The recycling conundrum: How your blue bin hurts the environment

Kevin Libin, National Post · Dec. 4, 2009 | **Last Updated: Dec. 4, 2009 8:02 PM ET**

The City of Calgary introduced its blue box, curbside recycling program this year, and there was rejoicing. Calgary, the last major Canadian city to offer it, had, until recently, asked citizens to deliver their own recyclables to green bins located every few blocks, or to hire, at $10 a month, a private pickup service. To those concerned about environmental appearances, it was embarrassing.

“It means something to me that we’re the last large city in Canada to implement curbside recycling,” said Druh Farrell, the alderman championing the program.

Approving the $50-million plan (plus another roughly $50-million a year recycling tax on homeowners) meant that Calgary had emerged from the “stone age,” sighed a columnist with the Calgary Herald, relieved of being “the laughingstock of the country” for living in a city of eco-barbarians.

If symbolism, and the urge to feel ecologically righteous, were the objective, then the blue box program — part of the city’s ambitious goal to divert 80% of trash from landfills by 2020 — succeeded the moment it began. But if the aim is to help the environment, Calgary, ironically, may have been just as well off in the Stone Age.

Before this year, Calgary was already diverting more than 20% of city waste from landfills through private arrangements. In terms of making an environmental difference, that’s getting close to what cities should aim for, says J. Winston Porter, who, as former assistant administrator for America’s Environmental Protection Agency, was the first to establish nationwide recycling targets in the United States in the 1980s. His target then was 25%, and it’s a number he largely sticks by. Diverting 35% of waste into recycling is about as a high as any city can justify, he says.

Trying to recycle more can be wasteful, if not harmful, he says, even though many major cities are setting targets at 70% or higher.

“People say you can’t recycle too much. It turns out you can,” says Mr. Porter, president of the environmental consulting firm, the Waste Policy Center, near Washington, D.C. “If you spend enough money, you can recycle anything. That doesn’t mean you should.”

While a blue bin out front makes us feel we’re helping the planet, recycling most household materials has either minimal environmental impact, or even a negative one. Homeowners dutifully put out their glass, plastic, steel and aluminum packaging. But the only really valuable item, Mr. Porter says, is the metal. That sounds like an economic assessment, but it’s a key environmental measure: resources to make metal are at a premium, and production is energy intensive. Recycling metal pays because it saves on limited resources and energy — in other words, it’s better for the environment. The trouble is that in the typical North American city’s solid waste stream (including trash and recyclables) aluminum and steel generally account for just 2% by weight. Glass sent to recycling facilities is heavier, making up 3 to 5% of typical city waste by weight. But although it demands more energy, there isn’t much use for it.

All the glass collected this year by Calgary’s new program ended up at the East Calgary Landfill, where it is piling up for want of a buyer. “It’s a product that there just isn’t any demand for,” Bill Stitt, general manager of Metro Waste Paper Recovery Inc., the city’s recycling contractor, told a local paper. Edmonton is stockpiling, too, as are a number of other Canadian cities. The price of sand is simply too cheap, and the impracticality of reusing bottles of varying quality and colour is too big a headache to make it marketable.

Glass is a “red herring when talking about recyclables,” a Recycling Council of BC spokeswoman conceded to the CBC this year; since it doesn’t break down, there’s no effect on air or water when it’s buried in landfills. A 2003 study by Enviros Environmental Consultants UK found that “from a global warming perspective, there is limited environmental benefit to using recycled glass” but continuing with the exercise of recycling was “an important part of the UK meeting its overall glass recycling targets.” That is, so politicians could meet their set goals, even if there was no environmental point to it.

Unfortunately, recycling plastic often doesn’t make much more sense. Germany has stockpiled millions of tonnes of recyclable plastics in rural fields, like above-ground dumps. “These cheap plastic bottles, it depends on the price of oil, but the market is not worth much,” says Daniel Benjamin, an economist at South Carolina’s Clemson University who studies recycling. Though it makes up roughly 5%, by weight, of a typical North American garbage stream, applications for used, mixed plastic are limited. “We’re talking about a few dollars a tonne,” Professor Benjamin says.

