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Prepared with assistance from  
Waste Diversion Ontario

Prepared by



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# 1. Introduction

This Waste Recycling Strategy was initiated by the Town of Atikokan to develop a plan to increase the efficiency and effectiveness of its recycling program and maximize the amount of blue box material diverted from disposal. In particular, the objective of this strategy is to increase the Town's Blue Box diversion rate from 9.8% up to 20% in the short term (2008 average for municipal grouping) and 25% in the long term (achieving 70% capture rate of Blue Box materials in waste stream).

The study area for this Waste Recycling Strategy is the residential sector of the Town of Atikokan.

This Waste Recycling Strategy was developed with support from the Continuous Investment Fund (CIF), and is based on the CIF's *Guidebook for Creating a Municipal Waste Recycling Strategy*.

This strategy recommends the following initiatives:

## ***Priority Initiatives***

### Public Education and Promotion

1. Develop and implement a community-based social marketing or other promotion and education campaign, utilizing the resources of a summer student.

### Disposal Bans

2. Implement a disposal ban on materials included in the Town's recycling program.

### Bag Limits and User Pay

3. Reduce the Town's strict bag limit from 4 to 3, and require bag tags on all three bags (or receptacles) of garbage.

### Training of Key Staff

4. Waste management staff should participate in third-party training sessions where possible. Webinars and webcasts can provide opportunities for training while avoiding the need for travel.

5. In-house training can be prepared for front-line staff that deals directly with the public. If a summer student is hired for a summertime communications campaign, he or she could also assist with the training program's development and delivery.

#### Storage and Transport of Blue Box Materials in Larger Transport Trailer

6. Store and transport the Town's blue box materials in a 53-foot transport trailer rather than the current 48-foot trailer.

#### ***Future Initiatives***

#### Incorporate Weigh Station into Design of New Landfill

7. Use fibre and container weights from Recool Canada to quantify tonnage of materials marketed.
8. Estimate types of fibres and containers through by conducting a waste audit of the blue box materials collected.
9. Include a weigh station and scale house in the design of the future landfill.

## **2. Overview of the Planning Process**

In preparation of this Waste Recycling Strategy, municipal staff met to discuss key issues with the current recycling program, the recycling system process, and upcoming milestones. The 2009 Waste Diversion Ontario datacall for Atikokan was used to assess the recycling system, including current costs and diversion and future needs. This information was also compared against published WDO datacall information for other municipalities within Atikokan's municipal grouping.

## **3. Public Consultation Process**

On November 29, 2010, an open house was held to present the Waste Recycling Strategy and its proposed options to the public. The open house was held at Town Hall and ran from 6:30 pm to 8:30 pm.

The open house format included a series of display boards that presented an overview of the waste recycling strategy, including the proposed diversion target, the state of Atikokan's current waste blue box program, and recommendations for improvements. Municipal staff and the

waste management consultant that assisted with the strategy's development were also available to answer questions from the public.

Two comment sheets were received. Comments included:

- Support given for public education (one comment said it is key, and it should include the schools).
- Support given for door to door delivery of communications.
- Suggested locations for public information include the library and the Pioneer Centre.
- Survey suggested asking residents how the recycling program should be improved.
- Suggested that the education program describe the effect of recycling on the landfill's current lifespan and the costs associated with opening a new landfill.
- Suggested that public education on how to recycle efficiently needs to be done continuously and include more than newspaper advertisements.

## 4. Stated Problem

Management of municipal solid waste, including the diversion of blue box materials, is a key responsibility for all municipal governments in Ontario. The factors that encourage or hinder municipal blue box recycling endeavors can vary greatly and depends on a municipality's size, geographic location and population.

There are a variety of issues facing the Town's Blue Box program that this waste Recycling Strategy will help to address. Some of the issues facing Atikokan are common among many northern Ontario municipalities, such as:

- Considerable distance from recyclable processors and markets;
- Low economy of scale for managing recyclables, due to small population and therefore small tonnages of material collected;
- A smaller staff compliment therefore compared to larger municipalities, staff responsibilities are not dedicated to only waste management and include other public works activities.

