



- **Continuous Improvement Fund**

Operations Review of Regional Municipality of Niagara's Material Recycling Facility

Project Number

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Prepared By:

exp

1595 Clark Boulevard
Brampton, ON L6T 4V1
Canada

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1. Introduction

In 2012, the Continuous Improvement Fund (CIF) contracted exp Services to conduct a review of the operations of the Regional Municipality of Niagara's Material Recycling Facility. The purpose of this assignment was to confirm whether the current contractor is operating cost-competitively and providing value for the Region.

The Regional Municipality of Niagara (Niagara) contracts the operations of its Material Recycling Facility (MRF) to Niagara Employment Agency Inc (operating as Niagara Recycling). The current agreement with Niagara Recycling began January 1, 2007 and expires April 4, 2014. Key services provided by Niagara Recycling to Niagara under this contract include:

- Collection and delivery of recyclable materials from schools and businesses to the MRF;
- Processing of all recyclable materials delivered to the MRF;
- Production of Niagara Ecoglass using glass received at the MRF;
- Marketing of recyclable materials processed at the MRF; and
- Collection and shredding of confidential documents from businesses.

Niagara Recycling is also responsible for the day-to-day management, operation and maintenance of the MRF, although costs are passed on to Niagara Region through the MRF's Annual Operating Budget.

The scope of this assignment is limited to Niagara Recycling's operations of the MRF and the processing of Niagara's residential recyclable materials. Section 2 presents an overview of the MRF's Operating Statements for 2009 – 2011, while the cost and processing performance of Niagara's recycling facility is compared against MRF's from comparable communities in Section 3 (comparing residential tonnage only). A discussion of the MRF's capital infrastructure and planned upgrades follows in Section 4, with a review of the contract with Niagara Recycling in Section 5. Conclusions are provided in Section 6.

2. Review of Operating Statements

Operating Statements for the MRF from 2009 to 2012 were reviewed¹. Table 1 presents the total gross expenditures, total revenue and net expenditure/revenue for the MRF during this period, and the percentage change year to year. During this period the MRF has consistently generated a net revenue. Both the revenues and the gross expenditures peaked in 2011, which coincided with a peak in market values for recyclable materials. Figures 1 and 2 illustrate the Ontario Market Price Trends for metals², fibres and the composite index for recyclable materials.

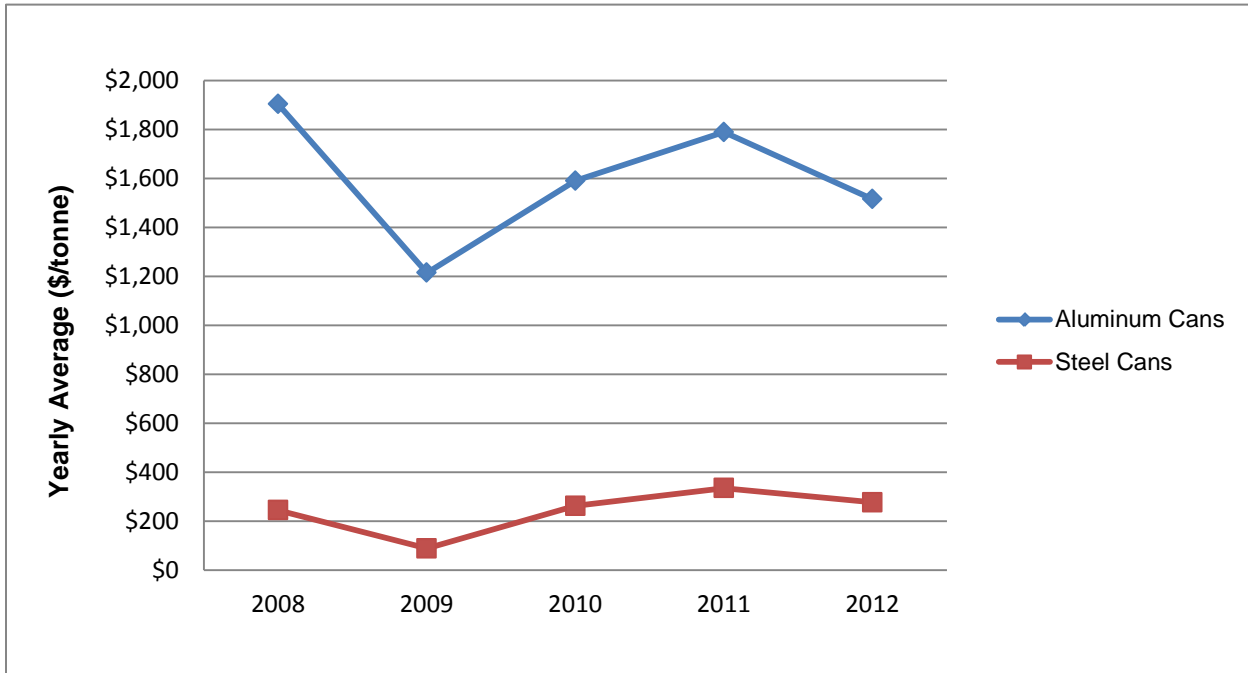
Table 1: Recycling Facility Operating Statements 2009 - 2011

Recycling Plan Operations	2009	2010	% Change	2011	% Change	2012	% Change
Total Gross Expenditures	\$6,804,251	\$7,668,939	13%	\$9,912,623	29%	\$8,001,741	-19%
Total Revenue	(\$8,471,514)	(\$11,502,929)	36%	(\$16,059,051)	40%	(\$11,552,397)	-28%
Net Expenditures/Revenue	(\$1,667,263)	(\$3,833,990)	130%	(\$6,146,428)	60%	(\$3,550,656)	-42%

¹ The Operating Statements include the expenditures and revenues for the entire MRF operation, not just the residential blue box program.