San Francisco’s Department of Waste recently calculated it paid $4,000 a tonne to recycle plastic bags. Its resale price for the recycled product? $32. “Nobody wants it. There’s no value. It doesn’t make sense,” says Joseph Gho, CEO of EPI Environmental Products Inc., a Vancouver manufacturer of biodegradable plastics. “Besides the financial, the economic cost, you’ve got the environmental cost” of recycling unwanted material. “The trucks running out there, burning fuel … you have to use energy, you’ve got CO2 emissions.”

That’s why curbside recycling requires, wherever it’s implemented, millions of tax dollars to stay afloat: the inputs required are greater than the savings. Even in New York City, where area land is some of the most expensive on the continent, it costs $240 to deal with a ton of recyclables, compared to the $130 a ton of landfills, says Angela Logomasini, Director of Risk and Environmental Policy at Washington, D.C.’s Competitive Enterprise Institute.

Often the effects of aggressive residential recycling programs harm environmental goals. Citywide blue box programs typically mean a whole new fleet of trucks: Calgary now has 64 more diesel-burning rigs retracing the same tracks its garbage trucks did just a few days earlier, roughly doubling carbon dioxide emissions and other pollutants.

A 2000 study by the London-based environmental group Friends of the Earth found that collecting yard waste for recycling (ie, making mulch) emitted 264 more pounds of CO2 than burying it in a landfill. In 2002, two of Sweden’s leading environmental authorities argued that recycling’s benefits were usually undone by the resources required to collect and process it. The promise of environmentalists of a “flourishing recycling market” where reused goods would find ready buyers “was already a dream 40 years ago and is, unfortunately, still a dream,” they conceded. Better, they wrote, that most materials be incinerated at waste-to-energy plants, which is easier to do, and generates electricity, offsetting the need for fossil fuels. “We believe that incineration of household waste including disposable packaging and food waste, with energy recovery, is best for the environment, economy and management of natural resources,” wrote Valfrid Paulsson, former head of the Swedish Environmental Protection Agency, and Sorren Norby, former president of Keep Sweden Tidy.

The approach is catching on. Britain is building 50 new waste-to-energy incinerators; Denmark’s environmental protection agency recommended in a 2002 report that the country would be best to reroute parts of its recycling program to incinerators instead. With pollutants having been cut dramatically from the process, and a smaller CO2 footprint for power than coal, converting waste-to-energy makes as much sense to Europeans as does growing grain to burn for bio-fuels.

“It’s done in Japan, in Europe, in Russia, all over the world, and we’re actually way behind on waste-to-energy in North America,” says Patrick Moore, chairman of Vancouver environmental communications firm, GreenSpirit Strategies, and a co-founder of Greenpeace. “Wherever there’s diminishing returns [on recycling], that’s where we should be converting waste to energy.”

Here in spacious North America, incineration can’t usually compete with cheap landfills. In the late-eighties, Americans panicked over landfill shortages after a media scare set off when a garbage barge, the Mobro 4000, floated for months off the U.S. east cost seeking a ready landfill. Its owners’ bad management was the real culprit, not landfill scarcity: In fact, the U.S. and Canada both have more cheap space for landfill than anyone could ever need. “The only problem is will,” says Ms. Logomasini. A study out of Washington’s Gonzaga University calculated that all the garbage produced by Americans over the next 1,000 years would fit into a landfill just 44 miles square and 100 feet deep—less than one-tenth of one-percent of American real estate.

The idea of burying garbage in the earth instinctively turns off some people, Mr. Porter admits. But, unless we adopt European levels of incineration, landfills are the final destination for pretty well everything we produce. “Landfills are always going to be with us,” Mr. Porter says. “If I leave a foam cup resting in a landfill, I don’t see why that’s a problem.”

A certain amount of recycling will always be with us, too. It has been for ages, wherever the value of useful materials — paper, aluminum, copper, etc. — created businesses eager to reprocess the products at their own cost. For cities determined to do their part, or, likelier, looking to seize the profitable part of the recycling business, Mr. Porter argues that there are easier, more environmentally friendly options than immense, mandatory blue box programs. First, cities should drop the ridiculously high targets to recycle 70, 80 or 90% of waste. And instead, have homeowners bundle their paper, cardboard and aluminum — the worthwhile stuff — into special coloured bags alongside their regular trash pickup. Those bags can then be separated at the landfill, and the rest trashed. That would eliminate all the extra trucks, energy and cost that so many cities incur so that green-posturing politicians can delude citizens into believing they’re helping the environment, when really, they could be making things worse.

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