Other waste management issues noted by Atikokan staff include:

- The municipal landfill will be closing in approximately five years and while another landfill site has been approved, the Town wishes to extend the life of the current landfill as much as possible and to identify what needs to be in place at the new landfill to ensure the Blue Box program is run as effectively as possible;

- Waste management data (i.e., tonnages collected) are based on volume and therefore may not be completely accurate; and
- Blue box participation rates could be improved.

Additionally, levels of funding received for blue box recycling in Ontario is based in part on the adoption of a waste recycling plan, the incorporation of other WDO-approved recycling best practices, and the amount of recyclable material marketed. This Waste Recycling Strategy will help to improve efficiencies and maximize the amount of eligible funding available.

## 5. Goals and Objectives

This Waste Recycling Strategy has identified a number of goals and objectives for the Town of Atikokan. These are presented below.

<b>Table 1: Waste Recycling Goals and Objectives</b>	
<b>Goals</b>	<b>Objectives</b>
Increase the amount of recyclables diverted from disposal.	Short term: Raise blue box diversion rate to 20% (2008 average for “Rural Collection – North” WDO municipal grouping) Long Term: 25% (realizing a 70% capture rate of Blue Box materials)
Reduce operation costs through system efficiencies.	Reduce the cost to manage blue box recyclables by 10%.

## 6. Current Solid Waste Trends, Practices and System and Future Needs

### ***Community Characteristics***

In 2009, the Town of Atikokan had an estimated population of 3,172. The municipality has a total of 1,653 total households/dwellings. Of these, 1,598 are single-family households and 55 are multi-family households.

### ***Current Waste Generation and Diversion***

Atikokan generated approximately 675 tonnes of residential solid waste in 2009. Of this, 67 tonnes, or 9.8 percent, was diverted through the municipal blue box program. Currently, the most common material recycled by far is paper, while the least is metals (glass is not collected in

the blue box program). The table below summarizes the current waste generation and blue box diversion rates.

<b>Table 2: Residential Solid Waste Generated and Diverted through Blue Box</b>		
<b>Blue Box Material</b>	<b>Tonnes Recycled</b>	<b>Percent of Total Waste</b>
Papers (ONP, OMG, OCC, OBB and fine papers)	59	8.8%
Metals (aluminum, steel, mixed metal)	3	0.4%
Plastics (containers, film, tubs and lids)	5	0.7%
Glass	0	0%
<b>Total Blue Box material currently diverted</b>	<b>67</b>	<b>9.8%</b>

As Table 3 indicates, Atikokan’s blue box diversion rate is below average for its WDO municipal grouping (based on the 2008 average rate).

<b>Table 3: Average Blue Box Diversion Rate</b>	
Atikokan (2009)	9.8%
Municipal Grouping: Rural Collection-North (2008)	20.3%

***Potential Waste Diversion***

Currently, Atikokan has no waste audit data available for its residential waste. To estimate Atikokan’ waste composition, West Nipissing’s current waste audit data was used as a proxy, as its community characteristics were felt to be similar to that of Atikokan.

A total of approximately 170 tonnes of blue box recyclable material is available for diversion, of which approximately 104 tonnes are still currently in the waste stream, based on a Blue Box material capture rate of 70%. This also includes Blue Box materials that are currently not collected in Atikokan’s program, but are commonly collected in other parts of Ontario, particularly throughout southern and central Ontario. Diverting the blue box material remaining in Atikokan’ waste stream could raise its blue box diversion rate from 9.8% up to 25%. Estimates of blue box material available for diversion are listed in Table 4 below.



