The Recycling Myth

In the 1970s, citizens throughout North America, concerned about the state of the environment, started aggressively pushing the government to provide them with an efficient and accessible system of recycling. By the 1980s, the Blue Box had been introduced in Ontario, its first test market. Residents conscientiously sorted their recyclable glass, paper, and metal waste, and left their filled Blue Boxes on the curb where the materials would be picked up and transported to become new products. The programs were the envy of environmentalists everywhere, and by 1997, over 9,000 similar programs had sprung up across the continent.[1]

But Bruce Van Voorst, a writer for *Time* magazine, noticed a problem a few years ago.[2] In apartments and in homes around the United States, he observed, Americans were washing glass bottles and separating them into piles of green, clear, and amber. They were bundling up newspapers in one container, putting mixed white paper in another, and placing computer paper in a third. They were hauling the whole collection out to the curb or over to the local recycling centre.

Van Voorst had discovered a "dirty secret." A lot of the carefully separated materials were never actually recycled. "More than 10,000

tons of old newspapers have piled up in waterfront warehouses in New Jersey," he wrote, and for the entire United States the figure could exceed 100 million tons. In Seattle, a recycler pondered what to do with six thousand tons of bottles that couldn't be reused.

Guy Crittendon, a writer for *The Next City*, found similar situations this side of the border. He found mountains of glass left sitting where they had been collected in Northern Ontario. No one had an economic incentives to buy them or haul them away. And bottle depots in Alberta and Saskatchewan consistently lose money.[3]

Swamped by waste, the recycling centres couldn't handle all the debris that dutiful citizens were saving from the landfill. A lot ended up in incinerators, landfills, or storage areas.

The Pressure Is On

Children are taught that the Earth faces disaster. The chief hope for preventing catastrophe is recycling. The pressure on children to recycle, and to persuade their parents to recycle, is enormous.

- "You can help your family to reduce rubbish, save trees and stop land from being used for garbage dumps by setting up your own fine paper recycling program," says *Earthcycles and Ecosystems*.[4]

- "The disposal of waste paper results in more pollution, whether your local garbage is buried or burned," argues *Science Directions*. "As an alternative, you can buy recycled paper whenever possible, and save your used paper for recycling."[5]

- The answer to mineral shortages "lies mainly in conservation. It involves eliminating waste, recycling used materials, and developing substitutes from more plentiful materials,"[6] says *Heath Earth Science*.

- "Using less of the Earth's resources, using them wisely, and recycling them are some ways to conserve the Earth's natural resources," says the text *Journeys in Science* "What can you do to conserve the Earth's natural resources?"[7]

- The same text asks students: "Does your province require a deposit on all beverage containers? How might this help conserve resources?"[8]

A Major Misunderstanding

Our children learn that recycling consists of separating aluminum cans, glass, newspaper, and some plastics and taking them to the curb or to a neighbourhood recycling centre. Of course, that is only half the story. Nothing is truly recycled until a new product made of recycled materials is purchased by a willing customer.

Yet not everything can be turned into new products. Consider paper, which accounts for 40 percent or more of landfill volume. William Rathje of the University of Arizona points out that there is neither a market for this amount of recycled newspaper, nor enough mills to process all the paper that could be collected.

In 1987 New Jersey passed legislation that required every community in the state to recycle, and the recycling rate for newspapers jumped from 50 percent to 62 percent. This created such a glut that the price of newsprint fell from $45 per ton to minus $25 per ton. That's right. Recyclers had to pay $25 per ton for someone to haul the newspapers away![9]

In Europe, the recycling craze has gone further, and the results have not been good. In 1991, the German government enacted a recycling law. It requires businesses to take back from customers and recycle all forms of packaging, including bottles, cans, containers, cartons, and sacks. By 1994, the nonprofit company that collects and

sorts the items was $412 million in debt,[10] and in 1993 the government admitted that some of the returned packaging would be incinerated or put in landfills.[11]

Even More Laws

Weak demand for recycled products has led several provincial and state governments to pass laws requiring that certain products, such as newspapers and other paper goods, contain a minimum percentage of recycled material, or that a certain proportion of soft drink containers be reusable. The U.S. Congress has also considered such legislation and the White House has issued executive orders to encourage the use of recycled products.

The goal is understandable—no one wants piles of yellowing newspapers or mountains of unsanitary glass bottles stuck in warehouses with nowhere to go. But forcing people to buy all the recycled material that is piling up creates its own problems.

Often, recycled material is already more expensive than virgin material because of the cost of collecting all the dispersed material and because recycling requires different processing equipment. To require every item to contain a specific amount of recycled material raises prices even more since manufacturers must make costly investments in plants and equipment that would not otherwise be necessary.

