
 If you live in the City of Kawartha Lakes, City of Peterborough, County of Peterborough or the County of Northumberland you can recycle all of your plastic packaging and containers.

**Don't forget, all PET (#1) plastics can go in your blue box.**



## Plastic Is In! CIF Project Report #415

Promotion and Education Campaign – April to October 2011



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## Executive Summary

In 2011, as a result of increased availability of plastic packaging acceptable in the Blue Box program, the Continuous Improvement Fund (CIF) funded a promotional campaign to build awareness of recyclable plastics. The project partners included the municipalities of the County of Peterborough, City of Peterborough, Northumberland County, City of Kawartha Lakes, and the project was co-funded by Stewardship Ontario (SO).

The initial Plastic Is In! campaign focused on PET plastics (#1) utilizing various communication strategies and tools. The project partners developed a campaign to educate residents on what plastics to place in the blue box and what happens to those materials after they are recycled.

Total costs of the 8 week campaign were \$293,566, including \$130,000 of support from the Continuous Improvement Fund (CIF). Communication materials included: a brochure (with blue box sticker and call to action contest), website, billboards, convenience store posters/digital displays, press releases to local newspapers, ecomedia silverbox bins (public streetscape multi-unit disposal systems), radio spots, and social media hits.

Impact of the campaign was monitored utilizing a customer survey of 2,208 residents, analysis of marketed plastic tonnage, and pre- and post-campaign waste audits. The customer survey showed that almost one-in-five (18%) residents had some awareness of a promotional campaign regarding recycling plastics. The campaign had a positive effect on 39% of respondents who reported an increase in recycling. The brochure sticker was quite well received as most (78%) found it useful in helping them remember what goes in the blue box. Total mixed plastic tonnage for all four municipalities increased by 20% (25% in PET), primarily in the County and City of Peterborough. Pre- and post- campaign waste audits indicated that the average capture rates for #1 PET thermoform clamshells/trays/blister-packs clear & coloured increased.

Plastic Is In! provided a unique opportunity for partners to improve awareness and overall tonnage of PET and other recyclable plastic packaging. The project displayed the potential for use, with more information on all recyclable plastics, in other communities. Plastic Is In! was also a commendable example of cooperative municipal action.

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# Project Overview

In 2011, a promotional campaign to build awareness of recyclable PET (#1) plastics was developed as a result of the increased availability of plastic packaging in the Blue Box program. Plastic Is In! was created to capture of PET (#1) bottles that were ending up in the garbage and to increase awareness that PET thermoform containers were recyclable. Utilizing various communication strategies and tools, the campaign partners developed materials to educate residents on what plastics to place in the blue box and what happens to those materials after they are recycled.

The main focus of the initial promotion concentrated on PET plastic (#1), which stands for **polyethylene terephthalate**. PET is a form of polyester (just like the clothing fabric). It is extruded or molded into plastic bottles and containers for packaging foods and beverages, personal care products, and many other consumer products.

## Partners

### Municipal Information

Located in Ontario, Canada to the north east of Toronto (see Figure 1), the four municipal partners involved in the campaign were:

- County of Peterborough (population: 54,870)
- City of Peterborough (population: 80,600)
- Northumberland County (population: 81,857)
- City of Kawartha Lakes (population: 73,241)

As a result of collection and marketing opportunities, all municipalities offer unique recycling programs that differ from each other.

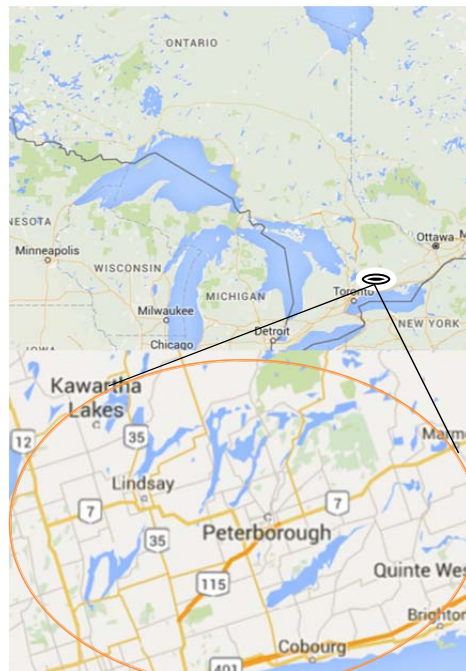


Figure 1: Map of Campaign Area  
(note: map does not include all municipal boundaries)

