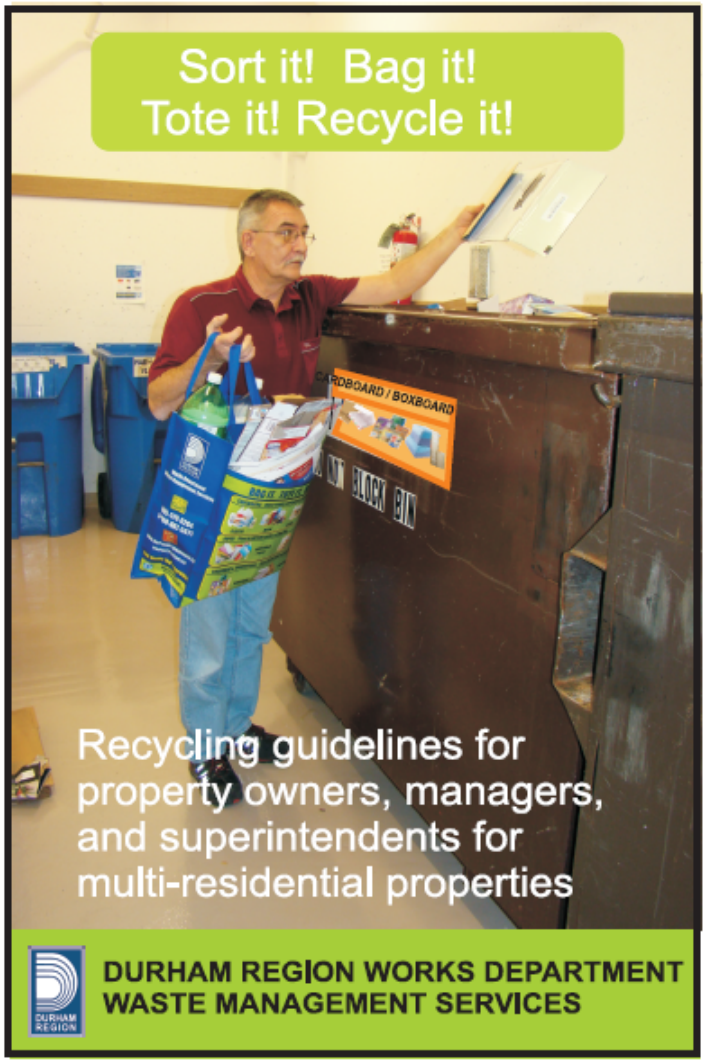
- Met with property managers/ superintendents to outline project
- Distributed intro letter notice & “Bags are Coming” posters & flyers about two months in advance to all units
- Hired 4 students for delivery & data management
- Scheduled delivery appointments days/weeks in advance
- Averaged 400 door to door deliveries daily
- Delivery period – May to August 2011

Distribution Details (2)

- 24,000 recycling bags delivered to 344 buildings
- Installed 152 additional 95 gallon recycling carts
- Installed 9 additional front end cardboard bins
- 4 locations increased recycling services to twice/ week
- Installed 72 22-gallon blue boxes at strategic locations to capture recyclables from chute rooms, laundry rooms, mail rooms, etc.

Resident & Building Brochures

Residents



Managers/Owners/
Superintendents

Posters


DURHAM REGION
Sort it. Bag it. Tote it. Recycle it in the correct recycling bin.
Plastic bags are not acceptable in Durham Region's recycling program.
CONTAINERS
PLASTIC
PAPER CARTONS
METAL
GLASS
CONTAINERS
Plastic
Glass
Paper cartons
Metal
PAPERS
HOUSEHOLD
OFFICE
PAPERS
Household
Office
CARDBOARD BOXBOARD
BOXBOARD
CARDBOARD
CARDBOARD / BOXBOARD
Cardboard
Boxboard packaging and rolls
Region of Durham Works Department
905-579-5264 or 1-800-667-5671
Waste Management Services
www.durhamregionwaste.ca

Tote Container & Bin Labels

Project Results

- Recycling tonnes increased by 3% or 64 tonnes in 2011 over 2010
- Garbage tonnes decreased by only 0.5% or 73 tonnes in 2011 over 2010
- Recycling capacity increased from 46 litres to 52 litres per unit (Best Management practices 50 litres) & established 1 cart to 7 unit ratio for most sites

Total program cost	$95,728
CIF funded	$36,027
Net cost to Region	$59,701

Diversion Rate Results

Municipality	2010 Diversion Rate	2011 Diversion Rate	Change
Town of Ajax	9.8%	12.2%	+24%
City of Oshawa	14.5%	12.9%	-11%
City of Pickering	15.6%	20.4%	+31%
Town of Whitby	12.9%	16.4%	+27%

Project Challenges

- Scheduling appointments
- Tracking down individual building contacts
- Gaining access into buildings for delivery
- Ensuring on-site safety of delivery staff
- Lack of space for additional tote carts
- Ongoing maintenance
- Resident turnover

Conclusions & Next Steps

- Upward trend in recycling tonnage
- Participation compliance has improved
- BMPs matched – over 50 litres/unit recycling collection capacity & 1 recycling cart for every 7 dwelling units
- More effort needed to capture recyclables from waste stream & reduce recycling contamination
- Ongoing maintenance for bags, posters, brochures, etc. at all properties

Questions?

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Waste Composition 2012 Audit

Mike Birett, CIF
Moderator

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The Evolving Blue Box in Ontario

Sherry Arcaro

Director, Blue Box System Optimization

Thinking beyond the box

Stewardship Ontario

CIF

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What Has Changed?

How has the evolution of packaging impacted the Blue Box?

2012 Data Gathering Projects

- Partnership between SO, municipalities & CIF
- Spring/summer MRF Material Audits – 9 facilities across Ontario
- 4 season Curbside Waste Composition studies – 7 municipalities, complete spring 2013
  - last series completed 06/07
- Cost Allocation Study – 5 municipalities
- Total 2012 study costs >$546,000