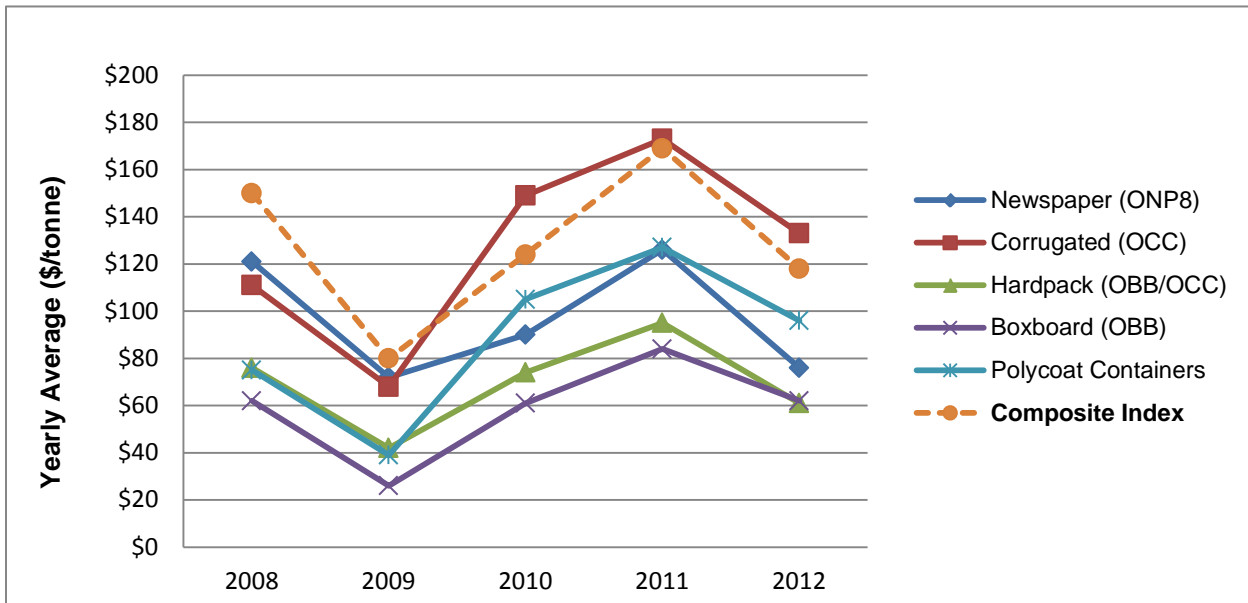
² Fibres and metals are key recyclables marketed for the Region and are the greatest sources of revenue.

Figure 1: Ontario Recyclable Market Trend – Aluminum Cans and Steel Cans



Data source: StewardEdge. The Price Sheet: Ontario Market Price Trends for January 2013. 2013.

Figure 2: Ontario Recyclable Market Trend – Fibres and Composite Index



Data source: StewardEdge. The Price Sheet: Ontario Market Price Trends for January 2013. 2013.

A summary of the expenditures and revenues for the Recycling Facility is provided in Appendix A. The "Contract Services-NEA" category³ was consistently the largest cost from 2009 – 2012, ranging from 34% to 40% of total gross costs. The expenditure for "Contract Services-NEA" was \$2.7M in 2009 and reached a high of 3.4M in 2011. The category "NEA Contract Management Fees", which is directly tied to the recycling facility's annual net revenue, reached a high of \$399,650 in 2011 and then lowered to \$128,580 for 2012. "Purchases for Resale" was also a sizable expenditure, particularly in 2011, when it contributed to 29.5% of the MRF's total expenditures (compared to 12.7% and 16.3% in 2009 and 2012, respectively.) The majority of the "Purchases for Resale" line item is associated with the Regional Municipality of Waterloo (Waterloo) and Haldimand County processing contracts.

The bulk of MRF revenues were from the sale of recyclable materials, which contributed a low of 69% in 2009 and a high of 80% in 2010 to total revenues. Funding from Waste Diversion Ontario contributed between 17% and 27% to total revenues during this period.

The sale of newsprint and old corrugated cardboard (OCC) generate the greatest single MRF revenues and together account for about half of the MRF's revenues. The recyclable materials marketed would include those from the residential blue box program plus those from Niagara schools and businesses, Niagara Recycling's paper shredding program, and materials processed on behalf of Waterloo and Haldimand County.

3. Multi-Jurisdictional Comparison

3.1 Overview of Material Recycling Facilities (Residential Tonnage Only)

For the purpose of this study, the cost of the Region's MRF was compared to costs from four other municipal MRFs in Southern Ontario. The MRFs in this review are all dual stream facilities and process similar quantities of residential recyclables to Niagara. The only exception is Municipality 4, whose MRF only processes containers. Municipality 4's residential fibres are sent elsewhere for processing. Table 2 compares the tonnage processed, marketed and sent for disposal as residuals for each MRF, while Table 3 compares the equipment and staffing levels of the four municipalities MRFs where information is publically available.

In addition, MRF cost models developed for the WDO's 2012 Blue Box Material Optimization study⁴ were included in the cost comparison. The MRF cost models used were both for a medium sized dual stream MRF, with one running a single shift and the other running two shifts.

³ This represents the contract with Niagara Recycling.

⁴ *A Study of the Optimization of the Blue Box Material Processing System in Ontario – Final Report*. June 2012. Prepared by StewardEdge Inc. and Resource Recycling Systems for Waste Diversion Ontario's Municipal Industry Program Committee.

