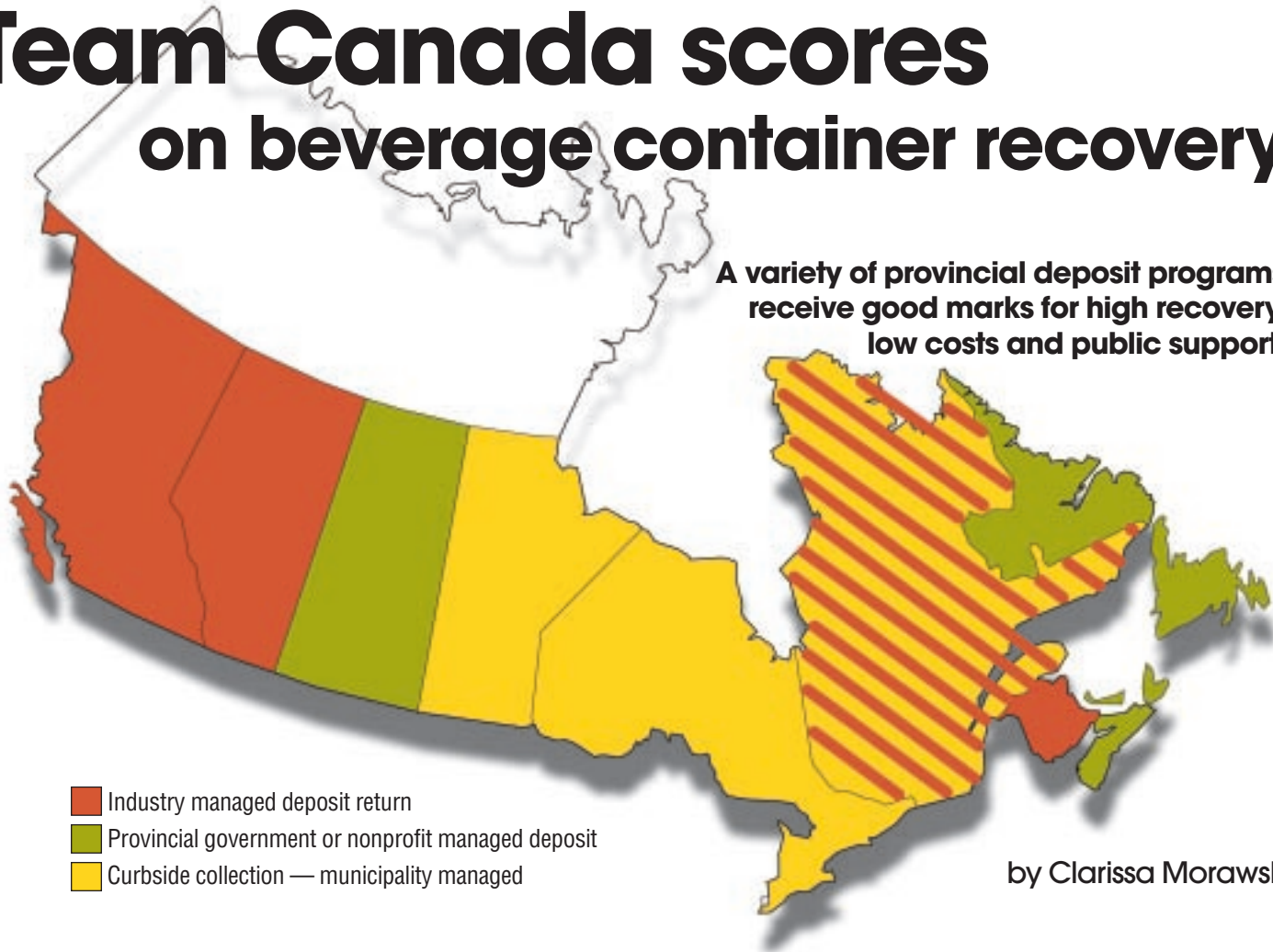


# Team Canada scores on beverage container recovery

A variety of provincial deposit programs receive good marks for high recovery, low costs and public support.



by Clarissa Morawski

**T**he status of beverage container recovery in the U.S. gained significant attention with the multi-stakeholder report, *A Value Chain Assessment prepared for the Multi-Stakeholder Recovery Project (MSRP)*, released in January 2002 (see “Understanding Beverage Container Recycling” in the February 2002 issue of *Resource Recycling*).