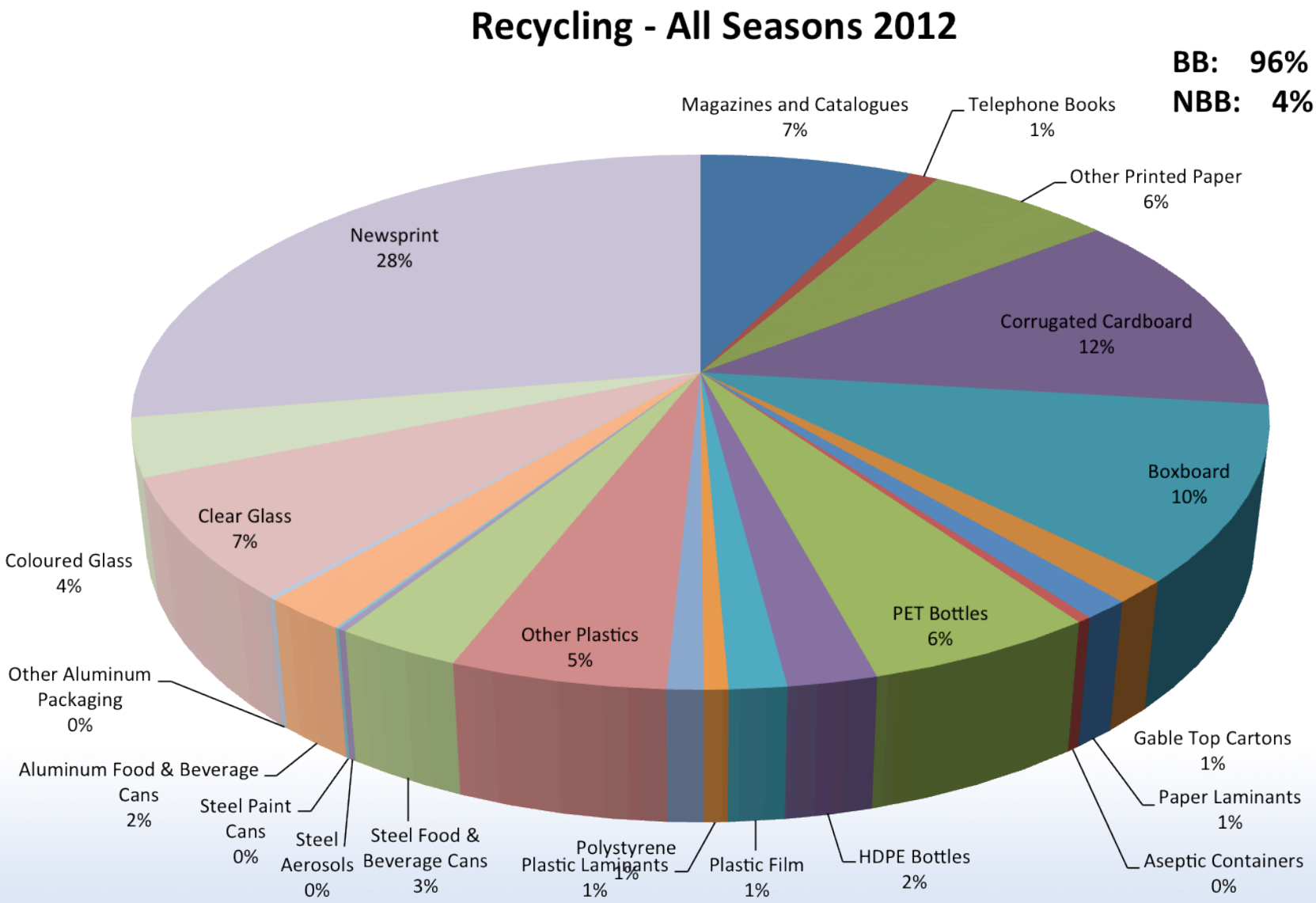
Need for Study & Lessons Learned

- Changing material composition
- System changes (single stream vs. multi-stream)
- Improve audit methodology, establish best practices (BP)

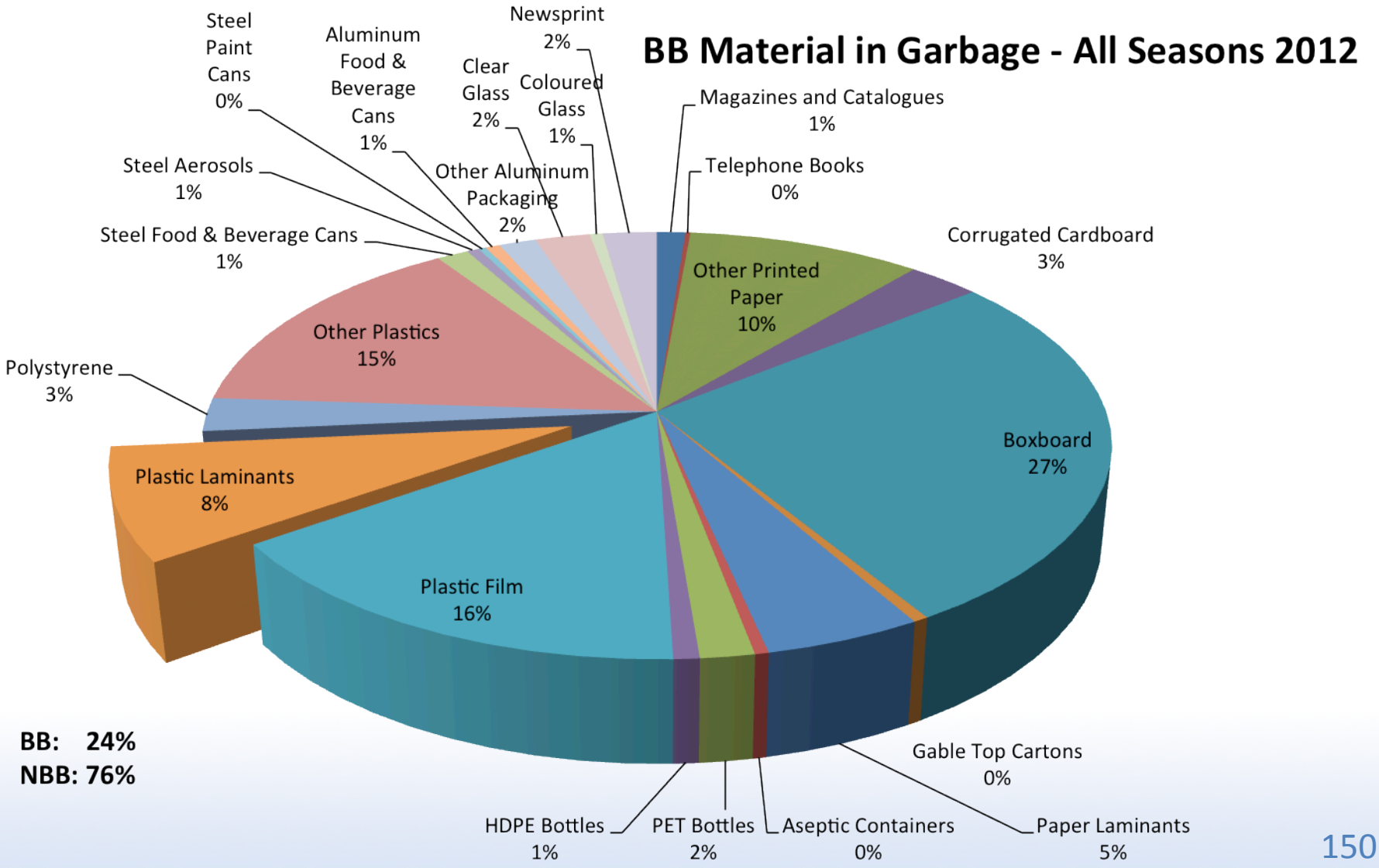
Curbside Audit "Preliminary" Findings

- Glass – clear non-beverage & coloured liquor bottles
- Mixed fine paper
- PET bottles
- Aluminum foil & trays
- Batteries

What's in the Box?

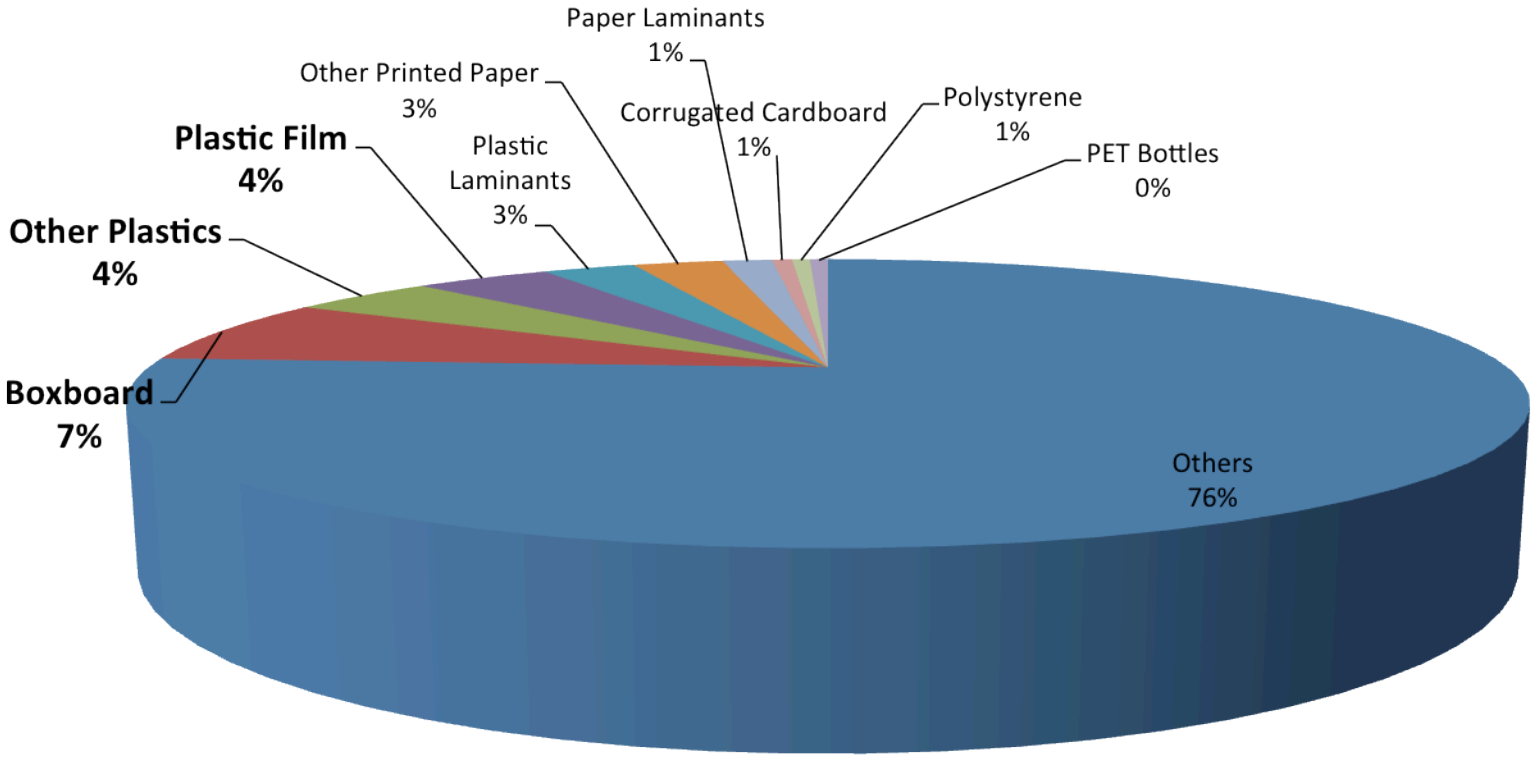


What are We Missing?