3.2 Processing Costs

3.2.1 Overview

The study team compared the processing costs of residential blue box recyclables for Niagara's MRF with those of the sample municipalities⁵. Where possible, 2011 costs were obtained for the following cost categories:

- Contractor costs;
- Annual capital costs for the MRF building;
- Annual capital costs for the MRF equipment;
- Processing facility costs (such as building repair and maintenance, etc); and
- Operating costs.

Given the nature of cost reporting and contracting for the five MRFs, data was often not available to allow for the use of consistent cost categories. For example:

- A breakdown of costs were not available for the MRF from Municipality 1. The total processing cost for the MRF from Municipality 1 is based on the processing cost per tonne and tonnes marketed as published in the 2011 WDO Datacall.
- Some municipalities contract out the MRF operations, resulting in relatively lower municipal operating costs and higher contracting costs.

The analysis of processing costs was conducted in two phases. The first phase compares the overall residential blue box processing costs with those of the other municipalities. However, the operation of Niagara's MRF has elements that are somewhat unique compared to the other comparator municipal MRFs, which include the glass processing operation, the excessive processing requirements for the fibres marketed to Abitibi for recycling, and the customer relation services provided by Niagara Recycling. In addition, not all municipal comparator MRFs process plastic film or polystyrene. In the second phase, the costs for the non-comparative services were extracted for a more "apples to apples" comparison.

3.2.2 Comparison of Overall MRF Processing Costs

Table 3 compares the 2011 total and per tonne processing costs for Niagara's MRF with the other sample and model MRFs including capital. Of the six MRFs being compared (four municipal MRFs plus the model MRFs), Niagara's MRF had the third highest total processing cost. This is consistent with the tonnage of material processed, as Niagara also had third highest amount of blue box materials marketed. On a cost per tonne basis, Niagara's cost of \$111 per tonne was the third lowest and was lower than the gross cost per tonne of the model MRFs.

The processing costs with the annual capital costs excluded were compared between MRFs to obtain a more accurate comparison of the level of resources dedicated to the processing of recyclables. Capital costs can vary depending on the size of the MRF, age and make of equipment, and whether there have been recent upgrades. In Niagara's case, the Region owns the MRF and is responsible for any capital costs, and therefore these costs would not be included in Niagara Recycling's processing costs.

Table 4 compares the 2011 gross processing costs of the sample municipalities exclusive of annual capital costs for building and equipment. MRF costs for Municipality 1 are not included in this table, as a breakdown of that municipality's processing costs was not available. When compared against the other six MRFs, Niagara's MRF has the second highest total processing cost, which is not unexpected as it also processes the second highest amount of residential blue box materials. However, Niagara's MRF has the

⁵ While some of the MRFs included in this review process recyclable material from sectors other than residential, the processing costs and tonnages for those sectors were not available for comparison. For the purpose of this study, it is assumed that recyclables processed for non-residential sectors operate at a similar level of cost-efficiency as for the residential sector materials.

lowest processing cost per tonne exclusive of annual capital, at \$79 per tonne. Niagara is closely followed by Municipality 2, at about \$80 per tonne.

3.2.3 Comparison of Adjusted MRF Processing Costs

For a more “apples to apples” comparison, processing costs unique to Niagara’s MRF were extracted from its overall processing costs. These adjustments addressed the following:

- Additional processing required for Abitibi-bound fibres: About 9 additional sorters were required in 2010/11 to ensure that Niagara’s fibres meets Abitibi’s quality requirements. At an estimated annual cost of \$35,000 per staff person, the cost of the additional sorting is estimated to be \$315,000 per year.
- Operation of Glass Facility: Reported cost of operating Glass Facility for 2011 was \$31,149.
- Customer relations service: Niagara Recycling provides about 1 staff to manage customer relations for the Region’s recycling program at an estimated annual staff cost of \$35,000 per year.

These adjustments reduced the costs allocated to Niagara’s contractor services from \$1,811,950 to \$1,395,801. As Table 5 shows, the adjusted per tonne processing cost for Niagara’s MRF’s is \$101 per tonne, which is the second lowest per tonne operating cost of the sample and model MRFs. If you consider the operating cost exclusive of annual capital costs, Niagara’s MRF has the lowest cost at \$68 per tonne (see Table 6).

As noted above, not all of the municipalities included in the comparison process plastic film or polystyrene, which is an expensive material to process. Based on cost and tonnage data provided by Niagara Recycling, the estimated cost to process plastic film and polystyrene is \$214 per tonne and \$1,031 per tonne, respectively. Niagara’s 2011 WDO datacall reports that Niagara recycled 983 tonnes of film and 240 kg of polystyrene. Based on the calculated per tonne processing costs, the cost to process film and polystyrene in 2011 was approximately \$210,886. Removing the processing cost and tonnage for film and polystyrene from Niagara’s processing costs reduces Niagara’s per tonne processing cost by about \$3, resulting in a per tonne cost of about \$99, or about \$66 when capital costs are excluded. These costs are presented in Tables 5 and 6.

Data sources for Tables 3-6 include:

- 2011 Waste Diversion Ontario Datacall;
- Blue box recycling tonnage and cost information provided by the Region of Niagara and by Niagara Recycling; and
- Confidential blue box recycling tonnage and cost data provided by the sample municipalities.