### Partner Blue Box Program Summary

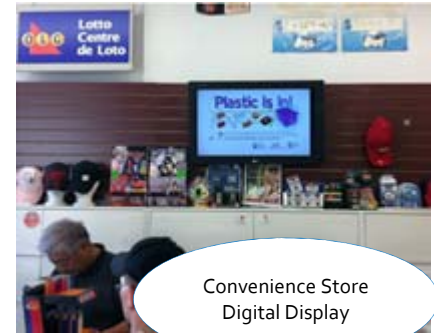
- ▲ **County of Peterborough**  
Weekly Collection  
Two blue boxes (containers, fibres)  
Most plastics accepted – no #6
- ▲ **City of Peterborough**  
Weekly Collection  
Two blue boxes (containers, papers)  
All plastics accepted
- ▲ **Northumberland County**  
Weekly Collection  
Mixed recycling - Blue Box / Bag  
Most plastics accepted – no #6
- ▲ **City of Kawartha Lakes**  
Every Other Week Collection  
One blue box for containers  
All plastics accepted



## Objectives

Plastic is in! had three main objectives:

1. Educate residents on what mixed plastics are and why to put them in the blue box (focus on PET #1 plastic)
2. Increase capture rate of PET #1 plastics
3. Determine effectiveness of a multi-municipal promotion and education campaign for best practice knowledge



## Implementation

During the campaign, the public was exposed to billboards, posters and digital displays at convenience stores, advertisements on ecomedia silverbox systems (indoor/outdoor multi-unit waste collection containers), radio spots, brochures with call to action contest, and social media hits. The success of the campaign was determined by the increased collection of targeted products (egg cartons, fruit and veggie trays, strawberry containers, water bottles, muffin containers, bbq chicken domes) verified by:

- Post-campaign consumer/resident awareness surveys
- Total tonnage of PET and mixed plastics marketed in the Blue Box Program
- Pre- and post-campaign waste audits

## Schedule and Budget

Item	Timeline	Notes	Cost
<b>Creative and Production</b>	April - July	Create, design and plan campaign elements	\$67,300
<b>Brochure</b>	July 12	125,000 produced and distributed	\$57,995
<b>Media – all elements and markets</b>	July to Sept	Radio, Billboards, Website, Posters, Digital Displays, Ecomedia Silverboxes, Twitter	\$90,694
<b>Consumer Survey</b>	September	Telephone calls to representative sample to determine awareness	\$42,900
<b>Waste Audits (50 households)</b>	April & Sept	1 week in April (baseline), 2 weeks in Sept (follow-up)	\$33,476
<b>Total</b>			<b>\$293,566</b>

## Communication Materials

All materials used in the campaign included various touch points/interactions for residents to engage.

Key messages included:

- ✓ Did you know all these plastics can go in your blue box?
- ✓ Plastic (PET) has a second life and can become new materials
- ✓ Help keep these materials out of landfill

To maximize reach throughout the four municipalities, the following tools were used:



Ecomedia Silverbox

### Brochure

A two-fold, double-sided, colour brochure showcasing types of PET (#1) plastic packaging, the blue box, and materials made from recycling. An “Into the Blue and Out of the Blue” arrow flows through the design. The brochure included a sticker to adhere to recycling containers as a prompt for residents and to encourage contest submissions (see below).

Distribution: 109,000 via Local Newspapers (postal strike prohibited direct mailing as planned) and 16,000 provided to municipalities.

### Contest



A contest to win 12 - \$100 VISA gift cards (3 per municipality) ran over eight weeks. To be eligible, residents had to adhere the “Plastic Is In!” sticker from the brochure to their recycling container, take a photo and submit it with contact information to the Stewardship Ontario Paper Is In! website. Promotion was done through the brochure and various social media outlets.