<b>Table 4: Current and Potential Diversion (based on 70% Capture Rate of Blue Box Materials in Residential Waste Stream)</b>				
<b>Material</b>	<b><i>Estimated Total Available in Waste Stream for Diversion (tonnes/year)</i></b>	<b><i>Currently Recycled (tonnes/year)</i></b>	<b><i>Potential Increase (tonnes/year)</i></b>	<b><i>Potential Increase (%)</i></b>
Papers	109	59	49	7.3%
Metals	14	3	12	1.7%
Plastics	38	5	33	4.9%
Glass	9	0	9	1.4%
<b>Total</b>	<b>170</b>	<b>67</b>	<b>104</b>	<b>15.4%</b>

### ***Existing Programs and Services***

Waste management in Atikokan is regulated by the Town’s By-Law No. 06-98. The by-law sets a bag limit of four bags (or receptacles) of garbage per week. While the first two bags of garbage do not require bag tags, the third and fourth bags do, at a cost of \$1.00 per tag.

Blue box recyclables are collected curbside every Tuesday in clear or see-through blue bags. Materials are source-separated, with fibres placed in one bag (cardboard is flattened and bundled) and plastics (#1 PETE and #2 HDPE), tin and aluminum containers in another. This service is available to both single-family households as well as multi-family buildings, which are able to place their recyclables at the curb. Because Atikokan has a population of less than 15,000, it does not have a requirement under Ont. Reg 101/94 to include basic blue box waste such as glass in its recycling program. It is currently examining options for crushing glass and using it for landfill cover.

Collection services for both garbage and blue box materials are provided by a contractor (contracts are ending in 2013) and the blue box material is processed by Recool Canada Inc. in Thunder Bay. The collected blue box material is transferred and stored in a 48-foot tractor trailer at the Town’s landfill site. Once the tractor trailer is full, Recool Canada transports the trailer to its Thunder Bay facility and leaves an empty trailer in its place. This occurs once every 30 to 45 days.

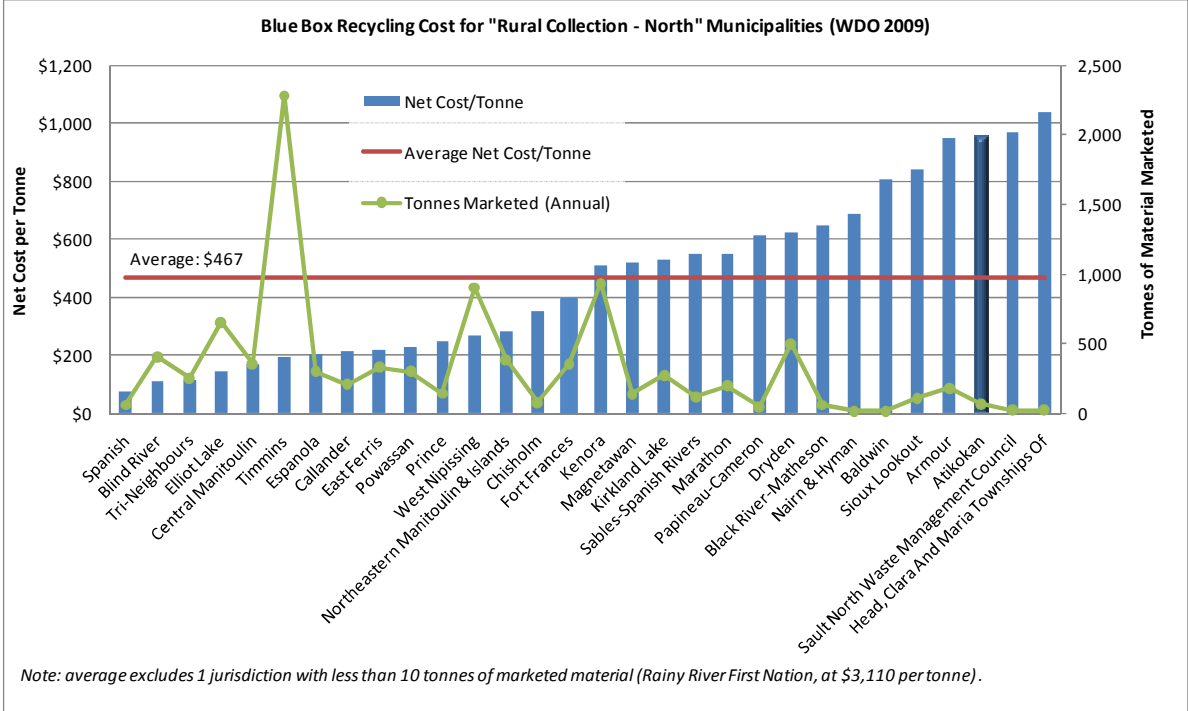
In 2009, the total net annual recycling cost for Atikokan was \$63,412<sup>1</sup>. This amounts to \$954 per tonne, or \$20 per capita. As Table 5 and Figure 1 below indicate, the net annual recycling costs for Atikokan are above average compared to other municipalities in its WDO municipal grouping.