Table 3: Comparison of Residential Blue Box Program Processing Costs

Municipality	Niagara	Municipality 1	Municipality 2	Municipality 3	Municipality 4	Model 1: Dual Stream Medium 1-Shift	Model 2: Dual Stream Medium 2-Shift
Annual Tonnage Marketed (2011)	40,429	45,743	39,841	26,247	35,582	22,324	44,647
Total Processing Costs							
Contractor Costs	\$1,811,950	-	\$2,200,000	\$3,018,936	\$2,290,092	\$547,703	\$863,650
Annual Capital (Building)	\$403,828	-	\$200,000	\$586,759	\$531,712	\$780,966	\$780,966
Total Annual Capital (Equipment)	\$902,419	-	\$460,000	\$556,807	\$66,008	\$95,492	\$95,492
Annual Processing Facility Operating Costs	\$639,843	-	\$0	\$0	\$243,021	\$241,761	\$241,761
Annual Operating Costs	\$726,309	-	\$976,000	\$65,691	\$589,433	\$1,620,295	\$3,200,031
Total Processing Costs	\$4,484,349	\$5,184,569	\$3,836,000	\$4,228,193	\$3,720,266	\$3,286,218	\$5,181,900
Net (of Revenue) Processing Costs	-\$1,813,887	-\$3,810,822	-\$2,586,604	-\$288,662	-\$2,159,978	na	na
Costs per Tonne							
Contractor Cost/tonne	\$45	-	\$55	\$115	\$64	\$25	\$19
Annual Capital (Building)/tonne	\$10	-	\$5	\$22	\$15	\$35	\$17
Total Annual Capital (Equipment)/tonne	\$22	-	\$12	\$21	\$2	\$4	\$2
Annual Processing Facility Operating Cost/tonne	\$16	-	\$0	\$0	\$7	\$11	\$5
Annual Operating Cost/tonne	\$18	-	\$24	\$3	\$17	\$73	\$72
Total Processing Cost/tonne	\$111	\$113	\$96	\$161	\$105	\$147	\$116
Net (of Revenue) Processing Costs/tonne	-\$45	-\$83	-\$65	-\$11	-\$61	na	na

Table 4: Comparison of Residential Blue Box Program Processing Costs (Exclusive of Capital Costs)

Municipality	Niagara	Municipality 2	Municipality 3	Municipality 4	Model 1: Dual Stream Medium 1-Shift	Model 2: Dual Stream Medium 2-Shift
Annual Tonnage Marketed (2011)	40,429	39,841	26,247	35,582	22,324	44,647
Total Processing Costs (excluding annual capital costs)						
Contractor Costs	\$1,811,950	\$2,200,000	\$3,018,936	\$2,290,092	\$547,703	\$863,650
Annual Processing Facility Operating Costs	\$639,843	\$0	\$0	\$243,021	\$241,761	\$241,761
Annual Operating Costs	\$726,309	\$976,000	\$65,691	\$589,433	\$1,620,295	\$3,200,031
Total Processing Costs	\$3,178,101	\$3,176,000	\$3,084,627	\$3,122,546	\$2,409,759	\$4,305,442
Net (of Revenue) Processing Costs	-\$3,120,134	-\$3,246,604	-\$1,432,227	-\$2,757,698	na	na
Costs per Tonne (excluding annual capital costs)						
Contractor Cost/tonne	\$45	\$55	\$115	\$64	\$25	\$19
Annual Processing Facility Operating Cost/tonne	\$16	\$0	\$0	\$7	\$11	\$5
Annual Operating Cost/tonne	\$18	\$24	\$3	\$17	\$73	\$72
Total Processing Cost/tonne	\$79	\$80	\$118	\$88	\$108	\$96
Net (of Revenue) Processing Costs/tonne	-\$77	-\$80	-\$55	-\$78	na	na

Table 5: Comparison of Residential Blue Box Program Processing Costs (Adjusted*)

Municipality	Niagara (adjusted *)	Niagara (adjusted *, film and polystyrene removed)	Municipality 1 (no film or polystyrene processing)	Municipality 2 (processes film and polystyrene)	Municipality 3 (processes film, no polystyrene)	Municipality 4 (no film or polystyrene processing)	Model 1: Dual Stream Medium 1-Shift	Model 2: Dual Stream Medium 2-Shift
Annual Tonnage Marketed (2011)	40,429	39,446	45,743	39,841	26,247	35,582	22,324	44,647
Total Processing Costs								
Contractor Costs	\$1,430,801	\$1,219,915	-	\$2,200,000	\$3,018,936	\$2,290,092	\$547,703	\$863,650
Annual Capital (Building)	\$403,828	\$403,828	-	\$200,000	\$586,759	\$531,712	\$780,966	\$780,966
Total Annual Capital (Equipment)	\$902,419	\$902,419	-	\$460,000	\$556,807	\$66,008	\$95,492	\$95,492
Annual Processing Facility Operating Costs	\$639,843	\$639,843	-	\$0	\$0	\$243,021	\$241,761	\$241,761
Annual Operating Costs	\$726,309	\$726,309	-	\$976,000	\$65,691	\$589,433	\$1,620,295	\$3,200,031
Total Processing Costs	\$4,103,200	\$3,892,314	\$5,184,569	\$3,836,000	\$4,228,193	\$3,720,266	\$3,286,218	\$5,181,900
Net (of Revenue) Processing Costs	-\$2,195,036	-\$2,405,922	-\$3,810,822	-\$2,586,604	-\$288,662	-\$2,159,978	na	na
Costs per Tonne								
Contractor Cost/tonne	\$35	\$30	-	\$55	\$115	\$64	\$25	\$19
Annual Capital (Building)/tonne	\$10	\$10	-	\$5	\$22	\$15	\$35	\$17
Total Annual Capital (Equipment)/tonne	\$22	\$23	-	\$12	\$21	\$2	\$4	\$2
Annual Processing Facility Operating Cost/tonne	\$16	\$16	-	\$0	\$0	\$7	\$11	\$5
Annual Operating Cost/tonne	\$18	\$18	-	\$24	\$3	\$17	\$73	\$72
Total Processing Cost/tonne	\$101	\$99	\$113	\$96	\$161	\$105	\$147	\$116
Net (of Revenue) Processing Costs/tonne	-\$54	-\$61	-\$83	-\$65	-\$11	-\$61	na	na

* Processing costs for Niagara do not include additional processing required for Abitibi-bound fibres, operation of glass facility, or customer relations services provided by Niagara Recycling.