25 Entries were received and 12 gift cards distributed.

**Website** Campaign-specific webpages were developed to provide educational information alongside a central portal contest submission at [www.stewardshipontario.ca/plasticisin](http://www.stewardshipontario.ca/plasticisin)

**Billboards, Convenience store posters/digital displays, Local Newspapers, and Ecomedia Silverboxes** Various methods featuring Plastic Is In! were used over the 8 week campaign which ran from July 11 to September 4

Media Type	Specifics	Impact
<b>Billboards</b>	6 locations – 2 sides	~1,025,636 impressions
<b>Posters</b>	11 stores	~2,570,400 impressions
<b>Digital Displays</b>	57 venues /127 screens	~1,308,906 ads delivered ~1,859,672 impressions
<b>Newspaper</b>	Letters to the Editor	Northumberland Today – Aug 4 Circulation: 5,800 Lindsay Post – Aug 9 Circulation: unknown Peterborough Examiner – Aug 16 Circulation: 12,478
<b>Ecomedia Silverboxes</b>	42 locations	~75,000 population coverage



**Radio** Radio advertisements focused on products made from recycled plastics and to remind residents that “...when it comes to your blue box – plastic is in”. Brand sell spots along with news/weather/traffic sponsorship tags helped to get this message across through the following radio stations:

- Energy 99.7
- Country 105
- 91.9 BOB
- The Wolf
- The Star 93.3

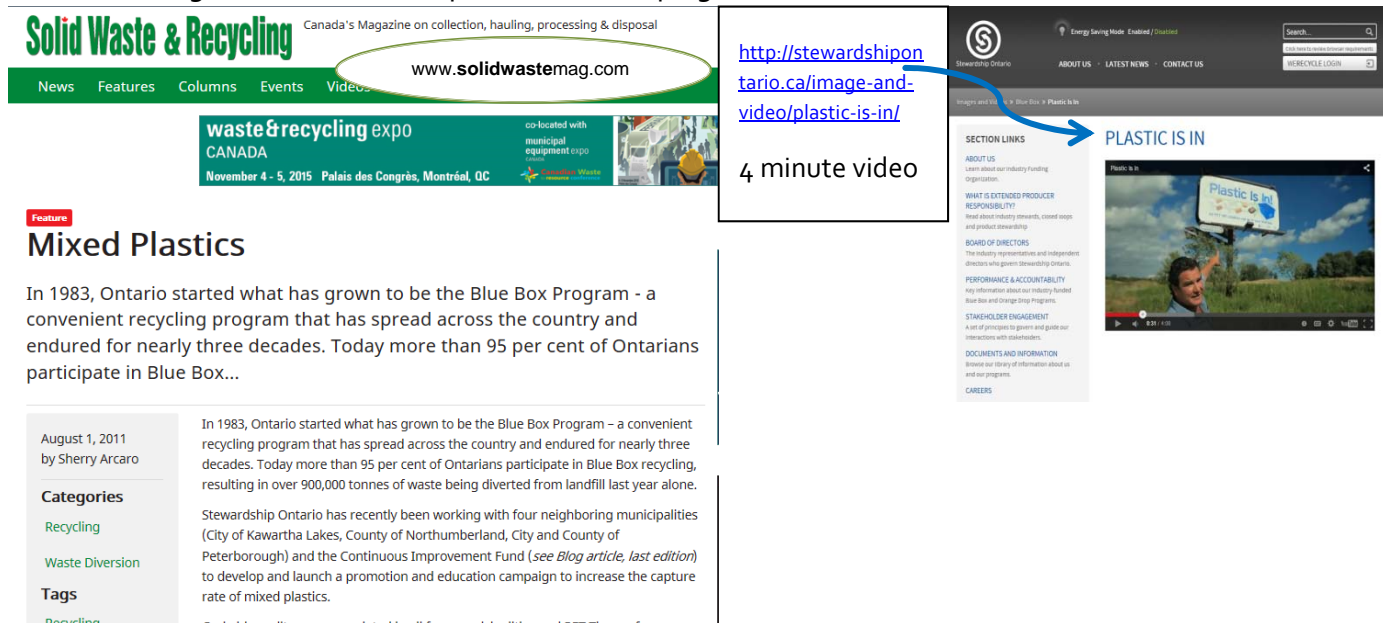
Radio advertisements ran for 4 weeks within the campaign areas. The total number of impressions was estimated at 1,986,300!

