

by Clarissa Morawski

*"Unique to the Manitoba program is a specific performance target of at least 75 per cent recovery of beverage containers."*



## Beverage container recycling in Canada, 2010

**U**  
**P**  
**S**

**E**very two years, CM Consulting publishes *Who Pays What — An Analysis of Beverage Container Recovery and Costs in Canada* — a comprehensive report on the status of performance and costs of beverage container recycling programs in each Canadian province.

Beverage containers are ubiquitous. In Canada, collectively, this worked out to about 1.5 million tonnes of scrap material collected for recycling, worth about \$200 million in 2008.

It cost more to recover used beverage containers last year due to the economic downturn and deflated commodity prices. The substandard quality of some over-abundant materials may have required further processing, landfilling, or warehousing. High fuel and labour costs made the problem worse.

On a positive note, compaction technologies can help, reducing transportation costs by more than 40 per cent. Leading-edge measurement tools on the environmental benefits of recycling (from a life cycle perspective) continue to show the *upstream* benefits of recycling containers, including greenhouse gas reduction.

Throughout North America, deposit-refund programs are being expanded or newly introduced. Last year Alberta became the first province to place milk containers on deposit. Oregon, New York and Connecticut all expanded the scope of their deposit-refund schemes. In many non-deposit jurisdictions, the beverage in-

dustry is trying to recover more containers from public spaces and commercial establishments, and picking up some of the costs.

In central Canada (Ontario and Quebec) brandowners and first importers finance part of costs associated with container recovery and recycling. Here, industry pays municipalities to collect, process and market recyclables. Many municipalities have used these funds in part to introduce public space recycling bins and regular collection; these costs may also soon be absorbed by industry through proposed legislation. Ontario and Quebec are moving toward 100 percent industry financing with high material-specific targets. Manitoba recently introduced an 80 per cent industry financing model (which commenced on April 1, 2010) that mandates 75 per cent recovery of beverage containers.

Canada's overall recovery rate for refillable and non-refillable bottles is estimated at 66 per cent. About 98 per cent of refillable beer containers — a minority of total beverage sales (19 per cent) — are recovered. About 59 per cent of non-refillables — which make-up the majority of containers (81 per cent) — are recovered. (*See Collection Rates: Table 1*)

Canadian deposit-refund systems combined have a total recovery rate of 83 per cent, while combined non-deposit systems have a total recovery rate of 41 per cent (accounting for containers sold and recovered at home and away-from-home). (*See Total Beverage Container Recovery Rates Deposit and Non-Deposit Program: Chart 1*).

These are interesting times for the beverage industry. As bottlers, distributors and retailers assume a greater responsibility in the end-of-life management of their packaging, they're keen to lower costs, increase ef-

**E**

**D**  
**O**  
**W**  
**N**  
**S**

**Table 1: Collection Rates**

	BC	AB	SK	MB	ON (alcohol)	ON (non- alcohol)	QC (Soft- drink/beer)	QC (other beverages)	NS	NB	NF&L	PEI	YK	NWT
Aluminum Cans	86%	80%	91%	59%	79%	40%	66%	—	84%	79%	69%	73%	81%	83%
Non-Refillable Glass	87%	86%	89%	35%	81%	73%	75%	57%	84%	79%	70%	82%	87%	—
PET Bottles	76%	70%	82%	49%	40%	44%	70%	45%	82%	81%	68%	84%	96%	—
Other Plastics	76%	53%	82%	18%	—	14%	—	—	27%	78%	68%	—	64%	80%
Bi-Metal	60%	65%	91%	48%	—	62%	—	24%	102%	—	79%	—	53%	36%
Gable/Tetra Pak	55%	55%	55%	18%	31%	18%	—	47%	63%	—	57%	44%	50%	48%
Other	35%	—	—	18%	—	—	—	—	—	47%	—	44%	—	13%
TOTAL Non-Refillables	80%	75%	85%	50%	78%	40%	68%	45%	78%	75%	68%	74%	76%	83%
Refillable Beer	94%	95%	94%	97%	99%	—	98%	—	101%	102%	99%	101%	94%	97%
TOTAL CONTAINERS	81%	77%	87%	56%	91%	40%	82%	45%	83%	81%	78%	81%	78%	85%

iciency, and maintain consumer acceptance (i.e., not disrupt sales). (See *Who Bears the Share of Program Costs: Chart 2*)

Let's look at developments province by province.