Table 6: Comparison of Residential Blue Box Program Processing Costs (Exclusive of Capital Costs) (Adjusted *)

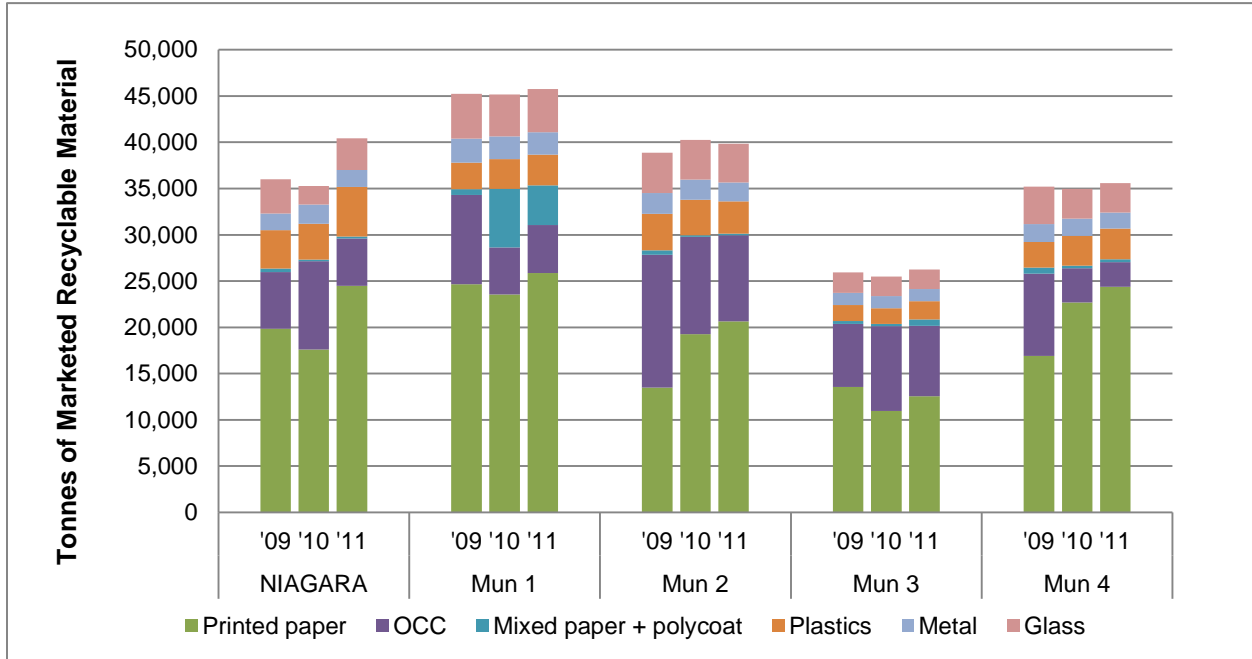
Municipality	Niagara (adjusted *)	Niagara (adjusted *, film and poly removed)	Municipality 2 (processes film and polystyrene)	Municipality 3 (processes film, no polystyrene)	Municipality 4 (no film or polystyrene processing)	Model 1: Dual Stream Medium 1-Shift	Model 2: Dual Stream Medium 2-Shift
Annual Tonnage Marketed (2011)	40,429	39,446	39,841	26,247	35,582	22,324	44,647
Total Processing Costs (excluding annual capital costs)							
Contractor Costs	\$1,430,801	\$1,219,915	\$2,200,000	\$3,018,936	\$2,290,092	\$547,703	\$863,650
Annual Processing Facility Operating Costs	\$639,843	\$639,843	\$0	\$0	\$243,021	\$241,761	\$241,761
Annual Operating Costs	\$726,309	\$726,309	\$976,000	\$65,691	\$589,433	\$1,620,295	\$3,200,031
Total Processing Costs	\$2,796,953	\$2,586,067	\$3,176,000	\$3,084,627	\$3,122,546	\$2,409,759	\$4,305,442
Net (of Revenue) Processing Costs	-\$3,501,283	-\$3,687,614	-\$3,246,604	-\$1,432,227	-\$2,757,698	na	na
Costs per Tonne (excluding annual capital costs)							
Contractor Cost/tonne	\$35	\$31	\$55	\$115	\$64	\$25	\$19
Annual Processing Facility Operating Cost/tonne	\$16	\$16	\$0	\$0	\$7	\$11	\$5
Annual Operating Cost/tonne	\$18	\$18	\$24	\$3	\$17	\$73	\$72
Total Processing Cost/tonne	\$69	\$66	\$80	\$118	\$88	\$108	\$96
Net (of Revenue) Processing Cost/tonne	-\$87	-\$93	-\$81	-\$55	-\$78	na	na

* Processing costs for Niagara do not include additional processing required for Abitibi-bound fibres, operation of glass facility, or customer relations services provided by Niagara Recycling.

3.3 Facility Performance

From 2009 to 2011, the mix of residential blue box materials being managed by the Niagara Region has been similar to that of the sample municipalities. Based on an analysis of blue box tonnage data published through the WDO datacall (<http://www.wdo.ca/content/?path=page82+item35931>, Blue Box Tonnage Data), fibres makes up between 73% to 80% of all the materials marketed, depending on the municipality and the year. Printed paper is the largest category of fibres marketed. Figure 3 shows the mix of materials for 2009, 2010 and 2011 for the five sample municipalities.

