

by Clarissa Morawski

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Encorp Atlantic's efficient, high-tech system for used beverage containers

Deposit Refund in New Brunswick

Question: What happens when producers are regulated to finance, operate and manage a diversion program for the packaging they use or sell?

Answer: Increased use of leading-edge operations, innovative technology advancements, and cost efficiencies — all while maintaining a high level of performance.

No one knows if this was the ultimate goal of New Brunswick legislators in 1991 when they passed a law that forced all beverage producers in the province to set up and operate their own deposit-refund program. But today, the small province of New Brunswick boasts some of the world's most innovative and efficient technology, and systems management for used beverage container collection, transportation and processing.

Tasked with setting up the entire system from scratch, General Manager Bryan Howell set out to run the system as efficiently as he could. Nowadays he works from a tiny office in Moncton, with a three-person staff who administer the entire deposit-refund system. Those few people oversee the collection and recycling of about 76 per cent of the more than 200 million non-alcohol beverage containers sold in the province.

Background

Initially, the system operator — Encorp Atlantic — broadened its business base by adding value to the existing operation through plastics grinding and the production of a value-added product. Shortly after, it began importing large amounts of plastics from the United States. Initially its consolidated income statement showed a profit. (See *SWR Oct/Nov 1998 edition*.) But the beverage companies heading up Encorp Atlantic wanted to keep things simple and narrowed the scope of business to the management of a system that meets the requirements of the law, and nothing more.

With a narrowed business model and with cost containment pressures on the rise, Howell set out to rationalize the operations as much as possible.

"Encorp Atlantic is fighting a losing battle", says Howell. "The challenge is to keep industry in compliance with the law, and make sure it never costs more money."

Howell is referring to the increasing depot handling fees (currently 3.577 cents per unit), less revenue from unclaimed refunds (due to higher recovery rates), and higher freight costs.

"It has forced us to look for efficiencies everywhere we can, from freight, to processing, and administration," he says.



EnSys® control centre in Miramichi for all New Brunswick

Reporting

And what are the fruits of his labour?

The entire system is fully automated, through the “EnSys®” data management system developed by Encorp Atlantic. Using small handheld devices that read bar codes, all bagged material is tracked from the depot through to the truck and driver, and finally the processor. This minimizes opportunities for error or possible fraud. EnSys features audit trail checks and balances, remote access/management, timely and accurate reporting, and system integration for standard accounting systems. EnSys issues electronic payments to depots immediately, and has the capacity and versatility for application in other collection programs (e.g., waste paint, used oil, tires, etc.).

All deposit-refund systems suffer from inappropriate exploitation, where collectors (in this case depots) may over-report the amount of containers said to have been redeemed by them. For system operators this represents a huge cost as every “ghost” container redeemed ends up costing the full refund (5 cents) plus the handling fee (3.577 cents),

plus any associated processing, transportation and management costs. Originally Hebert’s Recycling Inc., exclusive service provider to Encorp Atlantic for transportation and processing, employed two full time staff to manually count each container from bulk bags randomly chosen during the day. Today, Hebert’s is installing modern counters involving high-tech multiple-beam infrared light curtains monitored by just one individual. The technology came from a national group of experts operating other provincial deposit-refund systems known as the “Recycling Affiliates”. They meet regularly to share their expertise, knowledge and experience. The technology ensures 100 per cent accuracy, and with the help of EnSys, Encorp Atlantic can keep close tabs on any depots inclined to over-report their loads.

Processing

What started with five carriers and five regional processors has been streamlined into one long-term contract with Hebert’s Recycling, a small material recycling facility (MRF) in Miramichi. The relationship

“The new law may be the closest thing to real Extended Producer Responsibility in the country.”

New Brunswick Waste Management and Diversion

While New Brunswick may be small in land mass and population (<800,000), in terms of waste reduction policy and programs, it's on its way to becoming one of the more successful waste diversion provinces in Canada.

In 1996, the provincial Ministry of Environment created twelve Solid Waste Commissions under the Regional Solid Waste Commissions Regulation, each responsible for establishing recycling programs in a given area. These Commissions are entities of their own, but their boards are made up of representatives from the municipalities.

Tip fees from landfills and transfer stations are used by the Commissions to fund recycling programs, and today, just over 10 years after their establishment; about 86 per cent of residences have access to recycling, via curbside or depot.

Over the past several years, New Brunswick has closed over 300 open-trench dumpsites and has replaced them by establishing six second-generation landfills throughout the province. These landfills are state-of-the-art facilities that include lined containment cells and leachate collection and treatment systems. The Fredericton landfill has also begun capturing gas for electricity.

The province currently only permits, through an approval to operate, the incineration of biomedical waste. Incineration of mixed solid waste has slowly been phased-out, and is not being considered at this time.

Last summer, New Brunswick passed *An Act to Amend the Clean Environment Act* or Bill 15. The Act sets out a framework under which

producer responsibility programs can be established. The Act allows the environment minister to establish a board to oversee new waste diversion programs. Similar to Ontario's *Waste Diversion Act*, once a material is designated by the minister, affected industry will form an Industry Funding Organization (IFO) that will assume the responsibilities of program design, operation and financing. But unlike the Waste Diversion Ontario (WDO) board, New Brunswick's new multi-materials stewardship board will be comprised of individuals appointed by the minister who have no vested interest in the program (e.g., lawyers, academics, accountants, experts, community leaders, etc). Avoiding any potential conflicts on the board should avoid the kinds of governance challenges and program delays Ontario has experienced. (See *Editorial, SWR December/January edition.*)

Administrative fees from stewards, with no cross subsidization, will support the board's staff, who will undertake independent program monitoring, review and recommendations for program improvements. Once the new board is in place, (estimated in about six months), the minister will announce the first targeted material — likely paint — followed by used-oil materials, then electronics.

This unique combination of an independent "oversight" board, Industry Funding Organizations and twelve provincial Waste Commissions may just prove to be the winning formula for effective, well-monitored waste diversion and product stewardship programs in Canada. We'll track the province's progress in future editions.

with Hebert's Recycling brings synergistic benefit to Encorp Atlantic. By working with Hebert's to find system efficiencies, Encorp benefits from lower costs overall.

For instance, the new "Enviro-pactor" compaction unit located at the back of the trucks compacts all containers (except glass and steel) by half, reducing the cost of freight from what used to be 2,000 truck loads a year to about 1,200 trucks per year — a 40 per cent reduction. The "mini-bales" of compacted PET bottles are then ground onsite at Hebert's Recycling into "dirty flake" — a value added product — and shipped to Eastern Canadian customers. The "dirty flake" product has lower feedstock costs yielding 95 per cent finished product versus 80 per cent from baled material. Avoiding the need to bale the PET reduces costs of material, energy, labour and capital. In simple terms,



Truck with Enviro-pactor machine ready to pick-up

"it's about doing more with less," says Howell.

Following on the success of this industry-run program, the New Brunswick legislature recently passed *Bill 15, An Act to Amend the Clean Environment Act*, which sets out the framework for new producer responsibility programs in the province. In spite of heavy lobby efforts from industry, the new law may be the closest thing to real Extended Producer Responsibility in the country, and subsequently may lead the way forward to truly innovative waste diversion programs, just like it did for beverage containers. ♻️

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