**Social Media** Plastic Is In! Social media messages (tweets) were delivered throughout the campaign. Impact of social media was not tracked.



## Additional Outreach

In order to build excitement for the campaign within the waste management industry, SO wrote an article for Solid Waste & Recycling, a Canadian waste industry magazine. The article was published on August 1, 2011. SO also made several power point presentations as well as a short video on Plastics Is In! to encourage additional take up of similar campaigns in the future.



The image shows two screenshots. On the left is an article from Solid Waste & Recycling magazine titled "Mixed Plastics" by Sherry Arcaro, dated August 1, 2011. The article discusses the Blue Box Program and mentions Stewardship Ontario's work with neighboring municipalities and the Continuous Improvement Fund. On the right is a screenshot of the Stewardship Ontario website, showing a video player for "Plastic Is In!" with a URL: <http://stewardshipontario.ca/image-and-video/plastic-is-in/>. A blue arrow points from the URL to the video player.

It should be noted that in the original plan, Stewardship Ontario had desired to develop television commercials for this campaign. However, due to the cost (an additional \$135,000) and issues regarding copyright on talent (from a previous campaign), this form of media was not included.

## Monitoring

Three monitoring pieces were utilized to evaluate the effectiveness of the Plastic Is In! campaign. These included:

1. Customer Survey Findings
2. Marketed Plastics Data
3. Waste Audits Results



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## Customer Survey

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Pollara was hired to conduct a telephone study among the residents of the selected areas.

The objectives of the survey were as follows:

- To determine the campaign's impact on awareness, attitudes and behaviour in mixed plastic recycling
- To assess the effectiveness of the creative/communication elements and identify any necessary improvements
- To support the rollout of the campaign to other municipalities in Ontario

A 30 question survey was conducted among n = 2,208 respondents, with the following regional breakdown:

- County of Peterborough – n=552
- County of Northumberland – n=552
- City of Peterborough – n=552
- City of Kawartha Lakes – n=551

The survey was conducted between September 9 and 19th, 2011. The results were weighted by gender and age to the census data to ensure representation of the general population. The overall results were accurate  $\pm 2.08\%$  nineteen times out of twenty.

Almost one-in-five (18%) respondents had some awareness of a promotional campaign regarding recycling plastics. Awareness was slightly higher in City and County of Peterborough (21% each) than in the Kawartha Lakes (16%) and Northumberland County (15%). Awareness was also slightly higher in the 35-54 age groups (22%).

The two main sources of awareness were newspapers (42%) and direct mail (40%). Residents received the brochure through local newspapers due to a postal strike which the survey results did not note/differentiate. Newspaper worked best in City of Peterborough and Northumberland County (51% each), and were least effective in the County of Peterborough (27%). Brochure insertion into local newspapers was also effective in the City of Kawartha Lakes (46%). Radio advertisements worked relatively better in Northumberland County than in other regions (30% vs. 20% overall).

The campaign had a positive effect on 39% of respondents who reported an increase in recycling as a result of the campaign. The increase was more pronounced in the County of Peterborough (49%) and it was least effective in the City of Kawartha Lakes (26%).

The brochure sticker was quite well received. Most (78%) found it useful in helping them remember what goes in the blue box. Just over half (53%) had placed it on their blue box, with another 20% declaring that they would do so. About a third (27%) were not interested in using the sticker.

