



Nova Scotia, Canada - recycling & composting saves C\$31 million pa

Nova Scotia's leading edge solid waste management system saves at least \$31 million pa - or C\$33 for every Nova Scotian - compared to the old landfill system, according to a new study from Halifax-based research group GPI Atlantic.

The study by Sally Walker and colleagues takes into account a full range of benefits and costs, including operating and capital costs for kerbside pickups and landfilling, decreased greenhouse gas and air pollution emissions, new jobs in the recycling industry, time spent sorting waste, and costs of administering the bottle deposit-refund and tyre recycling systems.

Background

In 1989, Canada's provincial Ministers of the Environment set a target to halve the amount of solid waste being sent to landfills and incinerators by the year 2000. That same year, Nova Scotia sent 641,375 tonnes (t) of waste – 726 kg per person – to landfills and incinerators.

The challenge for Nova Scotia, therefore, using 1989 as a base year, was to create a system that would divert half that waste – 320,687 t (363 kg per person – from landfills pa.

Nova Scotia did succeed in diverting 50 per cent of its waste from landfills for one six-month period in the year 2000 and has since achieved 46 per cent diversion in each year. The 50 per cent diversion achievement (now 46 per cent) is the result of a comprehensive Solid Waste- Resource Management Strategy developed through government action, citizen involvement, and industry support. The strategy was designed to ensure that the people of Nova Scotia "receive the maximum environmental and economic benefits while



Citadel, Halifax, Nova Scotia (courtesy Canadian Tourism Commission, 2004)

minimizing the potential increases in the cost of managing solid waste".

Municipalities have contributed significantly to the capital and operating costs associated with collecting and managing recyclables, organic materials and waste in Nova Scotia.

In addition to municipal systems, the Resource Recovery Fund Board (RRFB), a non-profit organisation, operates the bottle deposit, tyre, and paint recycling systems in the province. The RRFB funnels portions of profits from the recycling programs back to municipalities through diversion credits, based on the rate of diversion for each solid waste-resource management region.

The RRFB also funds approved programmes, and invests in value-added manufacturing related to the recycling industry. The new waste-resource management system – which involves recycling, composting and improved landfills – began in 1996. It came with a heavy price tag. Actual implementation of the various components of the Solid Waste-Resource Management Strategy led to an increase in operating and amortised costs from C\$48.6 million

(C\$53 per person) before the Strategy (represented by fiscal year 1996-97) to C\$72.5 million (C\$77 per person) in fiscal year 2000/01.

The current system

The biggest financial advantage of the new system over the old is in the energy saved by using recycled materials instead of materials extracted from virgin resources.

The second largest financial benefit comes from extending the life-span of landfills by diverting nearly half of the province's solid waste to recycling and composting.

Compared to 1989, when only three per cent of waste was diverted, Nova Scotia now diverts 46 per cent of waste from landfills. The study confirms Nova Scotia's national and international leadership in solid waste management, but is the first to look at the full costs and benefits of the system. The C\$31 million annual saving is the lowest estimate in the study. When higher estimates are used, the savings could be as high as C\$167 million pa (C\$178 per capita).

The new system has created employment in the waste

management industry valued at C\$2.8 - 3.9 million a year, with spin-off benefits of C\$3.7 - 5 million. When counting only operating and capital costs, the old landfill system appears to be cheaper, costing C\$24 million a year less than the present system.

But GPI Atlantic is constructing new measures of progress (**the Genuine Progress Index**) for Nova Scotia, and argues that the conventional accounting systems are deceptive because they exclude a wide range of social and environmental costs and benefits.

For instance, the old Sackville landfill was plagued by leachate problems, rodents and pests, foul odours, and leaked gas - producing environmental and health costs that don't show up in the conventional accounts.

The situation became such a problem that Halifax Metropolitan Authority (which ran the landfill) compensated Sackville residents and affected individuals with C\$10.4 million for loss of quality of life and property values.

The GPI factors these costs into the equation. The GPI report found that, on a per capita basis, Nova Scotia disposes of 39 per cent less waste than the Canadian average, and that Halifax Regional Municipality has the highest waste diversion rate of any municipality in Canada - twice the average.

Nova Scotia's overall waste diversion rate of 46 per cent is also higher than any industrialised country. Nova Scotia's high diversion rate is due in large part to its composting system. Within Nova Scotia in 2001, HRM and the Annapolis Valley had the highest total diversion rates at 59 per cent and 51 per cent, respectively, and Cape

Sherbrooke, Nova Scotia (courtesy Canadian Tourism Commission, 2004)



Breton had the lowest at 25 per cent.

Cape Breton is also the only place in Nova Scotia that still uses incineration to dispose of its garbage. Total diversion refers to the total of residential, commercial, industrial, institutional, construction and demolition wastes.

Access to kerbside recycling in Nova Scotia jumped from less than five per cent in 1989 to 99 per cent today, and 76 per cent of residents now have access to kerbside organics pickup - by far the highest rates in the country.

The GPI report records the money spent in Nova Scotia by these international delegations as a monetary benefit of the new system that is hidden in the standard way of counting system costs.

The GPI report cautions that Nova Scotia and HRM cannot afford to rest on the laurels of their achievements if they want to maintain their leadership position in solid waste management. In fact, both the province and the municipality have been slipping. Nova Scotia's total waste diversion rate declined from 50 per cent in 2000 to 46 per cent today; and residential diversion in HRM decreased from around 50 per cent to 47 per cent.

The report points to the inadequacy of existing provincial systems for dealing with household hazardous waste and with the construction and demolition waste that makes up 25 - 30 per cent of the waste stream.

It also urges increased waste diversion in apartment buildings and businesses, and an expansion of the province's waste stewardship agreements with businesses.

The report notes that businesses can do a lot more to reduce waste. For example, the Sydney Olympics demonstrated that compostable coffee cups can be successfully used on a very large scale.

In Nova Scotia, Irving Oil uses biodegradable coffee cups, although the lids are still plastic. But the biggest

purveyors of coffee in Nova Scotia still do not use recyclable or compostable coffee cups. A government-sponsored litter study found that Tim Hortons and McDonald's alone account for one-third of all litter in Nova Scotia - Tim Hortons 22 per cent and McDonald's 10.1 per cent of identifiable litter.

Efforts by the NS Department of Environment and Labour to encourage Tim Hortons to use compostable or recyclable coffee cups are ongoing. But if we really want to reduce waste further, says the GPI report, we need to reduce the amount of waste we generate in the first place - by re-examining our consumption habits and by reducing unnecessary packaging.

The **Nova Scotia GPI Solid Waste-Resource Accounts** is a comprehensive, full cost-benefit analysis of the Nova Scotia Solid Waste-Resource Management Strategy, accounting for benefits such as:

- avoided greenhouse gas and air pollutant emissions
- avoided liability costs
- extended landfill life
- increased employment

It also accounts for the costs of the bottle deposit-refund, tyre recycling, and stewardship programmes, and the cost of the extra time needed to sort waste.

Copies of the July 2004 (198 pages) report **The Nova Scotia GPI Solid Waste-Resource Accounts** (1.6MB) by Sally Walker, Ronald Colman, Jeffrey Wilson, Anne Monette, & Gay Harley are available from:

<http://www.gpiatlantic.org/pdf/solidwaste/solidwaste.pdf>

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