### Alberta

Alberta increased minimum deposits from 5 to 10 cents (some deposits were already at 10 cents such as beer), and 20 to 25 cents as of November 1, 2008. After only 11 months, recovery went from 76 per cent to 81 per cent.

Notwithstanding the higher deposit (and recovery rate), sales steadily increased from 2006 through 2009, according to statistics reported by the Beverage Container Management Board (BCMB).

Also in June last year, Alberta became the first jurisdiction in North

America to introduce a deposit on all milk and liquid cream beverage containers. The deposits are the same for milk as all other beverages — 10 cents under one-litre and 25 cents over one litre. From January to March 2010, the recovery rate has surpassed 80 per cent for HDPE milk jugs and cartons over one litre. For the last three months of reported return data, milk jugs (all sizes) reached a combined recovery rate of 71 per cent and milk cartons of all sizes reached a combined recovery rate of 61 per cent.

### Manitoba

On September 24, 2009, Manitoba's conservation minister approved a program plan for packaging and printed paper recovery to replace the previous program. The new program is modelled after the industry-

*"In many places the beverage industry is trying to recover more containers from public spaces and commercial establishments."*

## COVER STORY

funding programs currently operating in Ontario and Quebec, where stewards (brandowners or first importers) of packaging, including all beverage-related consumer packaging, must finance a portion of recycling costs. In Manitoba's case, that portion is 80 per cent.

The plan provides details on how waste packaging material and printed paper from households across Manitoba will be diverted from disposal. The plan defines a funding formula to calculate industry payments (stewardship fees) and outlines funding provisions to support market research, public education, and the promotion of waste reduction and recycling. The new program commenced on April 1, 2010.

Unique to the Manitoba program is a specific performance target of at least 75 per cent recovery of beverage containers. As such,

the plan contains enhanced programs for litter, plastic bags and beverage containers. In addition, Multi-Materials Stewardship Manitoba (MMSM) can deliver program elements like public space and event recycling, and education or full service recycling, whenever this is more cost effective than having municipalities do it.

The recently formed Canadian Beverage Container Recycling Association (CBCRA) is a voluntary organization made up of grocery stores and beverage companies. CBCRA is focused on implementing and financing an away-from-home recovery program which will help achieve the mandated 75 per cent. The program is funded through a two cent container recycling fee (CRF) that's voluntarily paid by most (>90 per cent) of beverage companies, and in most cases is passed on to consumers

at the point of purchase. Together, these funds will finance both the away-from-home strategy in addition to the municipal curbside obligation (of 80 per cent).

### Ontario

Ontario's expanded deposit-refund program for wine and spirit containers, first implemented in February 2007, is now in its fourth full-year. The program saw significant increases in overall recovery: 67 per cent in 2007-2008; 73 per cent in 2008-2009; and (estimated) 77 per cent in 2009-2010.

In October 2009, Ontario's environment minister announced new waste policy directions for the province, with specific amendments being developed for the existing *Waste Diversion Act*. Suggested policy changes include making individual producers fully

## THE EARTH MACHINE™



## 80% DIVERSION, NOW

Home composting using the **Earth Machine™**, combined with recycling and yard waste programs, can reduce resident waste at the curb by **up to 80%**.

By encouraging residents to compost, communities can reduce the amount of waste materials that must be collected, transported, processed and disposed of. Norseman Plastics has been working with municipalities and counties for over fifteen years in a variety of ways and on various levels of involvement to help divert waste from local landfills, reducing municipal waste costs and the environmental impact of unnecessarily large solid waste programs.