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Most (80%) felt that the content of the campaign was relevant and convincing, with only 15% suggesting improvements (see Figure 2 below). The top three suggestions were:

- ✓ a need for more information about recyclable items (37%),
- ✓ more public awareness (18%)
- ✓ more information at municipal level (12%)

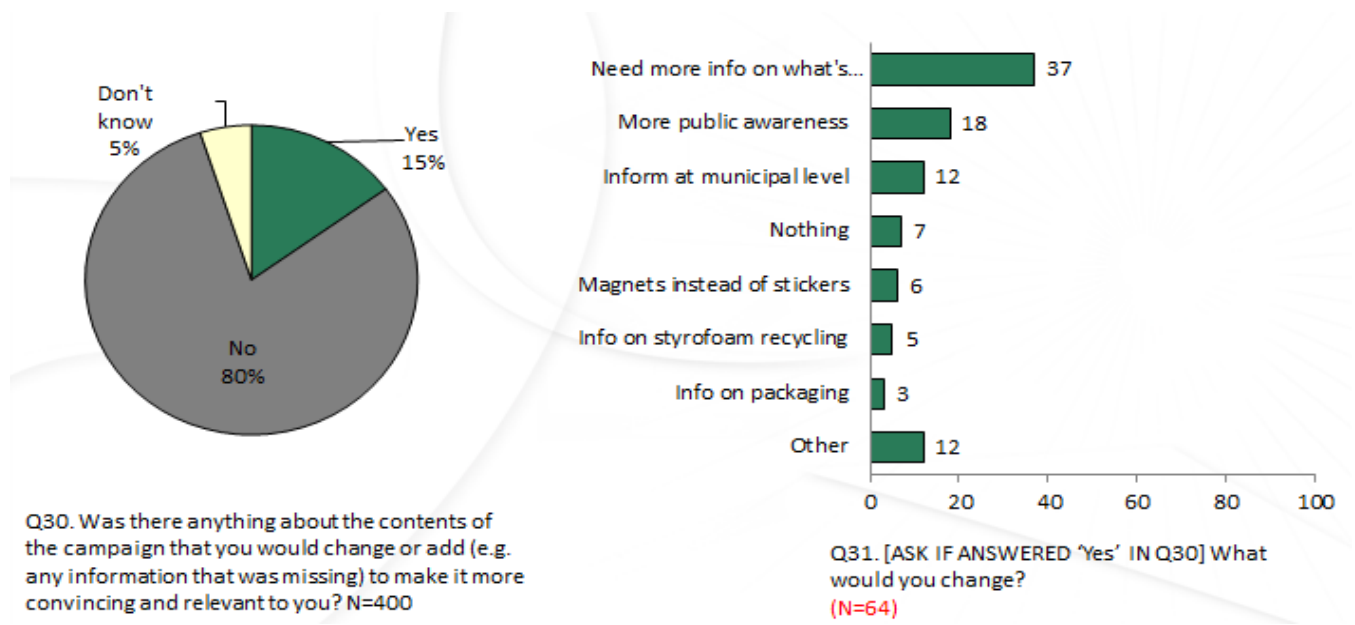


Figure 2: Respondent suggestions for campaign improvement

## Marketed Plastic Materials

To assess the impact of the Plastic Is In! campaign, an analysis of total PET marketed tonnes and total marketed mixed plastics was compared for 2010 (pre-campaign) and 2011 (campaign year) respectively. This data was taken from municipal submissions for the Waste Diversion Ontario (WDO) Annual Datacall ([www.wdo.on.ca](http://www.wdo.on.ca) – Blue Box Reports).

The total overall tonnage for the four municipalities showed an increase of 25% in PET and an increase in mixed plastics of 20%. Noted in Figure 3, PET in the County and City of Peterborough increased by over 45% from 2010 to 2011. However, Northumberland County and the City of Kawartha Lakes PET tonnages remained unchanged. The County of Peterborough, The City of Peterborough, and Northumberland had over 25% growth in overall recycled plastics tonnage.

Further, WDO reported that plastics composition in the blue box increased by 1.78%, from 4.83% in 2010 to 6.61% in 2011<sup>1</sup>. This was also seen in the results of total plastic tonnage as a percentage change year over year in total recycling composition for the County of Peterborough (1.67%) and Northumberland County (1.81%). However, the City of Peterborough and the City of Kawartha Lakes only had a slight increase in overall plastics composition (0.83% and 0.52% respectively).