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<sup>1</sup> As reported by WDO for the 2009 datacall.

Table 5: Net Recycling Cost (per tonne per year)	
Atikokan	\$954
Municipal Grouping: Rural Collection – North	\$467 <sup>2</sup>

Figure 1: Blue Box Recycling Program Net Costs



Anticipated Future Waste Management Needs

As the population of Atikokan has experienced a decline in recent years, solid waste generation rates in Atikokan are not expected to increase or significantly change over the next 5 year planning period.

<sup>2</sup> The average net cost for this grouping excludes the jurisdiction of Rainy River First Nation, whose net cost per tonne of \$3,110 is an outlier to the remaining dataset.

## 7. Recommendations

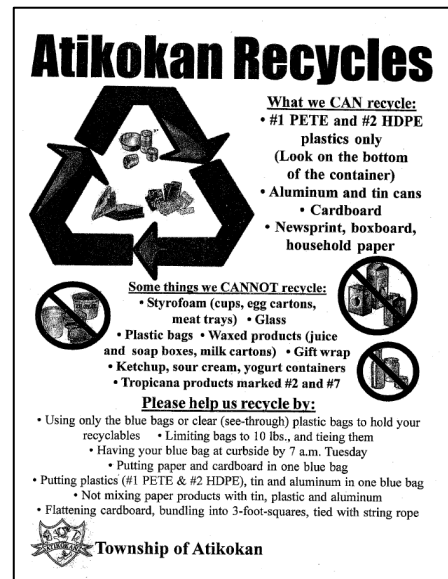
Recommendations for improvements to the recycling program are described below under five categories. A summary of how the categories were scored is provided in Appendix A.

### **Priority Initiatives**

#### Public Education and Promotion

The Town currently produces a flyer annually that describes what residents can and cannot recycle and how the material should be prepared. The flyer (pictured) is also available on the City's website. The Town also includes periodic reminders in its column space in the local newspaper.

In addition to these items, the Town could also run a summer education program to encourage greater recycling. The program could be implemented with a summer student, who could also be used to assist with other aspects of the recycling program. Educational components could include:



- A Community-Based Social Marketing Campaign (an initiative that identifies and overcomes barriers to participation in waste diversion programs by assisting people to adopt a desired behaviour and lead to a sustainable practice)
- Updated print materials (e.g., a colour brochure, a 'reminder' fridge postcard, etc), door to door canvassing (student goes door to door distributing brochure, answering questions about recycling, provides free blue/clear bag samples), among other things;
- Static and staffed recycling kiosks in public areas (Atikokan Community Arena, Atikokan Community Centre, Atikokan Swimming Pool, the local airport, library, a Beer Store location, at events); or
- Other elements as described in Stewardship Ontario's report *Identifying Best Practices in Municipal Blue Box Promotion and Education* or on their Recyclers' Knowledge Network.
- An emphasis on waste prevention (e.g., precycling<sup>3</sup>) and reuse.

<sup>3</sup> Precycling is the practice of reducing waste through careful purchases, where only what is needed is bought, and products with less packaging is preferred over those with more packaging. This includes buying in bulk, using your own reusable container when purchasing items, avoiding junk mail, subscribing to electronic billing

As this would not be a full-time task, a student resource and its cost could be shared in other parts of the waste management program or other public works activities.

### *Recommendations*

1. Develop and implement a community-based social marketing or other promotion and education campaign, utilizing the resources of a summer student.

