

Ten Reasons Tennessee's Solid Waste Programs Should Support a Bottle Bill

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1. Bottle bills complement other recycling.

Bottle bills were the nation's original recycling programs. So it's no surprise that bottle-bill states today continue to have some of the most successful recycling programs in the country, with MSW diversion rates that are more than 50 percent higher, on average, than in states without a container deposit—31 percent versus 20 percent, according to BioCycle's 2006 State of Garbage report. And while it's true that many bottle-bill communities have mandatory curbside, pay-as-you-throw and other forms of imposed recycling, many others do not. The small, mostly blue-collar town of Standish, Maine, for instance (pop. 9,285) provides no curbside, no residential waste collection, no PAYT—only a single transfer station, where an annual permit costs \$25 a year. (Nominal fees are charged for tires, white goods and the like.) But thanks to a recycling ethic that began with the bottle bill in 1976, Standish has a recycling rate of 38 percent—and this doesn't include commercial recycling.

Here are some other examples:

- San Francisco, a city with roughly the same population as Memphis, has a recycling rate of 69 percent, including 50 percent residential and 75 percent commercial. (California's overall diversion rate is 49 percent). In 2006, the city earned \$26.9 million on sales of 387,955 tons of recyclables, including 86,000 tons of composted food scraps and other organic waste.
- Chittenden Solid Waste District in Vermont, which serves 150,000 people in several communities, recycles 45 percent of its solid waste and posts annual scrap revenues of some \$4 million. Virtually none of that revenue comes from beverage containers, since Vermont has one of the highest container-redemption rates in the U.S.—more than 85 percent. Instead, most of the district's revenues—80 percent—comes from cardboard/paper sales. In addition to providing weekly curbside pickup to every household, the district also operates eight drop-off centers accepting appliances, fluorescent lamps, tires, yard waste, wood waste, motor oil, scrap metal, mercury products, electronics and batteries as well as the more traditional items such as newspaper and food jars.
- Last year, Portland, Oregon (pop. 568,000), recycled 50 percent of the 2.7 million tons of solid waste it generated. In addition to more traditional scrap revenues, it earned an additional \$1 million from processing and selling recycled latex paint under the brand name MetroPaint.
- Los Angeles has a diversion rate of 62 percent and offers curbside collection to all single-family residences and most multi-unit dwellings. Its single-stream bins accept

glass, aluminum, cardboard, plastics 1-7, paper and all of the other usual materials, plus styrofoam, wire clothes hangers, shrink wrap and most recently, textiles. Electronics, batteries and other wastes can be recycled at mobile events or dropoff sites.

2. Bottle bills enhance recycling programs, including curbside.

The most common fear voiced by solid waste professionals is that a bottle bill will jeopardize their existing recycling programs by siphoning off valuable aluminum revenues.

While it's true that bottle bills do, indeed, capture the majority of aluminum beverage containers in a community, they also capture the majority of glass and plastic containers. And glass and plastic are much less desirable, from the municipal recycler's perspective, than aluminum. They take up a lot of room, they're hard to handle, and they can be hard to sell, let alone make a profit on, in the small quantities—around 10 percent—typically recovered by voluntary recycling. That's why some curbside and dropoff programs don't even accept them. (And many who do confess that they wind up in the landfill anyway.)

Take these items out of the recycling programs' hands, and you have saved or avoided thousands of dollars in hauling, handling and landfilling costs. New York, for instance, estimates that since its bottle bill went into effect in 1983, it has saved more than \$300 million in landfill tipping fees. Here in Tennessee, annual savings based on average tipping fees of \$28 a ton will amount to roughly \$6 million a year.

In the early 1990s, when Senator Jim Jeffords of Vermont proposed a national bottle bill, the cities of Seattle and Cincinnati both reviewed the potential impacts of such a bill on their existing solid waste and recycling programs.

- Cincinnati concluded that a bottle bill would increase the amount of materials recycled by 60 percent while cutting its recycling costs from \$94 to \$72 per ton recycled.
- Seattle found that while a bottle bill “would result in a 15-percent reduction in tonnage and a 28-percent decline in overall revenues to Seattle's curbside recycling program,” these declines would be “more than offset by additional tonnage recovered through the deposit law and cost-savings to the City from avoided collection and disposal costs”—including compensation to curbside haulers for any lost revenue. Specifically, the analysis predicted 42 percent to 54 percent more beverage container tonnage diverted, and cost savings to the city of between \$236,917 and \$632,774. “In short,” the study concluded, “a bottle bill would divert additional tonnage with no significant impact to either city cost or curbside recycling profits.”

Another way in which bottle bills enhance recycling programs is that, by removing glass, plastic and aluminum containers from the mix, they reduce the likelihood of contamination of the remaining commodities. (More on this in the next item.)