State governments, environmentalists, industry officials and media are looking to the report for answers on what the “best” recovery system looks like. But, the report did not recommend a particular model, nor did it address costs related to the various stakeholders. Canada, on the other hand, may have some answers.

## An overview

Nearly every Canadian province has undertaken significant efforts to develop comprehensive container recovery programs over the

past 10 years — with high-scoring results. Every province has a voluntary deposit return program for cans and refillable beer containers, six have bottle bills covering all beverages except milk, and two provinces have programs for soft drinks.

Several programs are managed entirely by the beverage industry through a nonprofit agency representing the industry. Other provincial programs are managed by independent nonprofit agencies or self-funded provincial crown agencies specifically created to oversee provincial stewardship programs. In each case, management and accounting for container sales and returns by container type, versus container brand, are done centrally.

The domestic beer industry manages its

own deposit return system countrywide and recovers about 96 percent of its almost four billion refillable bottles and 86 percent of its one billion beer cans.

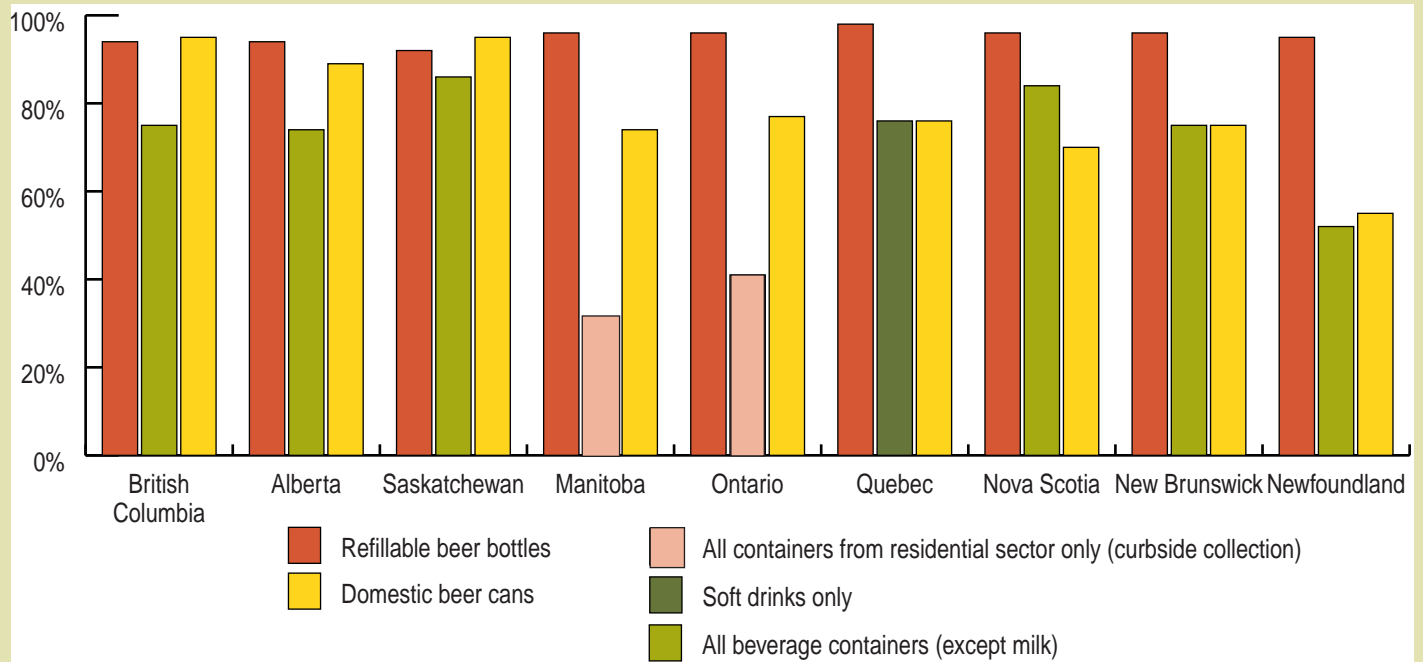
Only Ontario (Canada’s largest province) and Manitoba have chosen to have municipalities collect containers through curbside programs with other material. Ontario’s curbside collection program is considered one of the most effective systems of its kind, using innovative collection and processing technologies and serving most of the population.