Contact us today to find out how your community can join the over 2.5 million **Earth Machine™** users and take a step for a greener, healthier tomorrow.

**NORSEMAN**  
PLASTICS  
ENVIRONMENTAL PRODUCTS DIVISION

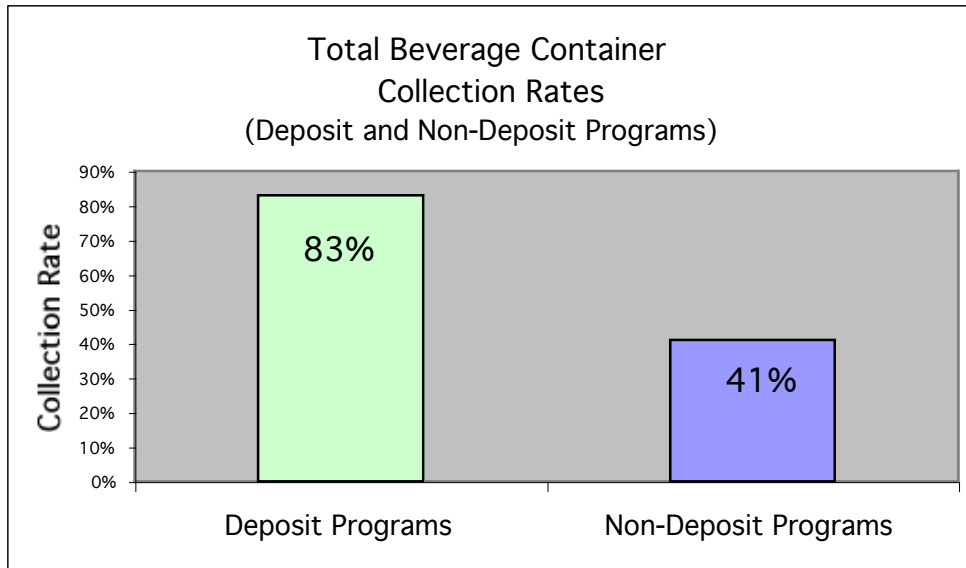
  
IMPROVING YOUR WORLD

800.894.8397  
www.earthmachine.com  
www.norsemanenviro.com  
enviro@norsemanplastics.com



an **ORBIS** company

## Total Beverage Container Recovery Rates Deposit and Non-Deposit Program: Chart 1



**Veolia Environmental Services** is a subsidiary of Veolia Environnement, the world's largest provider of environmental services



Turnig Waste into a Resource  
[www.veolia.com](http://www.veolia.com)

## COVER STORY

responsible for waste diversion in both the residential and commercial sectors. In addition, producers will be required to meet outcome-based performance standards either on their own or through a third-party collective (and face penalties for non-compliance). Public consultation ended in February and draft regulatory amendments are expected this year. The changes will likely mean 100 per cent financial responsibility for packaging recovery in Ontario by stewards (brandowners and first importers), and the expansion of beverage container recovery to away-from-home and commercial locations.

### Quebec

In November 2009, Quebec issued an official policy on residuals management that states a preference for the curbside collection and re-

cycling of packaging, printed papers and soft-drink containers. However, unless the beverage industry can prove it can achieve 70 per cent recovery through alternative mechanisms to the existing system, deposit-refund for beer and soft drinks will remain in place. In addition, in the short term, the environment ministry also stated that if recovery rates fail to increase to 70 per cent or greater in the next two years, the government may actually increase the container deposit.

On March 17, 2010, Quebec's Minister of Sustainable Development, Environment and Parks tabled Bill 88, which establishes the framework for industry contributions toward municipal recycling programs. More specifically, the Act says industry's contribution will cover a share of the costs associated with collection, transportation, sorting, conditioning,

and indemnity for the management of the program. The Act established that the share of industry compensation cannot exceed 70 per cent in 2010, 80 per cent in 2011-2012, and 90 per cent for 2013-2014.