### Disposal Bans

A disposal ban can be a useful tool to help keep recyclable material from being disposed in landfill. The Town of Atikokan currently has the infrastructure in place to collect and process banned recyclables. Depending on the level of enforcement, additional staff resources could be required to enforce the ban. For the ban to be effective, promotion of the ban would need to be included in the promotion and education program in advance of the ban taking effect.

Many other municipalities in Ontario have implemented disposal bans for blue box materials hazardous household waste, tires, yard waste, white goods, etc. Bans of recyclable materials have also taken place in Nova Scotia, Vancouver, and South Dakota, among other locations.

### *Recommendation*

2. Implement a disposal ban on materials included in the Town's recycling program.

### Bag Limits and User Pay

Residents of Atikokan currently are able to set out four bags of garbage. The first two bags can be set out with no bag tag, while the third and fourth bags require bag tags. The *Blue Box Program Enhancement and Best Practices Report* (KPMG, 2007) identifies the reduction of bag limits as a factor leading to increased waste diversion when other waste diversion opportunities are present. The KPMG report describes three types of bag limit scenarios:

- Strict bag limit – once the bag limit is reached, there are no other options for setting out additional bags of garbage. Waste collection staff leave excess bags at roadside.

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or notices instead of paper ones, among other things. For more information, visit Environment Canada's website at [www.ec.gc.ca/education/default.asp?lang=en&n=2FFE3BAE-1](http://www.ec.gc.ca/education/default.asp?lang=en&n=2FFE3BAE-1), or search "precycling" in your favourite Internet search engine.

- Partial bag limit – also known as a partial user pay system, residents can purchase bag tags for excess bags of waste.
- Hybrid – this system reflects Atikokan’s current system, whereby there is a maximum number of bags of garbage residents can set out, with a portion of them requiring a bag tags.

Currently, Atikokan’s waste diversion options for residents does not include the full list of blue box materials accepted in central and southern Ontario communities, nor does it include a household organics diversion program. Therefore, any bag limit reduction would need to be marginal (e.g., reduce current bag limit from 4 to 3) to ensure residents have enough disposal/recycling capacity to deal with their household waste. As an added incentive to reduce waste and capture more recyclables, the Town could require bag tags on all bags of garbage.

#### *Recommendation*

3. Reduce the Town’s bag limit from 4 to 3, and require bag tags on all three bags (or receptacles) of garbage.

#### Training of Key Staff

Training of key waste management staff (including front line staff) is important to ensure that the municipal recycling program is run effectively and knowledgably and that adequate customer service is provided. While training opportunities in Northern Ontario may occur less frequently, other options may include:

- Continuous Improvement Fund Ontario Recycler Workshops (includes webcast option)
- Development of in-house training session for front line staff (including customer service representatives)
- Other recycling webcasts (e.g., Institute for Local Government, [www.ca-ilg.org](http://www.ca-ilg.org))

#### *Recommendations*

4. Waste management staff should participate in third-party training sessions where possible. Webinars and webcasts can provide opportunities for training while avoiding the need for travel.
5. In-house training can be prepared for front-line staff that deals directly with the public. If a summer student is hired for a summertime communications campaign, he or she could also assist with the training program’s development and delivery.

### Storage and Transport of Blue Box Materials in Larger Transport Trailer

The Town of Atikokan is approximately 200 km from its processing facility in Thunder Bay, and thus the transportation cost constitutes a sizable portion of its processing costs. To reduce the cost of transportation required for the blue box materials, the Town should consider storing and shipping the blue box materials in a standard 53-foot transport trailer rather than the current 48-foot trailer. This initiative could reduce the frequency of transporting the trailer to the processing facility by 1 to 2 trips per year.

#### *Recommendation*

6. Store and transport the Town's blue box materials in a 53-foot transport trailer.

#### ***Future Initiatives***

### Incorporate Weigh Station into Design of New Landfill

The municipality currently calculates its blue box tonnages using the estimated volume of materials collected. These calculations use average densities to calculate tonnage and, because materials can shift and settle within a given volume, the calculated tonnages may not be as accurate as if the materials were weighed. Underestimating the true tonnage would result in lower funds received from WDO. To address this uncertainty and to provide the Town with greater accuracy in its tonnages calculations, a weigh station and scale house should be incorporated into the design on the new landfill site. Installation of a weigh station and scale house is approximately \$200,000. Given that the existing landfill will be closing approximately five years, the cost of the scale house is not warranted for the current location at this time.