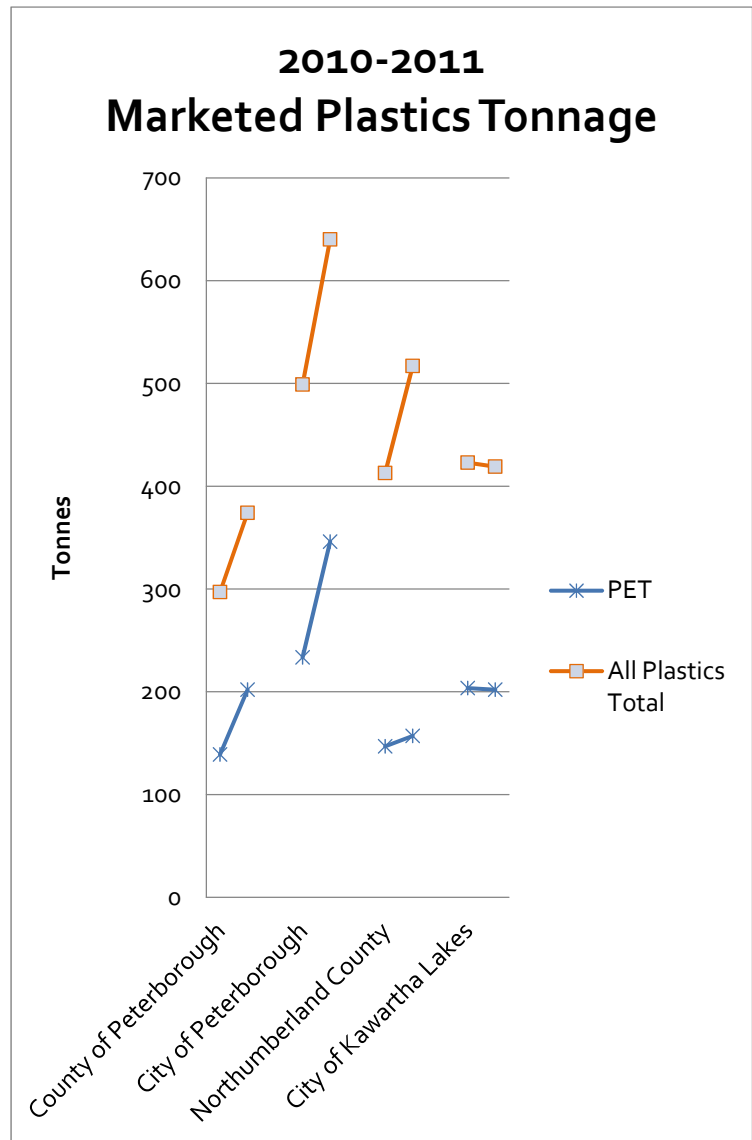


Figure 3: Municipal Marketed Plastics 2010 to 2011

Mixed plastics materials have a conversion of 38lbs/yd<sup>3</sup>, which is:

- 1.6 times more volume than aluminum cans (60lbs/yd<sup>3</sup>)
- 12.8 times more volume than mixed paper packaging (490lbs/yd<sup>3</sup>)
- 16.3 times more volume than whole glass bottles (620lbs/yd<sup>3</sup>)

<http://www.mass.gov/eea/docs/dep/recycle/approvals/dsconv.pdf>

<sup>1</sup> [http://www.wdo.ca/files/4714/0864/3427/2012\\_Highlights\\_-\\_Blue\\_Box.pdf](http://www.wdo.ca/files/4714/0864/3427/2012_Highlights_-_Blue_Box.pdf)

## Waste Audit Results

Partner municipalities worked with 2CG to select 50 homes in each municipality (10 homes in a row in five sample areas) that together represented the overall single-family housing makeup and waste generation and recycling behaviour of each municipality. Waste audits were completed in April (baseline) and September (follow-up). Sample materials were collected and sorted into 30 categories and weighed.