This year also marks the half-way point in a four-year project funded by beverage and related industries to capture a greater number of containers consumed away-from-home. With its \$6 million+ mandate, the initiative focuses on capturing increased volumes from municipal public spaces through the acquisition of bins (and bar/restaurant bins) and in some cases funding collection and processing of recyclables. A mid-term performance report is publicly available, but no official performance data is available.

Performance and total cost data will be of great interest to all members of the beverage

**MAKE THE PLANET AND YOUR BOSS HAPPY**



**OUR CUTTING EDGE USES 100% RECYCLED RUBBER**

The Schuyler Rubber cutting edge not only outperforms the competition, it's also planet-friendly. Each standard-sized cutting edge we make diverts 16 truck tires from the landfill. That saves 220 gallons of imported oil and keeps 5,250 pounds of carbon-dioxide emissions out of the atmosphere.

Call **1-800-426-3917** to find out how you can save money with our cutting edge.



Made in America Recycled Inside

**WWW.SCHUYLERRUBBER.COM**

**Gordon McGuinty** was responsible for the **Rail Cycle North** consortium, which included some of North America's largest rail and waste corporations and was awarded the largest waste management contract in Canada. For **fourteen years** McGuinty was the force behind the **Adams Mine** landfill project as a solution to Ontario's garbage disposal crisis until it was **TRASHED!**

**Order your copy of TRASHED!** today and get the story behind the **political garbage** as it has never been told before.