In the short term, the Town can use the tonnage measurements for fibres and containers provided by Recool Canada for their tracking purposes. To assess the breakdown of the types of fibres and containers, the Town could conduct periodic waste audits of the blue box materials.

#### *Recommendations*

7. Use fibre and container weights from Recool Canada to quantify tonnage of materials marketed.
8. Estimate types of fibres and containers by conducting a waste audit of the blue box material collected.
9. Include a weigh station and scale house in the design of the future landfill.

## 8. Implementation

Table 6 below presents the recommended timeline for implementation of the preferred initiatives.

<b>Table 6: Implementation Timeline for Recommendations</b>				
<b>Recommendation</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014 +</b>
Public Education and Promotion Program				
Storage and Transport of Blue Box Materials in Larger Transport Trailer				
Disposal Bans				
Bag Limit and User Pay				
Training of Key Staff				
Incorporate Weigh Station into Design of New Landfill				

## 9. Contingencies

Even the best planning can be delayed by a variety of foreseen and unforeseen circumstances. Predicting and including contingencies can help to ensure that these risks are managed for minimum delay. The table below identifies contingencies for possible planning delays.

<b>Table 6: Waste Recycling strategy Contingencies</b>	
<b>Risk</b>	<b>Contingency</b>
Insufficient funding	Raise/implement user fees
	Explore and apply for other funding sources
	Delay lower-priority initiatives
	Increase proportion of municipal budget to solid waste management
Public opposition to planned recycling initiatives	Improve public communications
	Engage community/stakeholders to discuss initiatives/recycling plan
Lack of available staff	Prioritize department/municipal goals and initiatives
	Hire summer student to help with planning (may be available funding)



## 10. Monitoring and Reporting

The monitoring of and reporting on Atikokan’s recycling program is considered a Blue Box program fundamental best practice and is a key component of this Waste Recycling Strategy. Once implementation of the strategy begins, the performance of the Waste Recycling System will be monitored and measured against the baseline established for the current system. Once the results are measured, they will be reported to Council and the public.

The approach for monitoring Atikokan’s waste recycling program is outlined in the table below.

<b>Table 7: Recycling System Monitoring</b>		
<b>Topic</b>	<b>Tool</b>	<b>Frequency</b>
Total waste generated (by type and by weight)	Measuring of recyclables at Recool Canada	Each load
Diversion rates achieved	Formula: (Blue box materials + other diversion) ÷ Total waste generated * 100%	Monthly
Program participation	Customer survey (e.g., telephone); monitoring set-out rates	Every 1 to 3 years
Customer satisfaction	Customer survey (e.g., telephone); tracking calls/complaints received to the municipal office	Every 1 to 3 years
Opportunities for improvement	Customer survey (e.g., telephone); tracking calls/complaints received to the municipal office	On-going
Planning activities	Describe what initiatives have been fully or partially implemented, what will be done in the future	Annually
Review of Recycling Strategy	A periodic review of the Recycling Strategy to monitor and report on progress, to ensure that the selected initiatives are being implemented, and to move forward with continuous improvement	Every 3 to 5 years

## Appendix A: Waste Recycling Option Scores

Description of Options/Best Practices	Criteria (Score out of 5)					Total Criteria Score
	% Waste Diverted	Proven Results	Economically Feasible	Public Acceptance	Ease of Implementation	
Public Education and Promotion Program	5	5	3	5	3	21
Storage and Transport of Blue Box Materials in Larger Transport Trailer	0	5	5	5	5	20
Disposal Bans	4	5	3	3	3	18
Bag Limit and User Pay	4	5	4	2	3	18
Training of Key Staff	2	5	3	4	3	17
Incorporate Weigh Station into Design of New Landfill	0	5	3	3	5	16