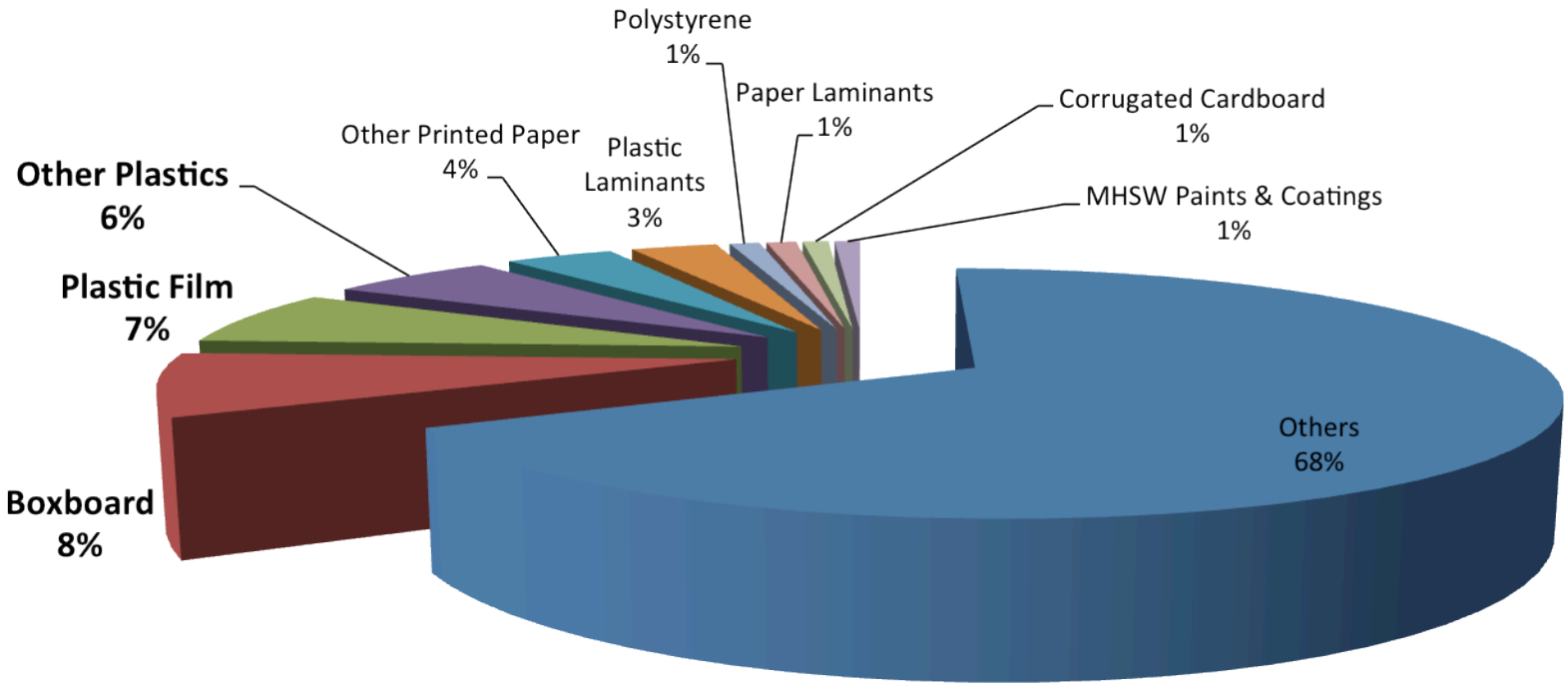
BB: 24%
NBB: 76%

Small Urban



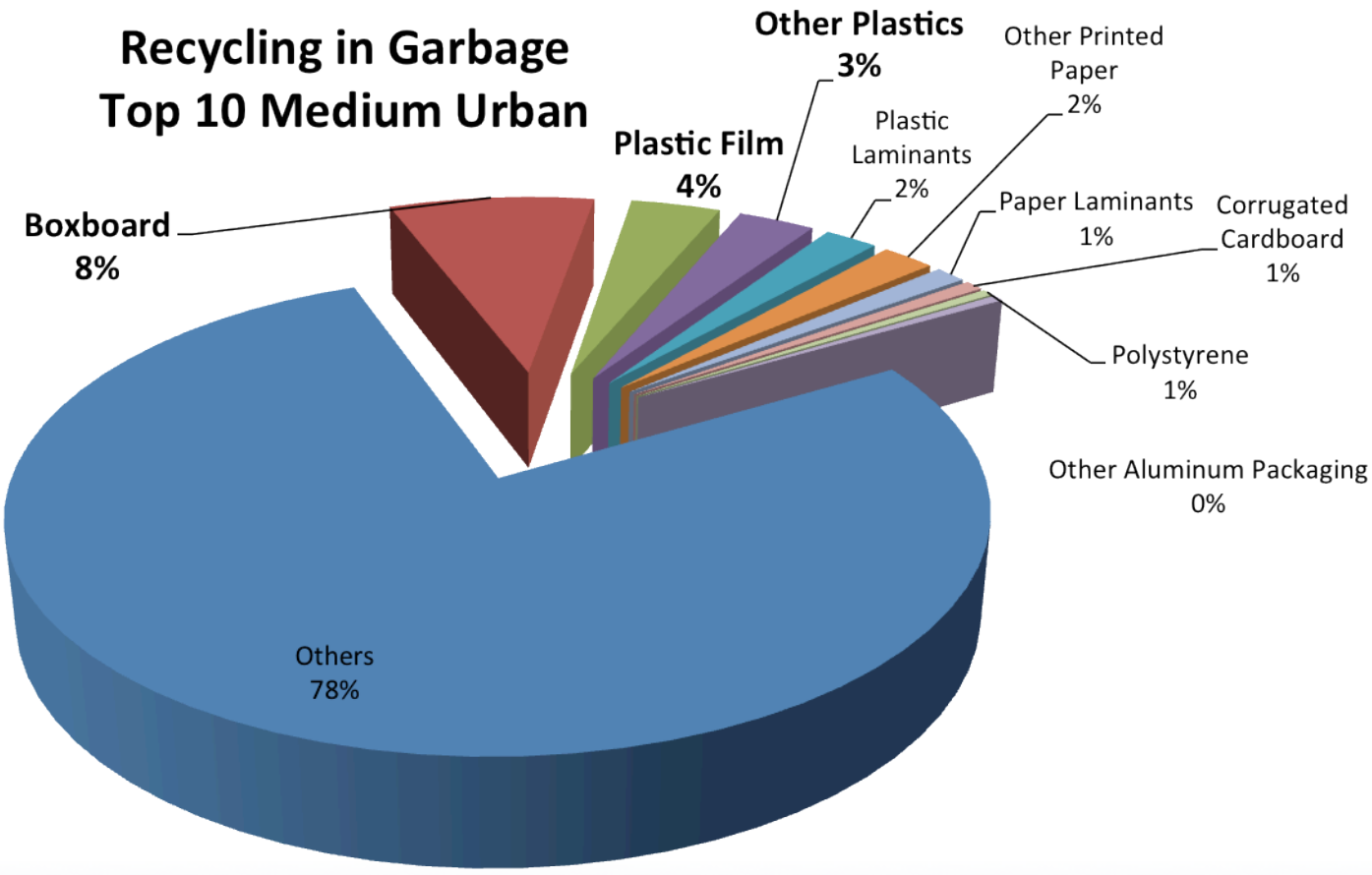
Recycling in Garbage
Top 10 Small Urban

Large Urban

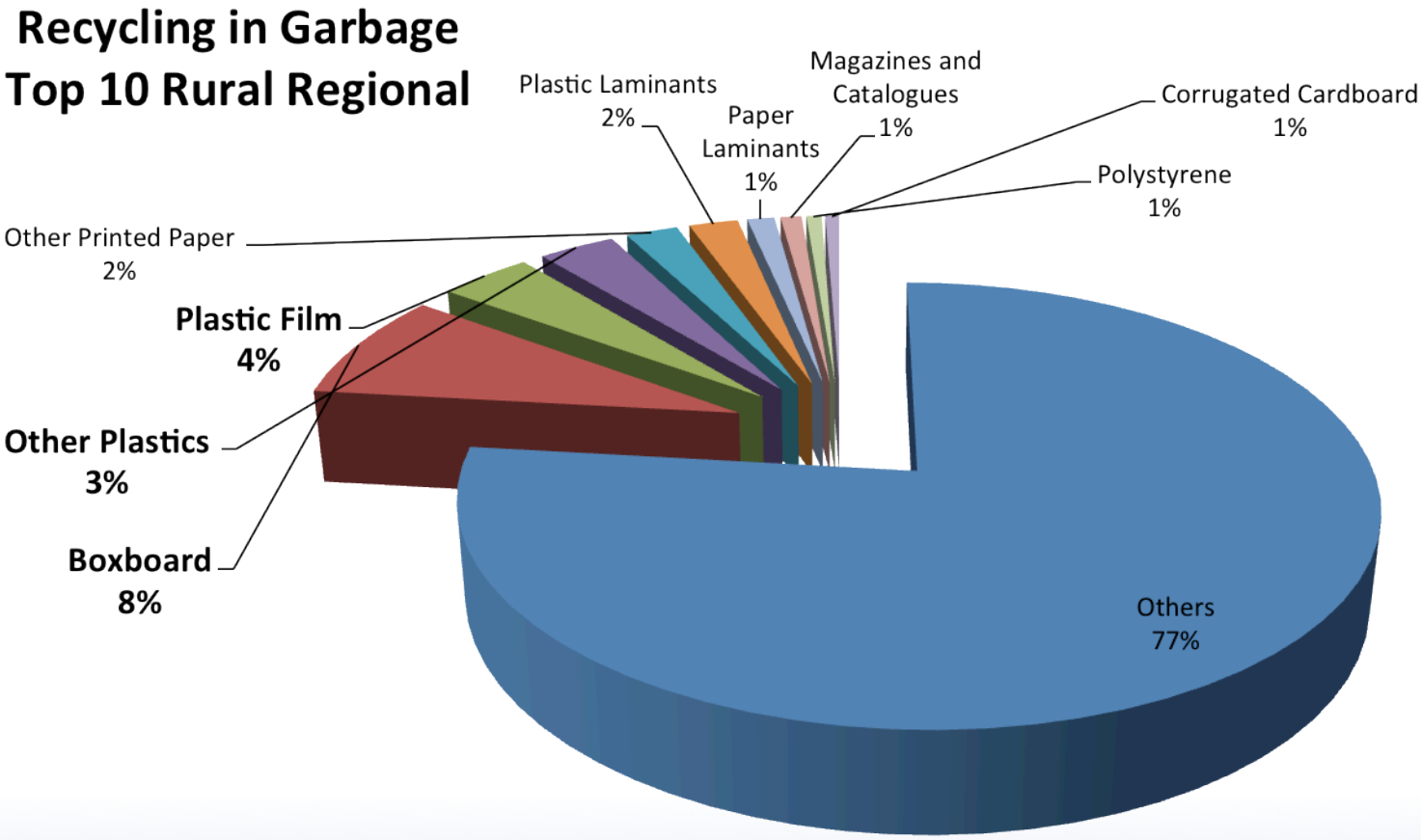


Recycling in Garbage
Top 10 Large Urban

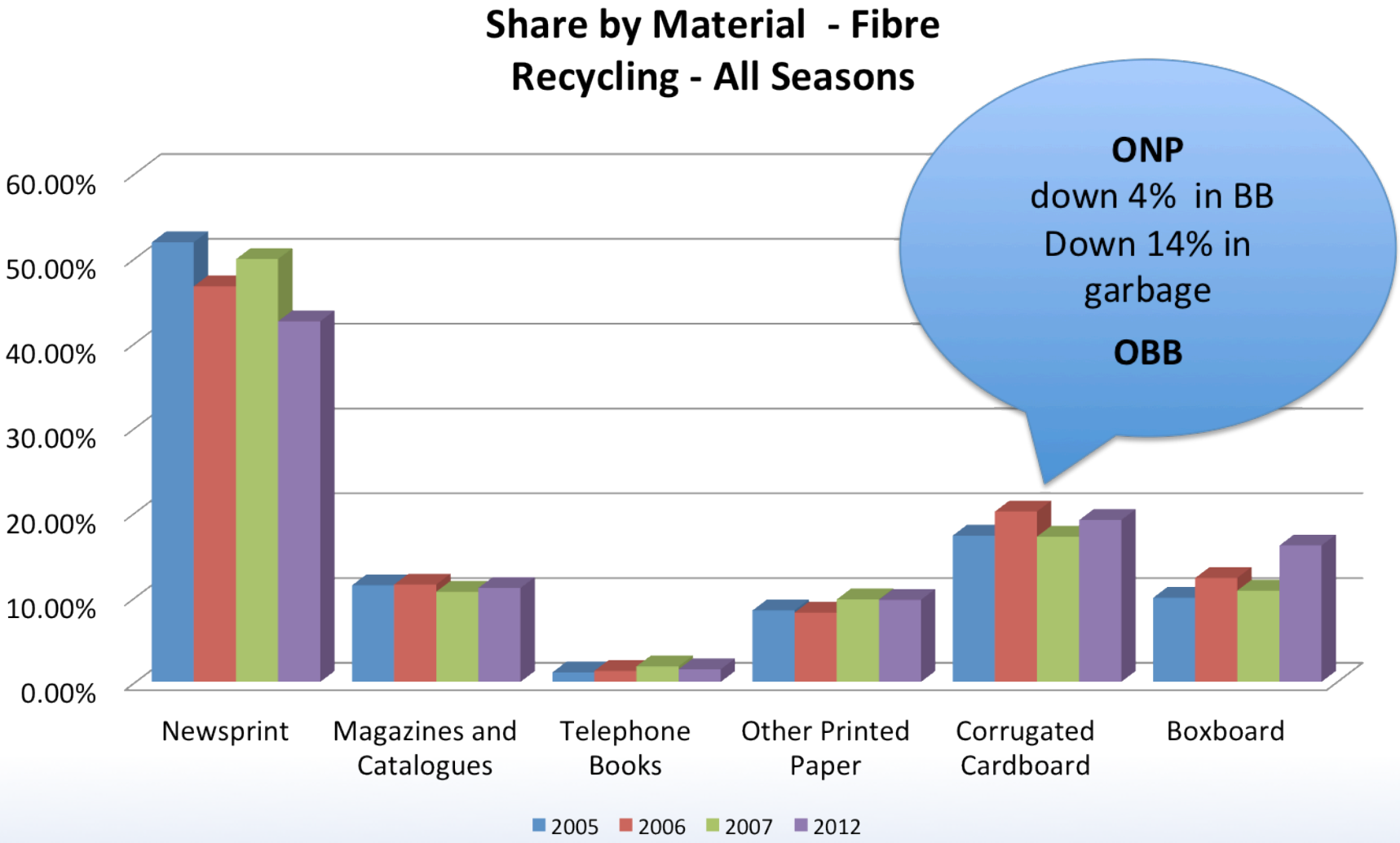
Medium Urban



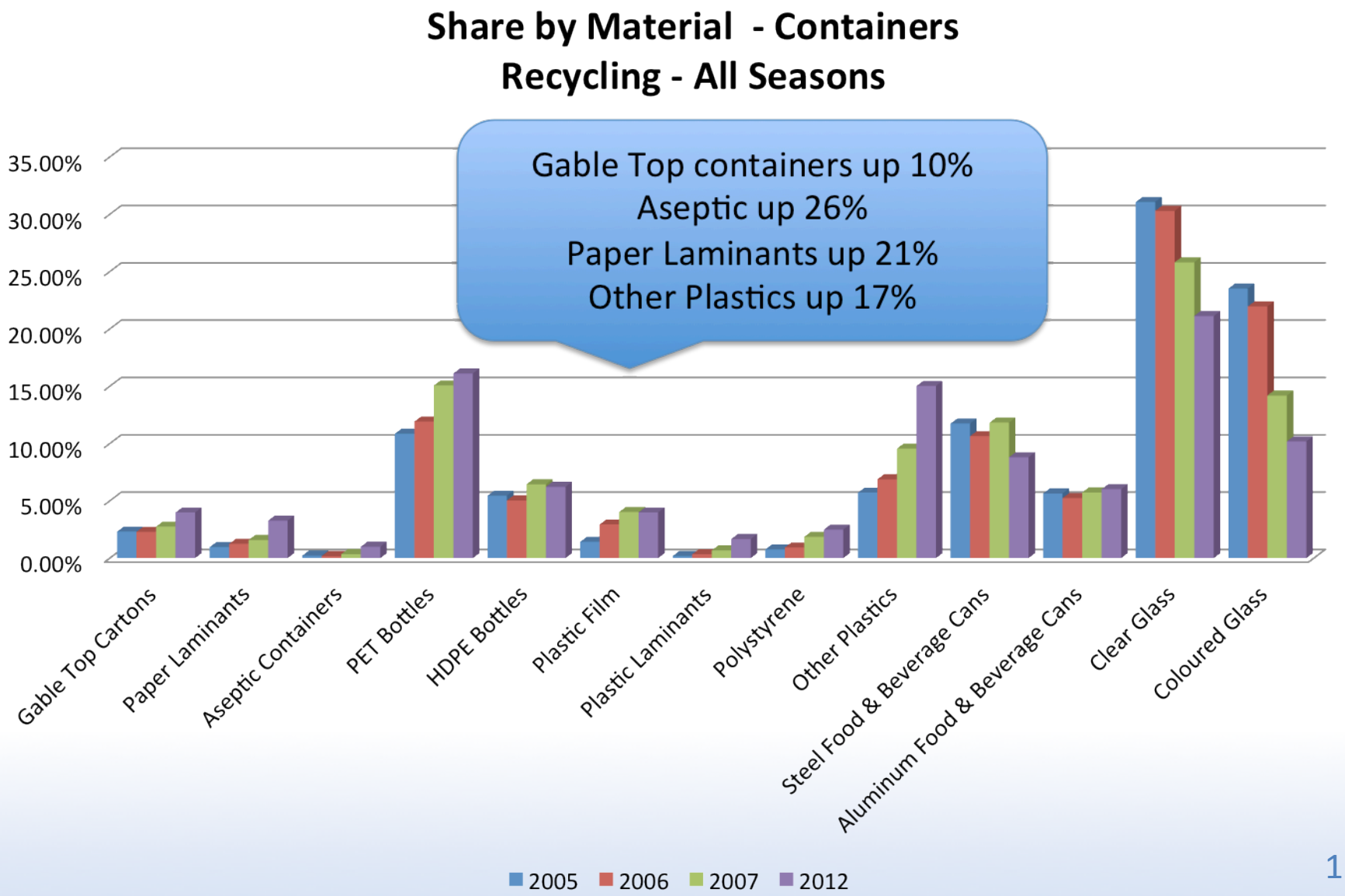
Rural Regional



The Evolution of the Fibre Stream



The Evolution of the Container Stream



Low Hanging Fruit?

Boxboard

Film Plastic

Polycoat Containers

Mixed Plastics

Boxboard Found in Garbage Stream

Questions?

Sherry Arcaro
Director, Blue Box System Optimization
Phone: 416-725-3156
Email: sarcaro@stewardshipontario.ca

Thinking beyond the box
Stewardship Ontario

Got Polystyrene? Talk to Rick!

Questions?

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Enjoy your break

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Overcoming Challenging Materials

Mike Birett, CIF

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New Markets Don’t Happen Over Night

- Developing new markets is time consuming & difficult
- At the outset of BB program there were limited markets
  - HDPE & boxboard were challenging
- 3-7 plastics were identified as a key priority by municipal program operators in 2008
  - today we have stable, local processing capacity
  - there are still challenges

They Require Cooperation of All Stakeholders

- Thermoforms were identified as a growing problem in 2009