## High recovery

Deposit return models are numerous, and program elements vary, such as the return infrastructure: depot and/or return to retail; who keeps the unredeemed deposits; deposit lev-

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**Figure 1** Canadian beverage container recovery rates (1)



(1) Recovery data are for 2000-2001; Ontario data are for 1999. Source: CM Consulting, 2002.

els; and handling fees. Each program has achieved high recovery rates, generally over 75 percent. Consistent with data from the MSRP study, findings in Canada show that containers acquired via municipal curbside collection have significantly lower recovery rates. This is due, in large part, to no economic incentive to recycle and because recycling receptacles do not exist for containers consumed away from home, which represent an ever-growing portion of the beverage stream (see Figure 1).

### The costs

Assessing the costs of Canadian programs is fairly simple, since each managing agency (with the exception of Quebec and New Brunswick, whose data are proprietary) publishes income statements outlining all expenses and revenues collected. System costs can be derived for five Canadian programs. The costs are calculated with and without unredeemed deposits as a revenue source, irrespective of whether they actually are used to help offset system costs (see Table 1).

The primary cost drivers for Canadian programs are handling fees (for depots) and transportation. Of the five programs reviewed, the net costs (without unredeemed deposits) range from a low of 2.2 cents per unit sold in Alberta and Nova Scotia to 3.9 cents in Saskatchewan. (Monetary figures here and throughout this article represent Canadian currency.) If unredeemed deposits are applied as a revenue stream, the net costs drop dramatically, for a small surplus in Newfoundland of 1.1

cents per container sold, to a cost of 2.2 cents in Saskatchewan.

Further review shows that increased deposit levels or low recovery rates will generate higher unredeemed deposits. For example, Nova Scotia (population 943,000), with deposit levels of 10 and 20 cents and a recovery rate of 84 percent, generated unredeemed deposits worth \$6.4 million in fiscal year 2000-2001. Similarly, in Newfoundland (pop-

ulation 530,000), where the recovery rate was an extremely low 47 percent (due to low refund levels), \$6.5 million was generated in unredeemed deposits in fiscal year 1999-2000.

### Who pays what?

An alternative and more transparent analysis of cost looks at what various stakeholders pay for the system (see Table 2). This “who pays what” approach provides public policy mak-

## Stakeholder costs defined

**Beverage industry.** Direct system-related cost per unit sold or surplus per unit sold to the beverage industry, including brandowners or distributors.

**Provincial/state government.** Direct system-related costs incurred by the provincial/state governments and taxpayers.

**Municipal government.** Direct system-related costs incurred by municipal authorities and taxpayers. Note: Container disposal costs are always a cost to municipalities and taxpayers; these costs are not identified.

**Recycling consumer.** Direct system cost per unit purchased to the beverage consumer that returns containers. These costs can be part of an upfront nonrefundable eco-fee, container recycling fee or the half-back portion of the refund.

**Wasting consumer.** Additional system cost per unit purchased to beverage consumers that choose not to return the con-

tainer. These costs are generally quite high because they are equal to the value of the deposit. Although these costs vary from container to container depending on the level of the deposit, the cost per unit shown is an average.

**Non-system-related costs.** Several programs in Canada use environment handling charges, container recycling fees or half-back schemes that may generate additional revenue. Although this revenue is generated from the beverage consumer, it does not necessarily mean that it is being used to offset the costs associated with operating the program that year. Excess revenues may be used to build up a reserve fund for operating deficits in other years, fund other environmental initiatives, or fund non-environmental initiatives. These consumer costs, therefore, are referred to as “non-system-related costs.”

ers with a comprehensive overview of who bears the costs (or surpluses) and the ability to assess the overall equity of the system.

In Canada, the analysis shows that the bulk of program costs are incurred by the “wasting consumer,” who has chosen to incur the cost as a result of not redeeming the container. The average cost to the wasting consumer varies depending on the value of the forfeited deposit. The same analysis shows that the “recycling consumer” — one who redeems the container — usually incurs no cost to support the system. Industry, too, incurs as little as no cost to 0.5 cents and 0.6 cents per unit sold in Quebec and Alberta, respectively.