Steward Edge was hired to review and report on the waste audit results. In order to compare results, capture rates (amount taken from the whole waste stream and captured in the blue box) were used to determine the impact of the promotion and education campaign in Table 1 below. It should be noted that:

$$\text{Capture Rate} = \frac{\text{Total Recycled (recycling)}}{\text{Total Amount Generated (garbage + recycling)}}$$

Table 1: Comparison of Capture Rates Pre- and Post- campaign Waste Audit

Material Category	Capture Rate		Change
	Baseline	Follow-Up	
PET Beverage Bottles	87%	90%	4%
PET Other Bottles	82%	60%	-27%
PET Other Rigid Packaging	67%	71%	6%
HDPE Bottles	86%	83%	-3%
HDPE Other Rigid Packaging	73%	44%	-39%
PVC Bottles	82%	100%	21%
PVC Other	54%	52%	-4%
LDPE	80%	66%	-18%
PP Bottles	64%	68%	6%
PP Other	68%	67%	-2%
PS Bottles	44%	58%	32%
PS Clamshells/Trays	54%	64%	18%
#7 Mixed Resin	64%	54%	-15%
<b>Total</b>	<b>77%</b>	<b>77%</b>	<b>-1%</b>

The preliminary waste audits, completed in April 2011 (one week of generation), indicated that generation of rigid plastic containers was fairly consistent from municipality to municipality both in terms of the total amount generated (~0.9 kg/hh/wk) and the types generated.

Residents were doing a reasonable job diverting PET and HDPE bottles & jugs (capture rate is 86% for both respectively), PVC bottles (82%), and LDPE containers (80%).

Capture rates were quite low for the following containers:

- #1 PET thermoform clamshells/trays/blister clear (70%) and coloured (58%)
- #5 PP bottles (62%)
- #5 PP other rigid pkg such as blister packs (59%)
- #6 PS bottles and single serve pots (51%)
- #6 PS clamshells/trays clear (59%) and coloured (48%)
- #7 mixed resin containers including containers with more than one resin code (61%)
- Rigid plastic packaging without a resin code (45%)

The follow-up waste audits, completed in September 2011 (two weeks of generation), indicate that generation of rigid plastic containers was still consistent from municipality to municipality (~0.7 kg/hh/wk); however, the generation decreased from the baseline audits (~0.9 kg/hh/wk).

Residents were doing a reasonable job at diverting PET and HDPE bottles & jugs (capture rate is ~83% for both materials) and #1 PET thermoform clamshells/trays/blister - clear (73%)

Capture rates were less than 60% for the following containers:

- #2 HDPE tubs & lids (44%)
- #6 PS bottles and single serve pots (58%)
- #7 mixed resin containers including containers with more than one resin code (54%)

In the follow-up audits, PET and HDPE were the most prevalent of the targeted rigid plastics remaining in the garbage. Further, PET and HDPE made up 80% of the rigid plastic containers in the blue box. PP and PS containers (excluding PS expanded foam) also showed up in significant quantities, together accounting for 31% of the rigids in the garbage and 18% of the rigids in blue box. There was very little LDPE, PVC and #7 in either stream (less than 3% of all rigid plastic containers).

As the main focus of the Plastic Is In! campaign, the average capture rates for #1 PET thermoform clamshells/trays/blister-packs clear & coloured increased from 68% to 73% for clear packaging and from 57% to 60% for coloured packaging.

Additionally, three out of four municipalities increased their capture rates of #1 PET Thermoforms from the baseline to the follow-up audits. The fourth municipality (City of Peterborough), increased its capture rates for #1 PET Thermoforms -coloured by 31%, but experienced a slight decrease of 8% for #1 PET Thermoform – clear. It is also important to note, all four municipalities had a lower composition of #1 PET Thermoforms – clear & colored within the garbage stream in the follow-up audits.