- Today Ontario is a world leader in their diversion
- Film, EPS & laminated paper packaging continue to present very real technical and financial challenges
- Today's speakers will update us on collective efforts of stakeholders involved in diversion of these materials

Our Speakers

- Rick Denyes, Stewardship Ontario
  - Problematic Materials: Expanded Polystyrene (EPS)
- Joseph Hall, CPIA
  - Flexible Film Plastics Packaging Project
- Mustan Lalani, StewardEdge Inc.
  - Optimizing Collection Volumes of Paper Based Packaging to Meet Market Demand
- Mike Birett on behalf of NAPCOR
  - PET thermoforms

Problematic Materials: Expanded Polystyrene (EPS)

Rick Denyes

Stewardship Ontario

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Material Issues/Problems

- Lightweight/bulky – high transportation costs/tonne
- Collection – curbside vs. depot
- Processing
  - tends to break apart during processing
  - contamination can be an issue
  - storage of baled material
- Reprocessing – consistent markets (densification)
- End market users – domestic vs. overseas

EPS baled to ship to end market

Material Benefits

- Packaging benefits
  - rigid
  - lightweight
  - low/stable cost
  - marketing benefits
- Stable polymer/market pricing
- Emerging end markets

The Ontario Issue

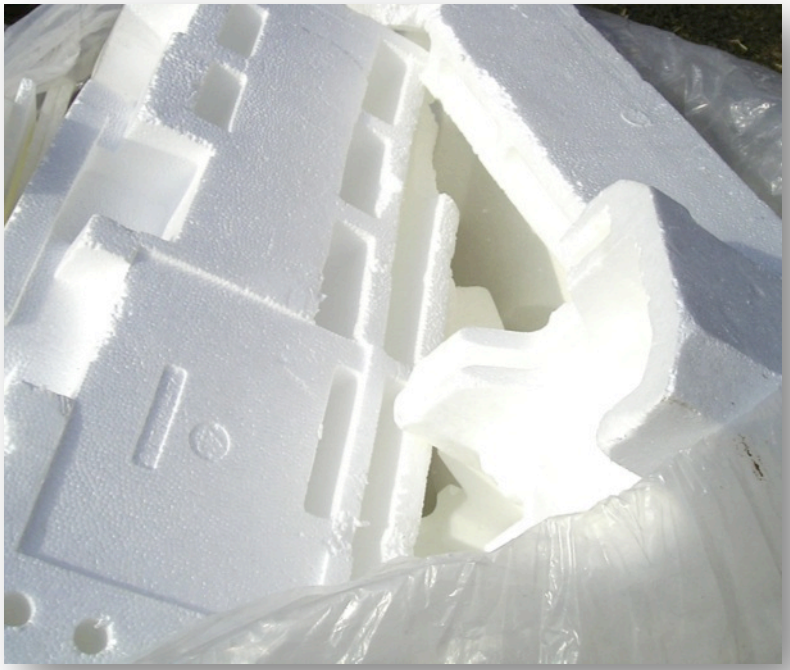
Issues

- Not all municipalities collect EPS – tap on
- Unstable re-processing capabilities

Solution

- Develop stable reprocessing capability

Ontario Solution (1)



