

**recycling our way  
to a greener future.**

*2009-10  
carbon footprint report*



We know that recycling is good for the environment – but how good is it? In addition to saving energy and reducing resources sent to landfills, now **we know that MMSB's Beverage Container Recycling Program saves carbon dioxide emissions**, helping all Newfoundlanders and Labradorians to reduce our collective carbon footprint. This is one more reason why recycling is the right thing to do.

### ***MMSB's Used Beverage Recycling Program***

MMSB implements recycling and waste diversion programs to ensure a clean and healthy environment throughout our province. To this end, MMSB established a Used Beverage Container Recycling Program in 1997 to help divert waste from our province's landfills. In 2009-2010, more than 157 million beverage containers were recycled through MMSB's network of Green Depots, a 5% increase over the previous year. The program has seen **1.6 billion beverage containers recycled since 1997**.

### ***What is a carbon footprint?***

**A carbon footprint is the total amount of greenhouse gases (GHG) produced to support human activities, measured in metric tonnes of carbon dioxide emissions (MTCO2E).**

Many activities generate carbon emissions, contributing to the Earth's changing climate. When you drive a car, the engine burns fuel which creates a certain amount of carbon dioxide (CO<sub>2</sub>). When you heat your house with oil, gas, or even hydroelectric energy, you also generate CO<sub>2</sub>. The production of the food we eat and the manufacturing of goods we buy also emit some quantities of CO<sub>2</sub>. So, our carbon footprint is a measure of the impact we each make on the earth through our everyday choices. Participating in the Used Beverage Container Recycling Program is one positive choice people in our province can make.



### ***To recycle or not to recycle?***

When we recycle beverage containers in Newfoundland and Labrador, we drive our cars to the Green Depot, the depot transports the material to a processor, and eventually the material is sent to a recycler. Each of the activities along the way creates carbon dioxide emissions.

**But what if we didn't recycle?** If we didn't recycle, new products would be manufactured with raw materials, creating excessive carbon emissions. When we recycle our beverage containers, new products are manufactured using recycled materials producing less carbon dioxide.

Does MMSB's Beverage Container Recycling Program save carbon emissions? The answer, simply, is yes.

**Counting carbons**

In September 2009, MMSB endeavoured to calculate the carbon footprint of the Used Beverage Container Recycling Program in the province. The goal of the carbon footprint study was to quantify the environmental benefits associated with MMSB’s Used Beverage Container Recycling Program. To calculate the carbon savings, MMSB determined each activity throughout the collection and recycling of used beverage containers that created Greenhouse Gas (GHG) emissions and compared this amount to those that would have been created if the containers were sent to a landfill.

Two types of emissions were calculated:

- (1) GHG emissions produced by the operation of the recycling program, such as transportation and processing of materials, and
- (2) GHG emissions avoided by manufacturing new products with recycled materials from the Beverage Recycling Program instead of extracting raw materials to manufacture new products.

MMSB used industry standard methods for calculating GHG emissions from all operational activities (e.g. fuel and electricity consumption) and subtracted the estimated GHG emissions reduced by using recycled materials in the manufacturing process to estimate the overall emission reduction.



Calculations were independently reviewed by Stantec Consulting Ltd. in June 2010. Stantec, a North American leader in GHG management and sustainable design, concluded that MMSB’s methodologies were sound and the analysis provided an accurate representation of the GHG emission reductions associated with the Used Beverage Container Recycling Program.

Table 1. Comparing Carbon Emissions created through MMSB’s Used Beverage Container Recycling program and Emissions avoided through the recycling of beverage containers.

Year	Beverage containers recycled (Million)**	CO2 emissions created (MTCO2E)	CO2 Emissions saved (MTCO2E)	Net Carbon Emissions (MTCO2E)
2007	137	4,751	12,402	-7,651
2008	149	5,167	13,488	-8,321
2009	157	5,445	14,213	-8,768

Calculations were based on 2007 data. Data for subsequent years were extrapolated based on the 2007 per container CO2 figures.

\*\*based on estimates reported in MMSB’s annual reports



In 2009-2010,  
beverage container recycling  
in Newfoundland and Labrador  
saved the same amount of  
carbon emissions as planting  
**8 million trees.**

*\* One 25 year old maple can absorb 1.1 kg CO2 per year.*

### **Recycling saves carbons; saves the earth**

MMSB Green Depot customers saved 8,768 metric tonnes of Carbon Emissions in 2009-2010 by choosing to put beverage containers into a recycling bin rather than the garbage can. (Table 1. Comparing carbon emissions created through MMSB's Used Beverage Container Recycling Program and emissions avoided through the recycling of beverage containers). **That's equivalent to taking 1,461 cars off the road and saving 17,595 barrels of oil.** Now that's a reason to recycle.



In fact, we save 55.8 grams of CO2 emissions each time we recycle one beverage container. Assuming all 508,925 residents of our province participate in the Used Beverage Container Recycling Program, then on average, each person recycled 308 beverage containers in 2009-2010. This means **each Newfoundlander and Labradorian saved about 17 kg of CO2 emissions** – the same amount produced by driving a mid-sized car for approximately 85 km.

In 2009-2010, MMSB's Beverage Container Recycling Program saved the same amount of carbon emissions as planting 8 million trees. So, if you recycled 308 containers per year you would save the equivalent amount of CO2 as planting about 17 trees a year.

Through their commitment to recycling, **Green Depot customers really are making a difference** and helping MMSB achieve a greener future one beverage container at a time. But we're not done yet. Currently only 70% of beverage containers are recycled each year in our province – by recycling more and more containers we can further reduce our carbon footprint. A smaller footprint means a healthier, greener future for our province and the earth.

### **Our greener future**

Research, such as carbon footprint calculation, is just one-step that MMSB is taking to guide our province to a greener future. We now have the tools to help track MMSB's future CO2 emissions. This tool will help us develop the most effective, carbon-positive programs to divert materials from the landfill and help guide our province to a 50% diversion rate by 2020.