The results from the final round of waste audits following the P&E campaign were inconclusive for the full range of #3 - #7 mixed plastics packaging. Some materials experienced an increase in capture rates including:

- #3 PVC bottles (82% to 100%)
- #5 polypropylene bottles (e.g. some shampoos) and tubs & lids (#5 bottles 64% to 68% and #5 tubs & lids: 64% to 69%)
- #6 bottles and pots (44% to 58%)

Capture rates were consistent across the four municipalities for some materials (#2 HDPE bottles 80% - 88%) and varied significantly across other materials (#2 HDPE tubs & lids 0% to 41%). Additionally, several materials experienced no change or a decrease in capture rates including PET bottles, jugs and jars and HDPE tubs & lids. The following factor may have contributed to the fluctuations in capture rates:

▲ Inconsistent set outs

The baseline audit only utilized one week worth of generation material, whereas the follow-up audit used two weeks. On average, only 66% of total households participated in curbside collection during the audit period. The comparison of materials generated may not highlight individual changes to recycling habits, as the collected data is combined by sample areas. The lower than expected set outs increase the uncertainty of the data as it only captures a small sub-sample of the targeted locations. However, on average, 84% of the households that placed a set out in the baseline audit also placed a set out in the follow-up audits.

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# Results

## Lessons Learned

### Benefits

#### Economies of Scale

Purchasing power with four Municipal partners improved the size and strength of the media buy. Added value (additional airtime and bonus exposure periods) totaled an estimated \$6,040 (6.6% of media costs).

#### Recognition of Similarities

Municipalities focused on similar plastic packaging available for residents to recycle in systems and not the manner in which residents recycle. There may have been some confusion due to the use of a blue box in the campaign versus local practices (for example: bags).

#### Feedback

Residents responded positively to the blue box sticker with pictures of acceptable plastics and requested more information or confirmation of materials that could be recycled. Waste audit finds show possible resident confusion as PET (#1) was the only plastic shown to be recycled in the campaign. An all-inclusive plastics promotion is highly recommended.

#### Comprehensive Audits

As blue box material composition shifts continue, specifically in the plastics category, audit results are invaluable. Municipalities may wish to seek comprehensive waste analysis (at additional cost) when working with auditors on future funded campaigns.

### Challenges

#### Previous Municipal Marketing Approach

Impact of communications tools depended greatly on previous promotional activities. This should be taken into consideration for future multi-Municipal partnerships.

#### Economics for Plastic Materials

Concerns were raised regarding increasing plastics into the system and the value of the commodity in comparison to other materials. Specific focus on #1 plastic at ~\$391/tonne<sup>2</sup> versus other more stable and valuable plastics, for example #2 at ~\$464/tonne<sup>3</sup>.

#### Production

The postal strike shifted distribution of brochures from direct mail to insertion into local newspapers. This reduced the quantities of brochures needed after they were printed. Therefore, municipalities each received 4,000 Plastic Is In! brochures which had to be stored and distributed in a timely manner. Future projects should confirm circulation systems prior to production in order to reduce waste, printing, and distribution costs.

#### Project Management

Final reporting was delayed on this project. When managing multiple partner projects, prior to campaign initiation, it is imperative that all roles, responsibilities, and outcomes are identified.

<sup>2</sup> <http://reclaystewardedge.com/resources/rse-ontario-price-sheet/>

<sup>3</sup> <http://reclaystewardedge.com/resources/rse-ontario-price-sheet/>



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## Conclusion

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The Plastic Is In! campaign provided a unique opportunity for four municipal partners and two funding partners to collaborate on a project that improved awareness and overall tonnage of recyclable PET plastic and mixed plastics.

The results from the customer survey showed that almost 20% of respondents were aware of the campaign. Marketed plastics tonnage increased in three out of four municipalities. The customer survey also demonstrated that previous marketing approaches used by municipalities have an impact on uptake of new regional campaigns with shared media outreach (for example previous and ongoing use of radio advertisements in Northumberland County).

Survey responses regarding the campaigns effectiveness at increasing recycle amounts was high in the County of Peterborough and lower in the City of Kawartha Lakes. This matched the mixed plastics marketed tonnage data from 2010 to 2011 in those two municipalities. Although the waste audit results were inconclusive for mixed plastic recyclables, feedback from the survey indicated a desire for more and inclusive “point of disposal” information (i.e. blue box stickers) on all plastics/container recyclables, not just #1 recyclable plastic.

Overall, the project displayed the potential for campaign use in other communities and provided a worthy example of a cooperative municipal venture focusing on recycling similarities.

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