EPS pre-bale: bulky, cumbersome; difficult to store

- Joint REOI (CIF/SO/CPIA) July 2012 for densification of EPS
- Key elements
  - Ontario-based solution
  - $75 k financial contribution (SO/CIF)
- Key considerations
  - location
  - capacity – processing & storage
  - proponents' experience
  - financial stability
  - material knowledge

Ontario Solution (2)

- REOI highlights
  - 6 respondents
  - detailed review/interviews
  - detailed scoring system

- Successful Respondent

  HGC Management

  555 Station St., Belleville ON K8N 4Z6

  Telephone: 613-968-3848

Project Update

- HGC Management
  - equipment ordered
  - target start January 2013
  - accepting material now

- Contact information
  - Herb Lambacher, HGC Management Inc.
  - Telephone: 519-754-4732
  - Fax: 519-754-1413
  - herb@hgcmanagement.ca

Flexible Film Plastics Packaging Project

Joseph Hall, Canadian Plastics Industry Association

Plastics Post–Use Recovery Consultant

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Flexible Film Plastics Packaging Project (F^2P^3)

Thinking beyond the box

Stewardship Ontario

F^2 P^3: Overview

- Flexible film study will go beyond PE film diversion:
  - consider the current packaging and future film trends
  - identify approaches and actions to successfully manage all types of films at each stage of the diversion value chain.
- Retained the Consortium comprised of:
  - StewardEdge
  - Resource Recycling Systems
  - More Recycling Associates Inc.