order online:  
**www.trashedpoliticalgarbage.com**

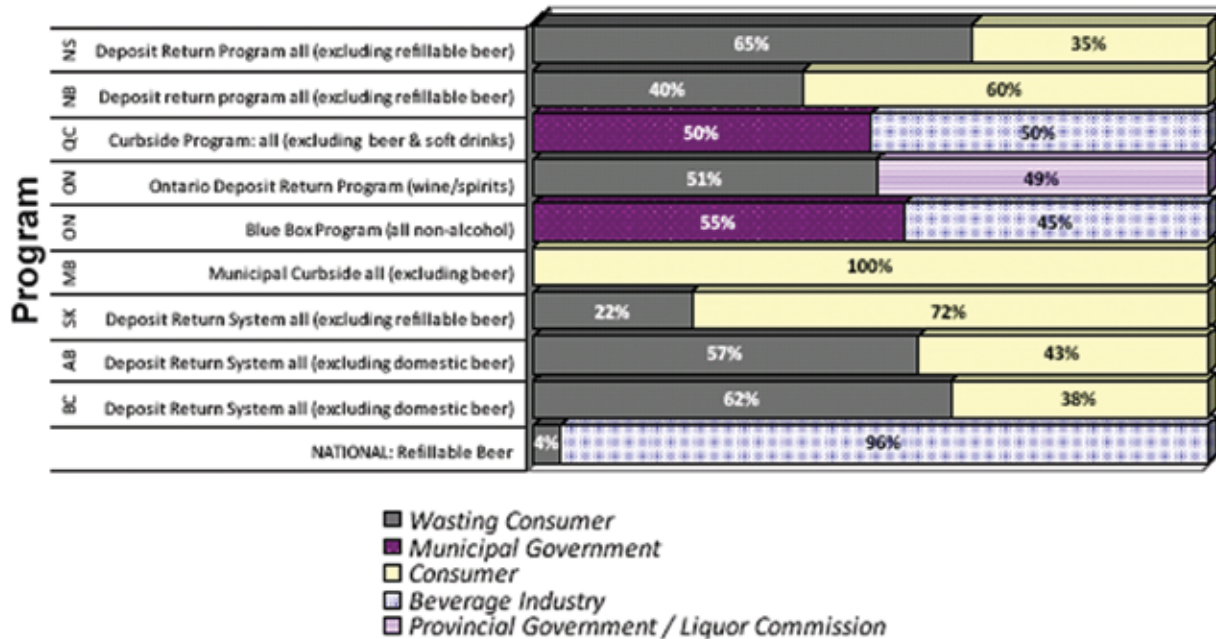
**\$25.95**



elevation press

## Who Bears the Share of Program Costs: Chart 2

Who Bears the Share  
Share of Financial Contribution by Stakeholder



### WASTECON Highlights:

**WASTECON Training Center**  
including Managing Recycling Systems  
Sunday August 15 - Tuesday August 17

**More than 65 Technical Sessions**  
Sunday August 15 - Tuesday August 17

**\*Bonus\* Technical Sessions**  
Saturday August 14 & Wednesday August 18

**Combined WASTECON & APWA Tradeshow**  
Sunday August 15 - Tuesday August 17

**Networking Events**  
including Monday Night Networking Event at Fenway Park  
and Annual Golf Tournament on Wednesday August 18

# WASTECON 2010

Boston, Massachusetts

August 15-17, 2010



SAVE \$200 ON REGISTRATION AT [WWW.WASTECON.ORG/SAVE](http://WWW.WASTECON.ORG/SAVE)

## COVER STORY

industry, especially since Ontario and Quebec have (or will have) regulations to ensure industry pays for away-from-home beverage container recovery costs.

### Prince Edward Island

In May 2008, the new deposit return program for non-refillables commenced on Prince Edward Island. Just prior to the implementation of this program, the province repealed the law which prohibited non-refillable soft drinks to be sold on the island. Shipments of refillables by Coke or Pepsi ended in the fall of 2008.

### North West Territories

Starting February 15, 2010 the NWT's recovery program was expanded to include all milk and liquid milk products, including milk jugs, milk and milk substitute cartons, yogurt drink bottles, condensed or evaporated milk cans, boxed milk substitutes and creamer bottles. These containers are accepted at NWT bottle depots. Exclusions include infant formula and any container less than 30 ml.

### National

Starting in May 2010, Tetra Pak and Recupera-

tion Mauricie (RCM), along with three other capital funding groups, will use post-consumer plastic film, gabletop and aseptic packaging in a new process called "thermokinetic mixing" that combines all of these materials into one homogeneous mix that can be used to create flower pots, pallets, plastic lumber and many other products. According to Tetra Pak, this process will use the entire package with no residuals. ♻️

*Clarissa Morawski is principal of CM Consulting in Peterborough, Ontario. Contact Clarissa at morawski@ca.inter.net*

**A Subscription to EcoLog allows you to:**

- A) **Stay compliant** by knowing and understanding all EHS laws that affect your company.
- B) **Save time** with EcoLog innovative search tools and bookmarking features.
- C) **Save money** by avoiding costly fines and other penalties.
- D) **All of the above**

*(D) Answer (D)*

## Staying compliant with EHS laws is no trivial matter.

- ✓ **24/7 Access** to federal and provincial EHS legislation and news articles
- ✓ **BOOKMARKING FEATURE** makes it easy to track and monitor legislation that affects you
- ✓ **E-MAIL ALERTS** notify you of legislation changes as they occur
- ✓ **Powerful Search Tool** allows you to browse by jurisdiction and by Act or Regulation
- ✓ **BONUS!** Free online access to original and informative EHS content
- ✓ **NEW! Includes EcoLog News** - your daily EHS news source! Receive daily or weekly news alerts and stay up-to-date on all the latest EHS developments as they occur
- ✓ **PLUS, Multi-User Access** available so your whole team can benefit! Give your employees the benefit of premium environmental news, compliance updates and legislation documents, always at their fingertips.

**Contact:** Terry Barkhouse, Legislative Products Specialist  
Telephone: (416) 510-6844 • Toll Free: 1-888-510-6844  
or Email: tbarkhouse@ecolog.com

**Win the compliance game with your subscription to EcoLog.com**

# Visit EcoLog.com

**ecoLOG**  
Environmental and OHS Intelligence  
For Your Business

**Activate your 30-Day FREE trial to EcoLog.com. Visit EcoLog.com or call 1-877-517-6864 and quote code "SOLWA9" to register**

by Catherine Leighton

*"Market acceptance issues or excessive production costs, may have contributed to the demise of the World Bottle."*



## A Short History of Packaging Innovation

Examining historical methods of managing waste can inspire and inform modern day packaging innovations that prevent waste from entering a landfill. In North America during the 1880s, most packaging was reused. Broken packaging was mended or transformed into new products. For example, a barrel might be transformed into a chair. Previous generations conserved and reused materials, and thus produced less waste.