Figure 3: Mix of Residential Blue Box Material Marketed (2009 – 2011)



Data source: Waste Diversion Ontario Datacall 2009, 2010, and 2011.

Niagara's residential blue box reported residue rates between 2009 and 2011 went from 6.3% down to 1.9%. This is quite low compared to what a dual stream MRF might typically achieve and to the other sample MRFs. For example, typical residue rates for dual stream systems are usually around 3% - 5%, and the residue rates for the other sample municipalities ranged between 2.6% and 9.9%, depending on the municipality and the year. Residue rates are typically a function of a number of factors, specifically:

- The amount of blue box promotion and education conducted by the municipality and its uptake;
- The degree to which residents sort their recyclables correctly;
- Whether curbside collection staff screen out non-recyclable materials during collection; and
- The thoroughness of sorting staff at the recycling facility (potentially requiring additional labour, thereby increasing labour costs).

Figures 4 through 7 depict Niagara's processing costs and revenues on a per tonne basis for residential recyclables between 2008 and 2011, based on published WDO datacall data. The figures show that Niagara's operating cost per tonne was highest of the five sample municipalities in 2008, but by 2011 its gross processing costs per tonne became more in line with the other municipalities.

The costs and tonnages included in these figures do not reflect the cost adjustments discussed in Section 3.2.3 or presented in Tables 5 and 6.

Figure 4: Tonnage of Residential Blue Box Material Marketed (2008 – 2011)

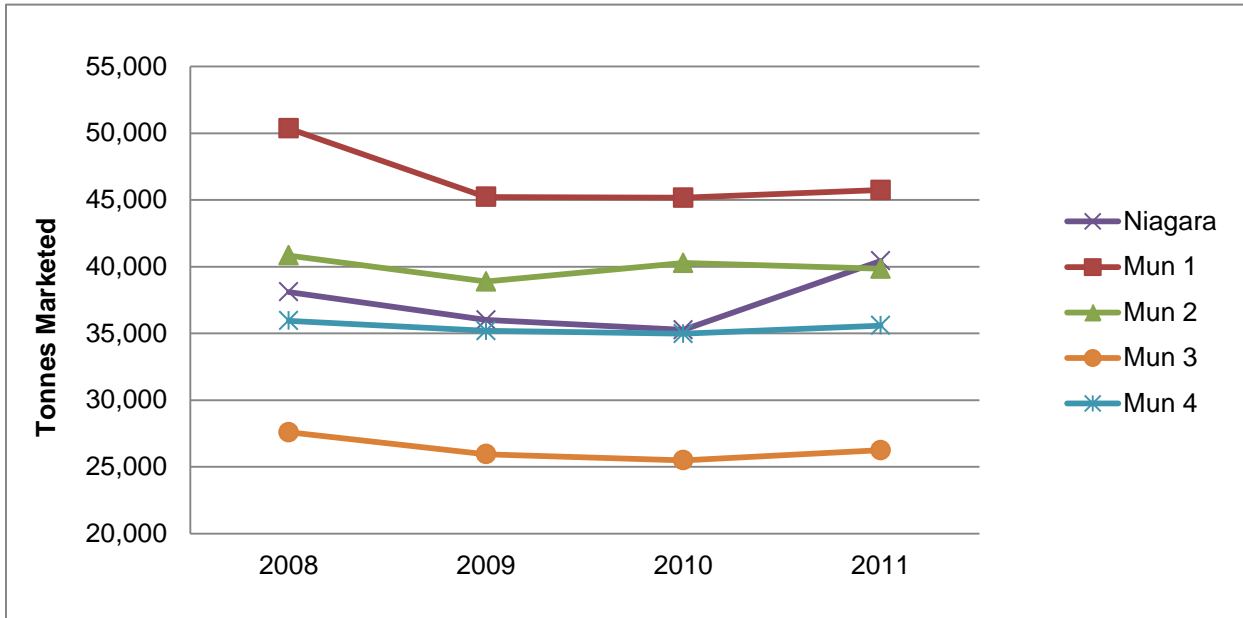


Figure 5: Gross Processing Cost per Tonne (2008 – 2011)