F^2 P^3: Objectives (1)

- Assess curbside, municipal depot and commercial return sites
- Identify collection & processing methodologies:
  - single/multiple stream systems
  - pros & cons
  - cost drivers
  - associated capital and operating costs

F^2 P^3: Objectives (2)

- Understand
  - what film is currently available & recyclable;
  - issues for recycling facilities & plastic re-processors
- Identify commercial & pre-commercial sorting technologies to capture variety of film grades
  - at a MRF
  - at a plastics re-processor

F^2 P^3: Deliverables (1)

- Packaging trends to discern current and future applications, ratios of PE, non-PE film & multi-layered film packaging
- North American reprocessors' specifications, demand, capacity & end uses for all films
- Current PE film reprocessing issues, abilities & limitations for various types of flexible films mixed with PE films

F^2 P^3: Deliverables (2)

- Sorting technologies & costs in North America & globally for reprocessing mixed flexible films into usable PE & non-PE film grades
- Complementary packaging design modifications that could address reprocessing issues & opportunities
- Other end market specifications: cement kilns, plastics to oil & energy from waste:
  - demand, capacity, barriers to market entry for either mixed films & for non PE film grades

F^2 P^3: Deliverables (3)

- Life cycle implications of alternative packaging designs to enhance recyclability
- Literature search that includes global sources that are relevant to project;
- Use information to conduct a comparative analysis:
  - collection systems: curbside single and multiple stream systems, municipal & commercial depots
  - capital & operating costs and recovery capabilities

F^2 P^3: Study Use (1)

- Assess opportunities & priorities for improving cost-effective recovery in all current collection systems
- Identify collection & processing BP or determine better methods to achieve higher recovery rates & increase film quality for all film grades;

F^2 P^3: Study Use (2)

- Assess future system investments:
  - to achieve more effective and efficient curbside and depot collection programs; and
  - to maximize film sorting and film material grades that meet multiple end market specifications

F^2 P^3: Timing & Questions

- Work commenced in October 2012
- Draft study expected in January 2013
- Report available in early 2013

Optimizing Collection Volumes of Paper Based Packaging to Meet Market Demand

Mustan Lalani, Consultant

STEWARDEDGE

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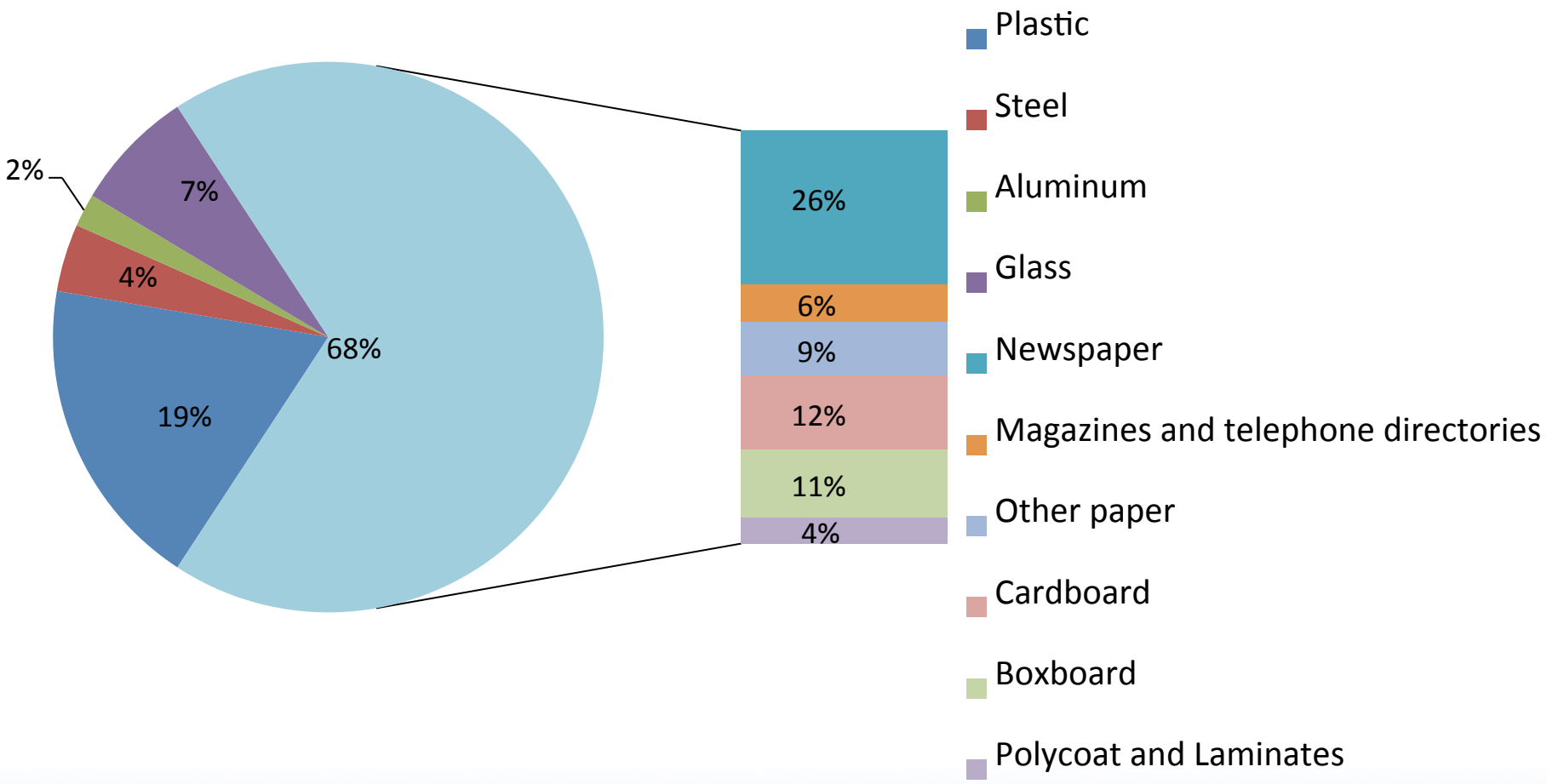
Residential Fibre Stream in Ontario (ON) Today



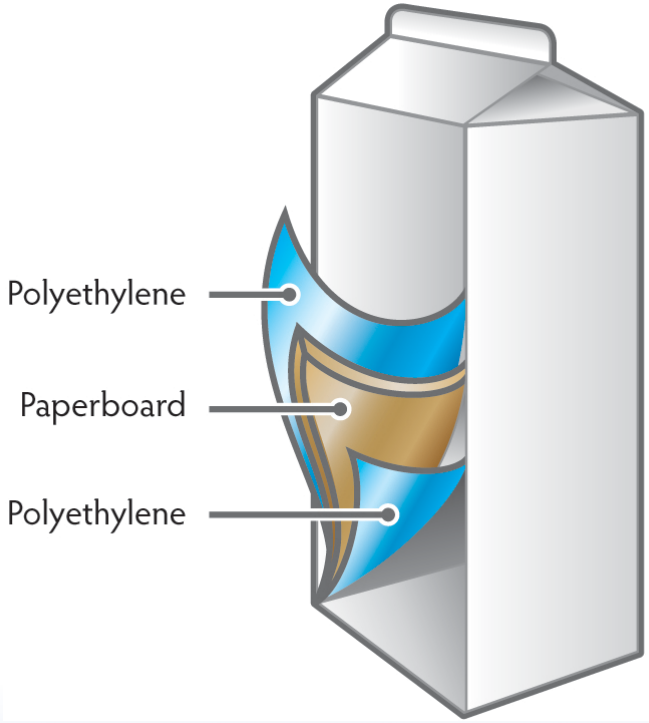
1.4 million tonnes of residential packaging & printed paper generated annually in ON

Current Recycling Rates for Paper & Paper Packaging

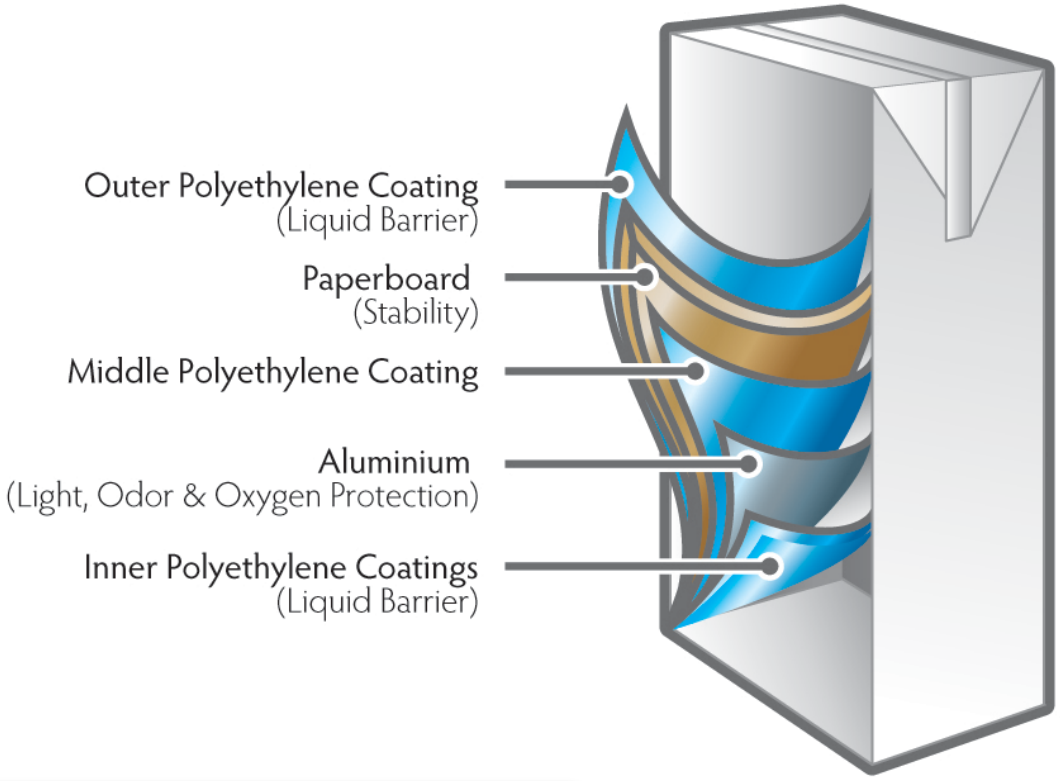
Material type	Recycling rate
Newspaper	95%
Magazines, Catalogues & Telephone Books	95%
Cardboard	86%
Other paper	51%
Boxboard	42%
Polycoat & Laminates	**9%**