In the 1880s, many consumers were not comfortable discarding packaging once a product was used. Susan Strasser, author of *Waste and Want*, explains that dual-use packaging was purposely designed for a second use, so the material was not wasted. For example, a tin filled with tobacco could later be used as a lunch box. An Ocean Spray cranberry sauce container was designed to be used later as a savings bank. Similarly, parchment paper used to wrap butter could be washed and used for a variety of household needs, including washing dishes. Not only did this provide advertising for the respective company (in this case Paterson Parchment Paper), but, after it had been used for household tasks, could simply be burned in the fire.

Originating around 1910, flour-sack dresses were another innovative marketing strategy that promoted dual-use packaging. Flour companies, such as the Bemis Company, advertised that the cotton bags used to package their products could later be used as material to make dresses. The Bemis Company even advertised that the cotton bags came in a thousand different material patterns. These dresses proved particularly popular during the 1930s' Great Depression and were worn by women of different social classes (not only the poor). According to Strasser, flour-sack dresses were a particularly long lasting initiative — for they were promoted until the 1960s.

After the Second World War the concept of "disposability" became increasing popular in marketing food-packaging products. New post-war technology provided innovative, easy-to-use product alternatives that hadn't previously been available. Disposable products became popular, such as aluminum pot-pie trays, paper napkins and tissues, and aluminum foil. These products were convenient because they reduced household workloads and prevented the need for hired help. In addition, there was a transition towards multilayer and single-use packaging, often made of plastic. When compared to glass, plastic was a technologically advanced material because it was lighter and unbreakable. However, a major disadvantage of plastic was that consumers could not repair it. As is well known, this new attitude towards disposability was widely

embraced; material conservation and reuse became associated with poverty and a digression from innovation.

Disposable packaging was not without its difficulties, and resulted in increased waste production and increased litter. In Holland during the 1960s, Heineken beer bottles were refilled. However, Heineken produced single-use containers for its international market because it was impractical to return containers for refilling. These single-use containers were often littered, so Alfred Heineken designed a dual-use bottle that could be used as building material to support low-income housing. The interlocking "brick" bottles were designed to be stacked and held together with mortar as an alternative to traditional clay bricks. The World Bottles' innovative dual-use design ensured the bottle had valuable post consumption and would not be littered. Over fifty thousand World Bottles were produced in 1963, but Heineken management eventually rejected the initiative. Daniel Imhoff, author of *Paper or Packaging*, speculates that a faulty bottle design, market acceptance issues or excessive production costs, may have contributed to the demise of the World Bottle.

Convenient disposable products and packaging are ubiquitous in today's society even though there are more environmentally friendly packaging alternatives. Consumers can purchase either single-use sandwich bags or a reusable sandwich container, a 24-pack of single-use water bottles or a refillable bottle, and paper towel or a rag. Dual-use and reusable products are far less common than they once were. In a brief survey of a supermarket, tomato sauce held in a mason jar (a jar designed to be sanitized easily for a second use) was one of the only products designed for dual-use. Cereal boxes with games or puzzles printed on the cardboard interior could also be defined as dual-use. Examples of products that are still reused include refillable beer bottles and some large format water bottles.

Since landfill space is limited and the lifecycle of reusable packages is superior to any alternative, perhaps it's time to re-examine how dual-use and other packaging innovations can be incorporated into modern society. There will always be challenges associated with change. At the end of the day, historical examples of packaging innovation are inspiring. We must wonder what other possibilities exist if we a little further outside the recycling box. ♻️

*Catherine Leighton is a graduate of the University of Waterloo's environment program. Contact Catherine at [c2leigh@uwaterloo.ca](mailto:c2leigh@uwaterloo.ca)*