Finally, like many bottle bills, Tennessee's includes a number of features and provisions that will further benefit solid waste and recycling efforts. For instance:

- Tennessee's bill earmarks a portion of the unclaimed deposits and handling fees for recycling, litter control and other solid waste programs.
- Under TN's bill, local governments, including solid waste departments, can operate container redemption centers and thus earn a handling fee of 3 cents per container. The gross earnings—an average of \$130,000 a year, assuming 800 centers and 85 percent redemption—will more than make up for any lost aluminum revenue.
- Since TN's bill provides that certified recyclers get the container scrap at no charge in return for providing pickup and verification services to redemption centers, solid waste programs with their own MRFs can gain this benefit also.

Some solid waste managers express particular fear for their curbside programs, but again, the experiences and data in existing bottle-bill states should help allay such fears—especially the impressive fact that bottle-bill states have, on average, twice as many curbside-recycling programs as non-deposit states (306 vs 153, according to EPA—and just 35 in Tennessee.)

The reasons for this difference are hard to pinpoint, but they probably include:

- Bottle bills turn virtually everyone into recyclers, which in turn may increase their awareness of the benefits of recycling and their willingness to take advantage of curbside recycling.
- Because of that increased awareness, communities may be more willing to accept additional recycling incentives, such as PAYT.
- Bottle bills often allocate a portion of leftover monies (mainly unclaimed deposits and unspent handling fees) to support other recycling programs such as curbside. California, for instance, pays out \$15 million a year to curbside programs. Such assistance has enabled communities to buy recycling bins, for example, and to publish and distribute promotional materials in multiple languages.
- When deposit containers are left in curbside bins, the local jurisdiction can and often does turn in the containers for the refund; California municipalities reportedly make \$23 million annually in this way.

In 1993, the U.S. Congressional Research Service issued a report called “Bottle Bills and Curbside Recycling: Are They Compatible?” (www.ncseonline.org/nle/crsreports/pollution/plgen3.cfm?&CFID=7897759&CFTOKEN=55070935). It concluded that “deposit systems and curbside recycling are compatible. While each can be used to target various segments of the waste stream, both approaches in combination are likely to increase the amount and quality of the material collected.”

Here are some key excerpts from the report. Though some of the numbers have changed, the overall findings are still overwhelmingly on point:

- “Curbside programs serve a larger share of the population in the 10 bottle bill States

than elsewhere: in 1991, 43 percent of the population was served by curbside recycling in the ten, while only 22 percent of the population in the other 40 States had access to curbside recycling. ... California, New York, Connecticut and Massachusetts have ... been leaders in developing curbside recycling while having refund laws in place.”

- “Because the bottles and cans are sorted and handled individually when returned . . . , the materials collected by deposit systems are generally of a higher quality than the same types of materials when collected by curbside programs, particularly if the latter are commingled during collection. Aluminum industry sources, for example, have complained that glass shards, plastic, and lead from commingled recyclables are contaminating shipments of aluminum cans from curbside collection programs. ... In testimony before the Senate Environment and Public Works Committee, the largest user of recycled PET plastic stated that, because of quality considerations, more than 90 percent of the PET bottles his company purchased came from deposit States.”
- “There is no doubt that aluminum is the ‘cash cow’ of curbside recycling programs. But, even with this cash cow, the programs generally do not earn a profit. ... Deposit systems skim potential sources of revenue from curbside programs, but they also reduce the operating costs of curbside programs. Local governments would appear to achieve greater diversion of solid waste from disposal at a lower cost per ton if both a bottle bill and a curbside collection program were in place.”
- “In a bottle bill system, additional costs are internalized in product costs, where they are paid by consumers, producers, or sellers of beverages. In a curbside program, the costs of recycling are paid by taxpayers, whether or not they consume the affected products. ... Funding shortages have slowed or prevented the implementation of curbside recycling programs in many jurisdictions.”

3. Bottle bills are a boon for local scrap yards and processors.

Bottle bills not only generate a steady stream of properly-sorted feedstock to scrap processors; under Tennessee’s bill, these companies may apply for certification to get the scrap at no charge in return for providing pickup, transportation and verification services to the redemption centers. (The beverage distributors have no role whatever in this process.)

If local governments are worried about defaulting on existing contracts, they need only set up a single redemption center in order to give their processor far more business (and high-value aluminum) than ever before, and at an unbeatable price.