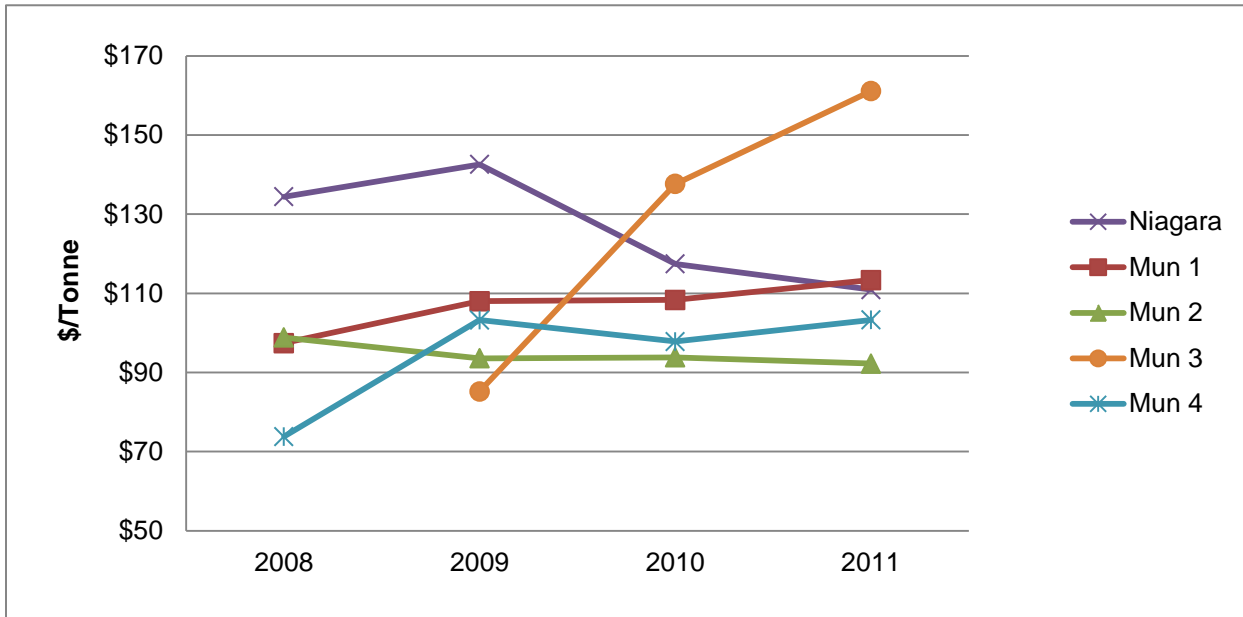


Figure 6: Revenue per Tonne (2008 – 2011)

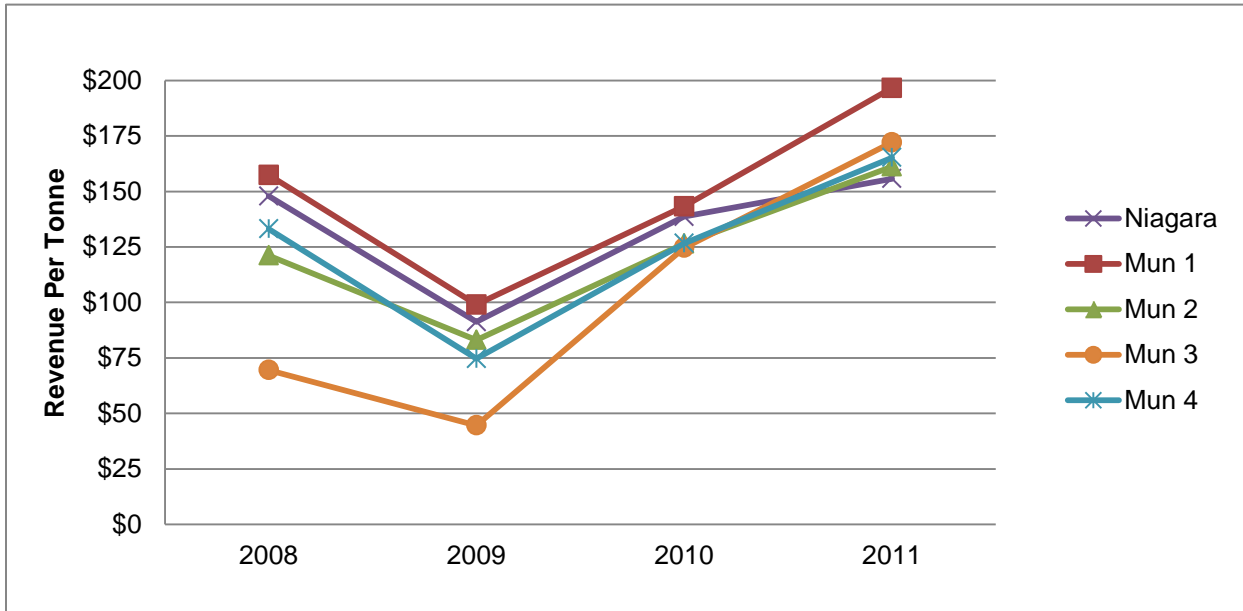
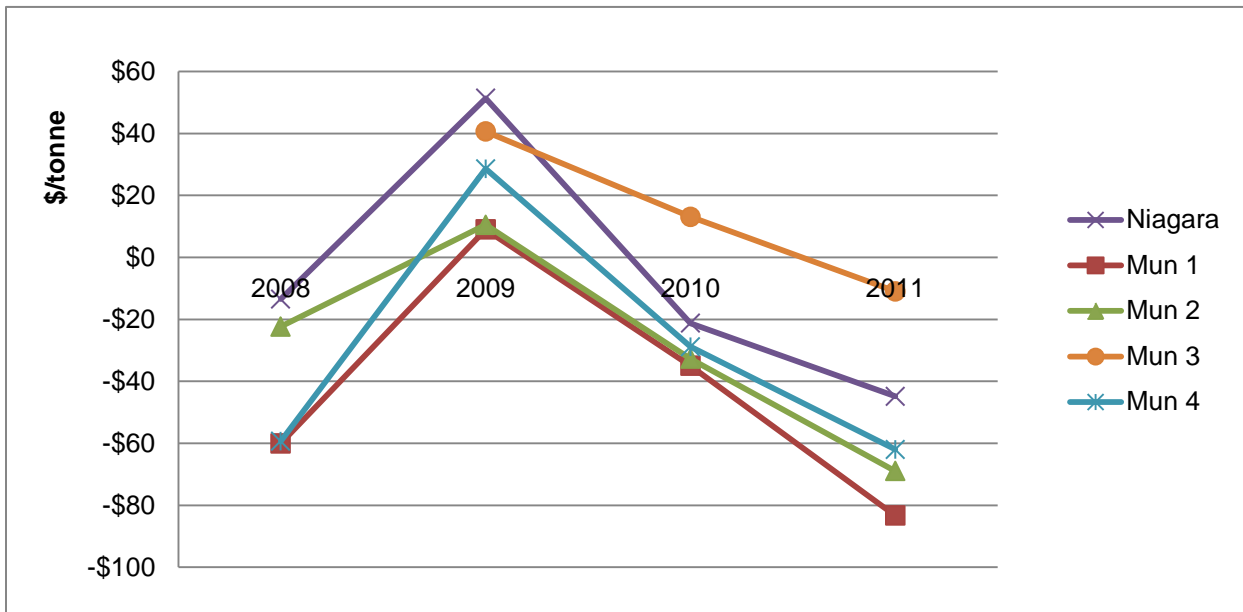