These laws also discourage innovative ways of dealing with waste. Manufacturers and packagers must be more concerned with whether the material can be recycled than with other characteristics. For example:

- Lynn Scarlett of the Reason Foundation points out that recycling laws could eliminate the one-pound coffee "brick packs" you now find in retail stores. These packages hold the same amount

of coffee as metal cans, but weigh less than one-third of traditional metal cans, and they take up little space. Recycled-content laws would force the use of the cans instead.[12]

- Christopher Boerner and Kenneth Chilton of the Center for the Study of American Business point out that single-layered packaging for food is easier to recycle than packages that have several layers of plastic and paper, but the multilayered packaging extends the shelf life of food, and eliminating it will increase food waste.[13]

The Point of It All

So, we have people forced to separate their trash, and now we have people forced to use recycled products. We should at least stop and ask what we are getting for all this mandatory effort. As we saw in Chapter 18, the answer is: Not very much. Recycling may reduce somewhat the amount of paper and other materials that go into landfills, but as we saw, space for landfills is not a very pressing problem.

And there are other real concerns.

- Most texts declare that recycling newspapers and other paper saves trees. "Every tonne of paper you recycle saves 17 trees from the chainsaw," says the children's book *Earthcycles and Ecosystems*. "It also saves fuel (for chainsaws, pulp mills and other forestry operations) and reduces air and water pollution from the mill."[14]

- But the trees that will be "saved" are usually those planted specifically to make pulpwood for paper. More recycling would reduce the incentive to maintain and plant such trees. Economist

Clark Wiseman estimates that if paper recycling reaches 40 percent (it is about 30 percent now), demand for paper from trees would fall by about 7 percent.[15] The industry would be disinclined to maintain their husbandry of the forests.

There are some environmental problems with recycling, too.

- Transporting recyclables to processing plants requires separate collection trucks, and producing the finished goods consumes energy and causes pollution just as production of paper from wood does.[16]

- De-inking of waste paper produces sludge that may contain chlorinated organic chemicals, which are often considered toxic. Toxic or not, the sludge must end up somewhere, probably in a landfill.

So, although it is technically possible to recycle almost all trash, doing so would itself use resources—labour, energy, and materials. And it would pose its own environmental stresses.

On a Brighter Note

In 1995, 62 percent of all aluminum cans were recycled.[17] The reason for this high figure is economics. Producing aluminum from raw ore requires enormous amounts of energy.[18] Producing new cans from old ones uses much less energy. Making new cans from old ones saves money. Although the price varies from time to time, returned aluminum cans fetch between $400 and $600 per ton.[19]

Recycling aluminum cans started in 1968 when the Reynolds Metals Company started a pilot recycling centre. The company was responding to public concerns about litter and wanted to forestall expensive bottle deposit bills. The rapid rise in energy prices during the 1970s plus fears of energy cutoffs soon made recycling permanent.[20]

About ten years ago, members of a Veterans of Foreign Wars chapter outside St. Paul, Minnesota, learned that the small push-pull tabs that are used to open aluminum cans are of a higher quality than the rest of the aluminum can. Per kilogram, they are worth more than returned aluminum cans, and collecting them is less cumbersome. The veterans began to raise funds for a local charity. The Minneapolis house now raises $80,000 a year from tabs, and the program has spread to other parts of the country, and to other charities.[21]

No one is being forced to recycle or buy aluminum cans or aluminum tabs. Recycling happens because the used products (the cans and tabs) have value, and people can earn money if they go to the trouble of collecting them.

Other materials are recycled voluntarily, too. In 1992, about 33 percent of all paper and cardboard in Canada, for example, was recycled.[22] One reason is that collection costs are low, since places such as grocery stores and shopping malls always have lots of boxes.

Junkyards recycle cars, metals, glass, paper, and plastic. Members of the Institute of Scrap Recycling Industries, a trade association in the United States, recycled 9 million cars in 1990, nearly the same as the number of new cars sold that year. These businesses also recycled 60 million tons of ferrous metals, 7 million tons of nonferrous metals, and 30 million tons of paper, glass, and plastic.[23]

In sum, when it is economically feasible, recycling can be an excellent alternative to hauling discards to the landfill. However, recycling does not always represent the best use of resources. Our children's textbooks should reflect the complexity of the recycling issue.

Talking to Your Children

Your children are taught that recycling is the closest thing we have to a solution to our environmental problems. You can now respond to their questions with a more realistic view of recycling.

- How much should we recycle?

  We should recycle when it makes sense to do so. For one thing, we want to be sure that recycling actually takes place. Separating materials and putting them in a recycling box does not mean that materials are being recycled or that landfill space is being saved. If real recycling is to occur, the collected materials must be turned into new products that people want to buy.

- When does recycling make sense?

  Recycling makes sense if people are using it to make products that others want, and if all the costs associated with recycling are not higher than the price people are willing to pay for the recycled product. Clearly, recycling aluminum cans is working. So is recycling cardboard and scrap steel. Businesses exist to recycle these products, and no one is being forced to save them or take them.

- Will recycling save trees?

  Unfortunately, no. Much of our paper comes from trees that are planted specifically to grow pulpwood for paper. If the demand for paper declines, the industry will divert its resources from forest maintenance.

- Why not force people to buy recycled materials?

  Such laws will make products more expensive and discourage innovative ways of dealing with waste (like reducing the amount of packaging). Parents should also consider whether such interference in normal activities is what we want from our governments.

