Nova Scotia's Vision Becomes Reality

By Barry Friesen and Andrew Murphy

Imagine a world in which there is no waste. Materials we no longer need are immediately purchased as valuable resources for new businesses. Tin, steel, glass, and plastic beverage and food containers are all washed and refilled locally, to be returned directly to store shelves. Those that cannot be refilled are ground, melted, and remanufactured into new containers. Fabrics are reused or recycled. Refrigerators, stoves, and other white good products are disassembled, their mechanical parts rebuilt, and their remaining hulks reformed into new products. Automobiles never die. They are fixed, refurbished, and turned around to run on the road again. Foodscraps, leaves, and all organics wastes from manufacturing processes are composted and sold as valuable nutrient-rich soil conditioners. Spent tires and other rubber products are reconstituted into new rubber products.

There are no landfills in this world! No municipal solid waste incinerators! No open burning dumps! Instead, there are resource recovery parks; business parks in every community that employ local people to make the everyday products we need in our daily lives. The depletion of our natural resources has slowed and the world is turning the corner to balance supply with demand.

This is the vision Nova Scotia's Environment Minister, the Honourable Wayne Adams, had in November 1995 when he launched a new Solid Waste-Resource Management Strategy for Nova Scotia. In the short time since, the province has seen tremendous achievements in environmental protection and economic growth. Millions of kilograms of materials which otherwise would have been discarded in leaching landfills or open burning dumps have since been converted into new products and new jobs for Nova Scotians. The province is leading the continent with its forward thinking and innovation.

THE STRATEGY

Nova Scotia is a relatively small province of just over 900 000 people. In 1989, it generated 622 000 tonnes of municipal solid waste, much of it incinerated in open dumps. There was virtually no recycling or recovery of resources from municipal solid waste. The Strategy changed all that with four main goals:

- 50% diversion of municipal solid waste by the year 2000;
- increased environmental standards;
- regional cooperation; and
- increased economic opportunities.

Backed by legislation, which include bans on the disposal of many recyclable materials, there have been dramatic results:

- 26% diversion of municipal solid waste by October 1997;
- a deposit-refund system on all beverage containers with 100 depots across the province;
- a program which recycles all used tires in the province;
- solid waste disposal sites reduced from 44 to 19;
- all open burning stopped;
- over 1300 jobs in turning waste into resources;
- money from industry stewardship agreements returned directly to municipalities to fund more diversion programs.

ENVIRONMENT AND THE ECONOMY

Now let's highlight a few industry sectors where the Nova Scotia Vision is on the way to becoming a reality. In each case, there are both environmental and economic benefits of turning wastes into resources.

Fibre Industry

In Nova Scotia, the fibre recycling industry is well developed. It is able to utilize all waste newsprint and cardboard generated in the province in addition to some from outside sources. Several companies are manufacturing products

like insulation, hydro seeding mulch, wall board, cardboard, egg cartons, drink trays, etc. Fibre materials are collected at depots and in curbside recycling programs and processed before they are shipped to one of the manufacturers. In this manner there is no need for any paper products to leave the province. The recycling infrastructure exists directly beside the manufacturer who needs the product. This industry is an example of closing the waste loop and at the same time generating wealth for Nova Scotians.

Used Tires
Used tires can be difficult to dispose of since they often "float" to the surface of landfills. They are a fire hazard when stored in large piles. Furthermore, they often litter rural roads and forested areas. Perhaps more significantly, disposing of tires is simply a waste of valuable rubber that can easily be recycled into new products. However, Nova Scotia has begun to close the loop on wasting this resource. Tires are collected to be reused and recycled. Those that aren't retreaded are made into new products like rubber mats, car parts, and manhole collars. The method is simple. Nova Scotians return their used tires to any tire retailer in the province. From there they are collected and shipped to the Tire Recycling Atlantic Canada Corporation's (TRACC) re-processing plant. Using patented technology, TRACC, a Nova Scotia company, has been able to turn a significant portion of the waste stream into a valuable feed stock using its production process.

Composting
Organic food waste is a major contributor to the production of leachate in landfills. However, in Nova Scotia there are several companies marketing compost technologies that turn organic waste into valuable soil. The Good Earth, a Nova Scotia company, has developed an in-vessel composting technology that can be custom-tailored to meet local needs, requires no exotic equipment, and is simple to maintain. Stinnes Enerco Inc., another company operating in Nova Scotia, has developed a high-tech modular composting solution that offers economies of scale at low volume, and offers low operating and maintenance costs combined with extended life expectations. Together, these and other companies are providing solutions to the challenge of diverting organics from the waste stream. In addition, they are actively marketing their technologies to other regions in order to develop an export market.

Deposit Refund System
While beverage containers make up only about 2% of the waste stream by weight, they are the predominant contributor to litter. Beverage containers are also one of the most visible streams which can be diverted from our waste. Despite these facts, Nova Scotia was failing miserably at recycling until the province introduced a deposit refund system on beverage containers. Now all beverage containers command a 10 cent deposit of which half is refunded upon return of the container to any of 100 depots across the province. This system has resulted in a present capture rate of almost 80% of all beverage containers sold in the province. In addition to the benefits of recycling the containers, consumers are also switching from inefficient single service containers to larger containers or concentrates, thus further reducing waste. The next step, of course, is for beverage manufacturers to switch to refillable containers. In the brewing industry, for instance, there is a whopping 96 to 98% return rate for refillable beer bottles.

The Enviro-depots to which all beverage containers are returned employ hundreds of Nova Scotians province-wide. Also, in addition to accepting beverage containers, Nova Scotians may also take newsprint, corrugated cardboard, and automotive batteries to be recycled through the Enviro-Depots.

Plastic Industry
It is estimated that 79 000 tonnes of plastic waste is generated in Nova Scotia every year and comprises 20% of all landfill space. Currently, only 3000 tonnes, mostly PET, is recovered and recycled. However, there are 129 firms in the Atlantic region involved in manufacturing plastic products. From a recent survey, 25% were purchasing recycled plastic feedstock. When the ban on HDPE and LDPE plastics comes into effect, Nova Scotia will see its volume of recovered plastic waste increase dramatically. Already, there are plans under way to develop a plant to recycle the PET plastic recovered in New Brunswick and Nova Scotia. With the expected increase in volume of plastic waste recovered, Nova Scotia will have the critical mass necessary to support another plastic washing and pelletizing plant. This plant will be able to sell recycled feedstock directly back to the plastic industries already in the province.

SUMMARY
The response to Nova Scotia's strategy has been phenomenal. There have been trade missions and manufacturing deals made all over the world. Nova Scotia's composting technologies have been marketed as far away as Trinidad and Tobago. There have been links to Iceland, the Bahamas, and Mexico. There are now also proposals being considered to help train government staff in solid waste-resource management in Moscow. Nova Scotia is moving towards its vision of a true sustainable economy. One which respects the environment not just in Nova Scotia but across the entire globe.