What Are Cartons?

Refrigerated “gable top” cartons contain ~80% paper & 20% polyethylene



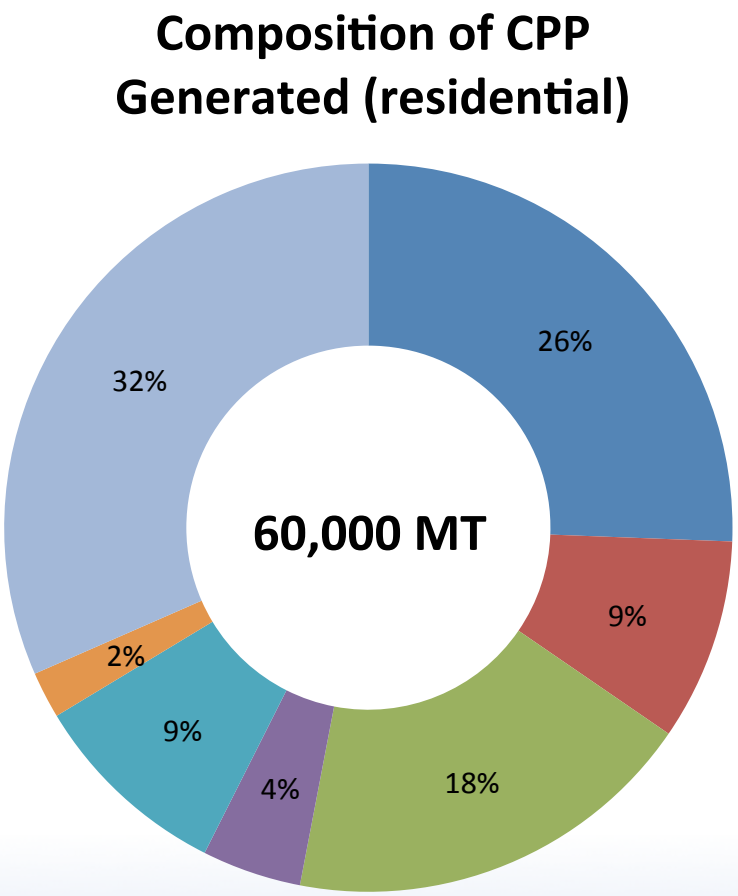
Shelf-stable “aseptic” cartons contain on average 74% paper, 22% polyethylene & 4% aluminum

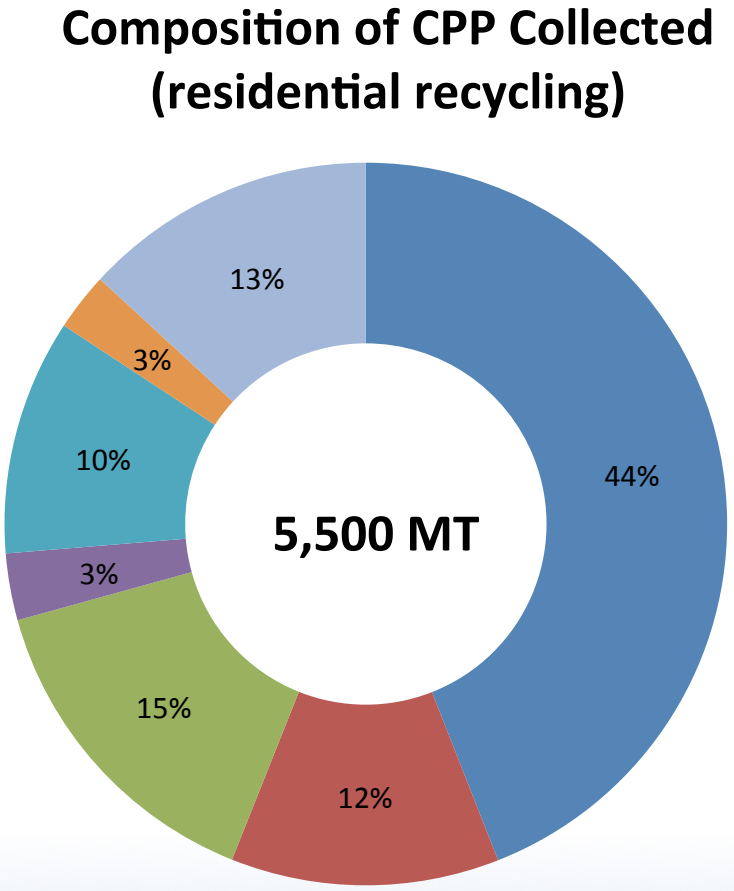


Contain no wax coating

What Are Paper Laminates?

How Much Of These Materials Exist In Ontario Today?





Gable Top Containers
Aseptic Containers
Hot drink polycoat cups
Cold drink polycoat cups
Spiral wound containers
Ice cream containers
Other paper laminants

How Are These Materials Managed Today in ON?

Cartons

- Gable top & aseptic containers collected at curbside & depots in remote areas
- 23 MRFs positively sort cartons into polycoat
  - these MRFs service 78% of ON population

Paper laminates

- Paper laminates
- Coffee cup recycling not consistent amongst municipalities
  - green bin, blue box, garbage bin
- Ice cream cartons accepted in **9 of 224** municipal BB recycling programs & **7** green bin programs
- Spiral- wound containers often managed with steel containers
- Other coated paper packaging not widely collected today

Challenges in Capturing More Volumes: Seeking Transition to Stable Supply/Demand

1. Markets for polycoat fibre have come & gone over last decade
2. +/-30% way-from-home consumption
   - e.g., empty juice boxes not always discarded at home
3. Difficult for MRF operators to produce regular loads of polycoat due to low volumes
4. Cartons & other polycoated materials
   - e.g., ice cream cartons, coffee cups) may "act-like-paper" in MRFs & flow with newspaper, mixed paper

Industry Alignment to Address the Problem

- The Carton Council of Canada - leading carton manufacturing companies in Canada
- Member companies manufacture & market processing & packaging systems that are convenient, safe & environmentally sound