Activities for Parents and Children

The following activities will also help your children put recycling into perspective.

A Visit to the Recycling Centre

Take your children to the local recycling centre and have them talk to the manager. Recycling may help conserve resources and alleviate disposal problems but it also has its drawbacks. What happens to the glass, newspaper or other recyclables that are sorted and collected? Where do they go? What are they used for? How much does it cost?

Your Garbage Bill

Show your children the two utility bills that include fees for garbage collection below. Ask them to examine the numbers carefully.

Utility Bill #1			**Utility Bill #2**		
Reading Date 1/22/99		Reading 465462	3/31/99	4/30/99	
Water Rate/ 625 Gal.	Sewer Rate/ 625 Gal.	Consumption	Trash Rate/ Can	Number of Cans	Trash Charge
$0.011	$0.008	1912	$1.50	6	$9.00
	Charges			**Charges**	
	Water	$21.38		Water	$15.00
	Sewer	$15.30		Sewer	$10.00
	Trash	$15.00		Trash	$9.00
Date Due 3/15/99	Amount Due	$51.68	Date Due 5/30/99	Amount Due	$34.00

Point out that with Bill #1 the family pays the same amount each month for garbage collection no matter how much trash the family leaves at the curb. In this case, recycling does not change the price the family pays for trash. A family that produces just a little trash pays as much as the family that produces large bundles.

Now have your children look at Bill #2. This city charges a fee ($1.50) for each trash can it picks up. A family that produces a lot of trash pays more than a family that produces a little. The family's cost can change every week, depending on how many cans of trash the family uses. Which bill is likely to encourage recycling?

Now compare your family's bill to these two bills. (Of course, you may not have any bill for trash other than your property tax bill.)

If you are charged by the trash can, you can discuss with your children what you as a family might do to cut down on trash and thus save money. If you are not charged this way, point out how little incentive your family has to reduce the amount of trash you throw out. Some cities have reduced landfill usage by this "pay-as-you-throw" method.

Costs of Recycled Products

Take your children to a stationery store and compare the costs of recycled versus nonrecycled paper. Sometimes recycled paper is more expensive (but not always). Discuss with your children whether you will purchase recycled paper if it is more expensive. If so, how much more are they willing to pay?

Discuss with your children why recycled products may be more expensive than normal products. For example, collecting paper from many different sources is often more difficult than cutting down trees and making pulp at a mill near the trees. Higher prices suggest that the recycled product uses more resources—more labour, more materials, or more energy (or perhaps more of all three). Is this really what we want?

If markets for recycled paper increase, the prices of recycled paper should go down as companies benefit from economies of scale. Some paper companies have already designed plants that do a better job of manufacturing paper from recycled paper. But is all that effort and expense really helping the environment? This is a difficult question to answer.

Notes

1 Guy Crittendon, "The Blue Box Conspiracy," *The Next City*, Fall 1997, 34–40.
2 Bruce Van Voorst, "The Recycling Bottleneck," *Time*, September 14, 1992, 52–54.
3 Crittendon, 34–40.
4 Beth Savan, *Earthcycles and Ecosystems* (Toronto: Kids Can Press, 1991), 86.
5 Douglas A. Roberts, *Science Directions 8* (Edmonton: Arnold Publishing, 1991), 321.
6 Samuel N. Namowitz and Nancy E. Spaulding, *Earth Science* (Toronto: DC Heath Canada, Canadian ed., 1987), 85.
7 Peter Beugger and Larry D. Yore, *et al.*, *Journeys in Science 5* (Toronto: Collier Macmillian Canada, 1990), 105, 103.
8 Beugger and Yore, *et al.*, 105.
9 William Rathje and Cullen Murphy, *Rubbish! The Archaeology of Garbage* (New York: HarperCollins, 1992), 206.
10 James V. DeLong, *Wasting Away: Mismanaging Municipal Solid Waste*, Competitive Enterprise Institute, Washington, DC, May 1994, 30.
11 Boerner and Chilton, *Recycling's Demand Side: Lessons from Germany's "Green Dot,"* St. Louis, Washington University Center for the Study of American Business, August 1993.

12 Lynn Scarlett, "Recycling's Invisible Costs," *Wall Street Journal*, March 3, 1992.
13 Boerner and Chilton, 10.
14 Savan, 87.
15 Quoted in Jane S. Shaw, "Recycling," *The Fortune Encyclopedia of Economics*, ed. by David R. Henderson (New York: Warner, 1993), 459.
16 Scarlett, 20.
17 Figure from the Aluminum Association, Washington, D.C., May 1996.
18 Rathje and Murphy, 204.
19 Rathje and Murphy, 200.
20 Shaw, 458.
21 For more information about the pull tab recycling program, you may contact NorthGreen Communications, Inc., 641 East Lake Street, Wayzata, Minnesota.
22 Organisation for Economic Co-operation and Development, *OECD Environmental Data Compendium 1997*, 163.
23 Rathje and Murphy, 202.