Figure 7: Net Processing Cost per Tonne (2008 – 2011)



The tonnage trend for residential blue box material marketed by Niagara Recycling is similar to that of the other sample municipalities; however, Niagara did experience a tonnage increase in 2011 that is not shared by the other municipalities. Looking at Figure 3, it appears the bulk of this increase was through additional capture of printed paper (i.e., newsprint, fine paper, etc), which was likely the result of the curbside program changes implemented by Niagara Region in February 2010.

While Figure 5 shows that Niagara's total gross processing cost per tonne has been among the highest during the 2008 – 2011 period, the revenues received per tonne of material marketed were also among the highest. The result of this was a net processing cost comparable to those of the other sample municipalities⁶. Furthermore, the addition of Niagara MRF's unique costs discussed in Section 3.2.3 contributed to a higher cost per tonne.

Figure 6 shows that in 2009 the sample municipalities all experienced a significant reduction in revenues, which resulted in a sharp increase in per tonne net processing costs. This was due to a decrease in commodity market values, as illustrated in Figures 1 and 2 (Section 2). Despite the sharp decrease in revenues, Niagara's MRF still received the second highest revenue per tonne.

3.4 Planned Capital Upgrades

The Region is planning two key MRF upgrades over the next few years, particularly:

- New eddy current (2013) – the Region is planning for a new eddy current to be positioned in container process line to enhance the recovery of Aluminum materials. The anticipated cost of the eddy current is \$250,000.
- New polycoat and mixed plastic optical sorter - for possible consideration in the future as required.

The installation of this equipment is expected to further improve operating efficiencies in the facility through the reduction of staffing levels and/or increase capture rates. The installation of the above noted equipment will only proceed should the cost/benefit analysis show favourable results. These upgrades are consistent with installations already in place or planned for the sample facilities.

4. Review of MRF Processing Contract

Niagara's most recent contract with Niagara Recycling came into effect January 1, 2007 and was originally set to expire December 31, 2011. An agreement dated March 27, 2009 amended the contract to end April 4, 2014 to coincide with the termination of Niagara's processing contract with Waterloo.

The operations agreement was reviewed to assess whether it contained conditions that would create competitive barriers for Niagara Recycling and non-core activities.

A review of the agreement found that it provided adequate protection for Niagara Region and did not create significant competitive barriers for Niagara Recycling. However, the following items are noted for consideration:

- The current operations agreement does not include explicit language to allow the Region's staff the ability to extend the term of the contract without Council approval. Often, MRF contracts include a "1 + 1 year" clause that provides municipality staff the option to extend existing contracts without having to obtain council approval, therefore reducing costs by avoiding staff time and unnecessary tendering processes, assuming the contractor is performing to the municipality's satisfaction.

⁶ Gross/net processing costs used in Figures 5 and 7 include annual capital costs. As breakdown of processing costs were not available for 2008 – 2010, processing costs exclusive of capital costs are also unavailable.

- Collection services for Niagara's Commercial Recycling Program are included within the current operations agreement. This could place challenges on proponents seeking to bid on future MRF operating contracts, as collection services require specialized equipment not normally associated with running a processing facility. This may put Niagara at a competitive disadvantage compared to its peer MRFs.
- Similarly, the current contractor provides support services to special events operated by Niagara Region and reportedly handles customer service complaints related to all Region's waste management program/services. These services are not normally part of a MRF operator contract and it is recommended that they be broken out of future contracts.
- Niagara Recycling achieves an extremely low reported residue level. While commendable, this level requires incrementally higher levels of sorting effort that puts it at a competitive disadvantage when being compared to its peers. Clarification of expected inbound and outbound residue level may be worthwhile in future contracts.
- Clause 4.5 (c) requires that the amount of recyclable materials included in the processing residues must be less than 3% of the received materials. This clause should be reviewed in future contracts, as the metric used in this clause would be very difficult to measure and monitor, and the additional labour required to bring down residue rates could contribute to increased labour costs.

5. Conclusions

- The current processing costs for Niagara's MRF compare favourably with MRFs from other comparable jurisdictions and with the model dual stream MRF developed for WDO through its Blue Box Optimization study. When Niagara's costs for unique contracted items such as the Glass Facility, the extra processing required to meet the fibre-quality demands for sale to Abitibi, and customer relations services are factored out of Niagara Recycling's operating costs, the cost to operate Niagara's MRF are in line with the top performers of the sample municipal MRFs.
- The revenues Niagara is getting from the sale of its recyclables compares very favourably to the revenues received by the other sample jurisdictions.
- Niagara Recycling is operating cost-competitively and is providing value to Niagara that is on par or better than what is being received by the sample municipalities from their service providers.
- Niagara should consider including a clause in the next processing contract providing them with the option to renew.
- Niagara operates a unique recycling processing program whereby a not-for-profit agency operates the MRF. Niagara Recycling has provided Niagara Region with cost-effective processing services, while providing employment for developmentally challenged adults and greater social benefits to other community agencies through financial donations.
- Niagara should assess the risks and benefits of extricating collection services of the Commercial Recycling Program from its contract for MRF operations.