**Table 1** System costs for Canadian beverage container recovery programs (1)

	Cost per unit sold (2)				
	British Columbia	Alberta	Saskatchewan	Nova Scotia	Newfoundland
Without unredeemed deposits	2.7	2.2	3.9	2.2	2.5
With unredeemed deposits	0.8	0.6	2.2	-0.3	-1.1

(1) Data for last reported year, 2000/2001; Newfoundland data for 1999/2000.

(2) In Canadian cents.

Source: CM Consulting, 2002.

**Table 2** Stakeholder costs for beverage container recovery in Canada (1)

	British Columbia	Alberta	Saskatchewan	Manitoba	Ontario	Quebec	Nova Scotia	Newfoundland
	per unit sold	per unit sold	per unit sold	per unit sold	—	per unit sold	per unit sold	per unit sold
Beverage industry	-0.6 (2)	0.6	—	—	—	0.5 (3)	—	-0.17 (2)
Provincial government	—	—	—	—	\$5 million	—	—	—
Municipal government	—	—	—	20% of the net costs of recycling	100% of the net costs, minus \$5 million for liquor bottle recycling	—	—	—
Recycling consumer	0.76	—	3.9	2	—	—	—	—
Wasting consumer	7.2	0.6	19	—	—	5.1	15	6.7
Non-system-related consumer cost	0.6	—	3.8	Not available (4)	—	—	3.8	2.9

(1) In Canadian cents. Data for last reported year, 2000/2001; Newfoundland data for 1999/2000.

(2) Indicates a surplus.

(3) In Quebec, the soft drink industry pays half a penny to its program operator, Boisson Gasseuse Environment, on each container sold. This does not include revenues associated with material sales or costs incurred from transport, storage and processing. Depending on material revenues, the soft drink industry's total cost may be higher or lower than the 0.5 cent per unit. These additional cost and revenue data were not available for this analysis.

(4) In Manitoba, part of the revenue generated from the two-cent levy on beverage containers subsidizes recovery of other materials in the municipal waste stream. The portion of the revenue dedicated to beverage container recovery is unavailable.

Source: CM Consulting, 2002.

The most controversial costs are those charged to consumers but not used to offset operational program costs. Sometimes referred to as a “thirst tax,” these programs have been designed to generate revenues for non-system-related costs. For example, beverage container sales in Saskatchewan carry an “environmental handling charge” from three to seven cents per container. About two-thirds of the revenue generated is used for other environmental or nonenvironmental initiatives in the province. Similarly, the Atlantic Provinces redeem only half the deposit (called “half-back” programs). In Nova Scotia, a large part of the half-back revenue is used to help municipalities fund curbside collection programs for other recyclables, initiate market development, and fund public education and awareness campaigns.

In British Columbia, the beverage industry, through its nonprofit operating agency, decided to offset its system costs by charging consumers a “container recycling fee” at the

point of purchase. This fee was calculated to reflect the net system cost after unredeemed deposits and material revenue of managing that container. These fees ranged from one cent for aluminum cans to seven cents for large glass bottles. Due to circumstances that cannot be forecasted, such as commodity revenue swings, the operating agency collected about twice the amount required to offset the system costs. Now, these fees have been lowered and the surplus funds will be used to pay for this year's forecasted system deficit.

While some may debate the merits and fairness of using the beverage consumer to subsidize non-beverage-related environmental initiatives, one thing is undebatable — the public and consumers alike approve of the deposit return systems. A 1998 study by Angus Reid, titled *The Deposit Program in British Columbia: Attitudes and Behavior*, reaffirms this support. It reads, “There is a high level of support for the deposit program across the province of B.C. Almost all (96

percent) of British Columbians think the deposit program is a good idea. The main reason for their support of the program is that the program gives people an incentive to recycle. The inconvenience of returning containers for the deposit appears to be only a minor concern.”

The Canadian experience has shown that many different ways exist to expand a deposit return program, achieve high recovery, keep system costs relatively low and maintain support from both the public and consumers. **RR**

The author's full report discussing beverage container recovery can be downloaded from the *Resource Recycling* Web site at [www.resource-recycling.com](http://www.resource-recycling.com).

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