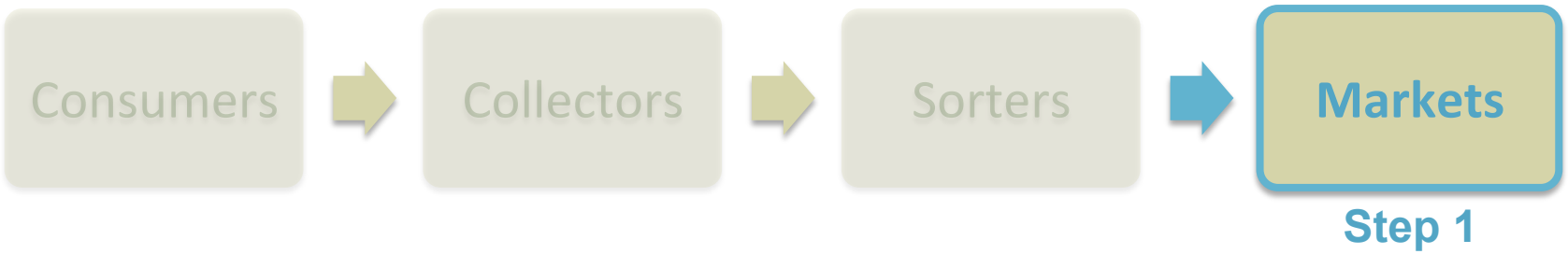
ELOPAK

evergreen packaging

SIG

PROTECTS WHAT'S GOOD™ Tetra Pak

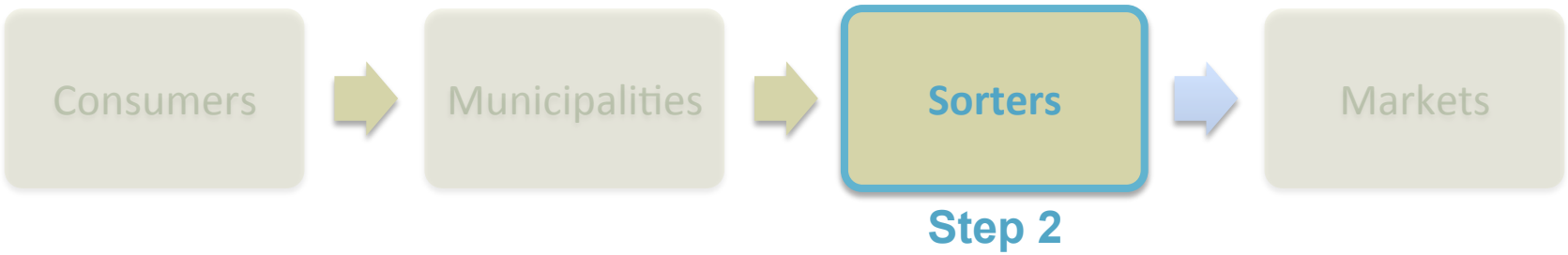
Industry Support for Recycling Chain



- ✓ Identify suitable North American mill partners
  - ✓ Polycoat grade now ISRI traded commodity (PSI #52)
- ✓ Negotiate agreements with partners to buy cartons at prices that drive collection & sorting (facilitators)
- ✓ Develop broker ties to move supply to markets


FOX
RIVER
FIBER
Great Lakes
Tissue
ReWall
Fibrek
Kimberly-Clark
Placave
PAPPEL
GRUPO
EMPRESARIAL
TRANSFORMA

Ship More Volumes From MRFs

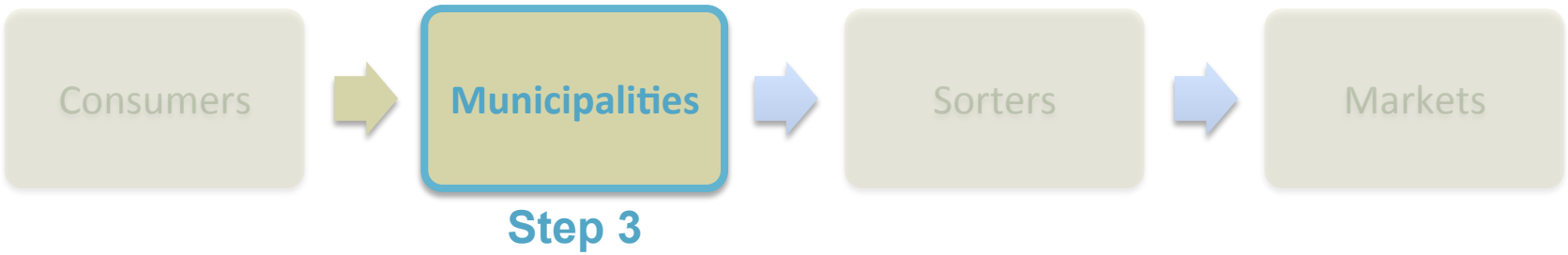


- ✓ Ensure MRFs separate compatible CPP into separate grade – best value
- ✓ Provide technical support to improve efficiency at MRFs
- ✓ Link marketing managers with brokers & end-markets

Understand CPP Materials Flow in a MRF

- Participated in study to measure & observe flow of all composite paper packaging materials in 8 ON MRFs
- Visits underway to help develop regional recycling growth strategy

Capture More Volumes



- Provide communications content support to municipal recycling coordinators
- Improve convenience to recycle CPP materials
- Engage in municipal P&E efforts to improve residential capture of CPP materials

Promoting Consumer Awareness
Engaging Municipalities & Stakeholders

- Carton Council website
  - www.recyclecartons.ca
- Tool-kit templates
  - ads, posters & more
- FAQs for communities, haulers & MRFs
- Video footage
- Technical assistance
- Social media support
- Collaboration opportunities

Status of PET Thermoformed Package Recycling

NAPCOR Update

CIF
CONTINUOUS IMPROVEMENT FUND

Presentation Outline

- Project Review
- Objectives & Challenges
- Program Plan
- Identifying the Obstacles
- Current Market Status & NAPCOR Program Initiatives

Project Review & Partners

- In 2009 NAPCOR, CIF & SO set out to remove obstacles that to recycling PET Thermoformed Packaging (e.g., cups, clamshells, trays, tubs & egg cartons)

Project Partners:

Region of Waterloo

Continuous Improvement Fund

Stewardship Ontario

Canadian Plastics Industry Association (CPIA)

Association of Postconsumer Plastic Recyclers (APR)

SPI: Plastics Industry Trade Association

Retail Council of Canada (RCC) US & Canadian PET Reclaimers

Summary: 2009 to present

- Goal: Identify & remove collection to end use obstacles that prevent recycling of PET thermoformed packaging
- Increase the availability of post consumer RPE

NAPCOR PET Thermoform Recycling Program: Recap

- Create cost-effective recycling infrastructure for thermoformed PET consistent with bottle recycling
  - acceptable to collection & intermediate processing
  - no jeopardy for existing bottle recycling assets.
- Plan entailed
  - conduct lab research on technical issues
  - work to identify/remedy logistical & technical issues
    - collection programs & intermediate processors
    - reclaimers & technology providers
  - create partnerships where possible

Obstacles to PET Thermoform Recycling…

- Look-alike containers made from other resins
- Non-recycling friendly adhesives
- Fluorescing packages
- Variable IVs
- Mechanical engineering issues

Addressing the Obstacles (1)

- Conversion to PET: Canadian Grocers Initiative
- Creation &adoption of APR compatibility protocol with input & approval from NAPCOR, the Adhesives & Sealants Council (ASC), & the Tag & Label Manufacturers Institute (TLMI)

Addressing the Obstacles (2)

- Inclusion of fluorescence check in APR compatibility protocol for products packaged in thermoforms. Walmart took lead
- Blending during additional melt filtration; solid stating
- Provision of sample loads (over 600,000 lb.) to reclaimers & technology providers

Canadian Grocers Initiative

- Loblaw; Sobeys; Walmart; Metro; Safeway (under Retail Council of Canada organizational umbrella)
- Conversion out of unrecyclable packaging
- Conversion to PET of all in-store & private label, followed by those products that are shipped in thermoforms
- Adoption of APR compatibility protocol & required supplier adherence, http://plasticsrecycling.org/pet-thermoforms

Current MRF Market Options: Canada

- For those MRFs that have autosort capacity, markets are available for PET thermoforms manually sorted from the bottles & baled separately, or included at some specified percentage in PET bottle bales 5-20%
- For those that do not have autosort capacity, PET thermoforms can be included in a mixed rigid bale. PET market options provided mixed rigid processors
- Export (not recommended)

Moving Forward (1)

- Total PET packaging available for recycling in US & Canada in 2011 > 7.4 billion lb.
- Thermoforms in 2011 > 1.6 billion lb.
- Projected growth rate for thermoforms > 15%
- Projected growth rate for bottles in lb. – 2%

Moving Forward (2)

- Investment in plants & technology capable of efficiently processing PET thermoforms is accelerating
- The most efficient way for MRFs to handle this material is to include it with bottles–most PET bottle reclaimers will have the capacity to handle some % before the end of the year with thresholds as high as 30%

Moving Forward: Processing Capacity

- Of the 30 Reclamation plants currently operating in the US (26) & Canada (4) all but 12 are currently processing thermoforms at some percentage.
- The plants that aren't, process exclusively deposit material
- Estimated volume of thermoforms recycled in 2012 around 100 million lb.

Moving Forward (3)

- End market demand not a problem
- PET Thermoforms are successfully being recycled back into fiber, sheet & bottle applications; no show stoppers identified
- No reason not to move forward with collection programs

Expectations Moving Forward

- The value of the thermoforms, & their impact on the bottle stream will be largely determined by the additional amount of contamination they carry & the adhesive issue
- Consumer education is now the key

For More Information

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Questions?

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Closing Remarks

Mike Birett, CIF

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Thank you…
see you next spring!

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