4. Bottle bills are a boon for the industries that rely on container scrap.

Few household recyclables are as easily recoverable, as collectively valuable and in such high demand as used beverage containers, including glass when it is collected properly. Yet voluntary programs capture, on average, less than 25 percent of containers nationally, affecting industries from carpeting to fiberglass to the beverage distributors themselves. Consider these reports:

- AP-FoodTechnology.com, Aug. 25, 2005: “Aluminium is the largest raw material cost incurred by [Rexam, the world’s largest maker of aluminum beverage cans]. In the U.S., the group is largely unaffected by the cost fluctuations through long-term contracts. However, Rexam will have to consider the overall price increases in aluminium when those contracts come up for re-negotiation.”
- Recycling Today, March 1, 2004: “The modest recycling rates for PET and HDPE have left U.S. reclaimers in a supply crisis, with capacity exceeding supply in both industry segments. Jean Bina, director of commercial operations for Phoenix Technologies L.P., Bowling Green, Ohio, says declining recycling rates are negatively affecting the domestic markets that have been successfully developed for these materials. Unusually high export demand from China has exacerbated the supply situation.”
- AR Publishing, January 2005: ““The demand for glass has never been higher,”” [said Curt Bucey, COO of Strategic Materials, the largest glass recycler in North America.] “But he said that the recycled glass has to meet quality specifications. Strategic Materials often receives glass shipments that are 50-percent contaminated [and then] must spend more by investing in new machinery and [using] more people to sort the contaminated material. It must then look for ways to compensate for higher costs, which often means paying lower prices for recycled glass. What needs to be done to reverse the trend? Bucey said he would like to see more bottle bills or deposit legislation across the country. ‘That solves all of my problems,’ said Bucey. ‘I get a lot more quantity and a lot higher quality material.’”

5. Cities, counties and solid waste regions that have not yet achieved Tennessee’s 25-percent diversion mandate are much more likely to do so under a bottle bill.

Tennessee's MSW diversion mandate, set in 1991, is just 25 percent. Yet most local government continue to fall short of that goal. In contrast, most states with bottle bills have goals of 50 percent or greater. And though most of these states have not yet achieved this level of recycling, many are close to it, and many of their towns and cities have exceeded it—most of them without counting the beverage containers that get redeemed elsewhere.

A bottle bill will almost certainly push Tennessee over the finish line.

6. A bottle bill will prolong the life of Tennessee’s landfills.

Glass, plastic and aluminum beverage containers make up roughly five percent of the municipal waste stream. Take out that five percent, and in theory you gain one extra year of life for every twenty. And while five percent may not seem like a great deal, consider these facts:

- Beverage containers take up a disproportionate amount of space in landfills, especially plastic bottles.
- Glass containers in particular don't degrade quickly, if ever.

- By encouraging other kinds of recycling, bottle bills effectively extend landfill life beyond the five percent credited to bottles and cans alone.

7. Bottle bills are completely self-supporting, placing no demands on municipal, county or state budgets.

Bottle bills are unique among solid-waste tools in that they are paid for, not by every taxpayer living in a jurisdiction, but by those who benefit from the product—the manufacturer, the retailer and the consumer.

What makes this system even more equitable, here in Tennessee, is that the three-cent handling fee collected from the beverage distributors is just about equal to the market value of their container scrap (once it's been briquetted, flaked, shredded, pelletized or pulverized). And that doesn't even begin to add in the value of the 800 or so small redemption businesses the bill will create, or the several thousand jobs generated, or the tourism impacts of much cleaner roads, or the savings to farmers and manufacturers, or the avoided pollution and greenhouse gases, or even the fundraising.

8. Bottle bills stimulate technologies and services that make recycling more convenient and efficient and thus more popular and mainstream.

Over the 40 years that bottle bills have been evolving, they have generated efficiencies and innovations that have been a boon to recycling as a whole. These include:

- Neighborhood redemption centers. The three-cent handling fee enables Tennessee to make its redemption sites entirely voluntary; it also provides enough funds to establish an administrative office within TDEC, whose job is to ensure that redemption centers are plentiful, accessible, honest and clean. If a grocer or other retailer wishes to open a redemption center, he'll have to go through the same certification process as everyone else.
- Reverse vending machines.
- “Drop-&-go” kiosks. (The customer drops off a bar-coded bag of empties outside his grocery store and goes on his way. The empties are taken elsewhere for electronic processing, and the refund is posted electronically to his account, which he can access inside the kiosk by swiping a key-ring card and entering a PIN number.)
- Mobile redemption centers.
- “Microsite” redemption centers. (These are attractive, portable redemption centers located in enclosed rolloff trailers, and conveniently sited in grocery parking lots. Tennessee's bill allots a half cent of the three-cent handling fee to the grocery store in return for acting as host.)
- “Donate to charity” options at nearly all redemption sites.

9. Bottle bills create fundraising opportunities for community causes and programs, and provide income and jobs for low-income and homeless citizens.

Though fundraising for schools and jobs for the homeless are not direct benefits to recycling programs, anything that helps one government program ultimately benefits all others. Fundraising for community causes—such as an annual “bottle drive” in Maine that raises thousands of dollars each year to buy heating oil for the poor—can ease the pressure on local governments to supply these needs.

And though scavenging by the homeless can be an issue in larger cities, virtually all municipal recycling professionals, and apparently much of the public as well, consider the benefits to the homeless to be worth the minor irritations they create. And years of dealing with the issue has taught these communities a number of coping strategies:

- Susan Casino, recycling coordinator, Boston: “You will get scavenging in collection bins. But [scavengers] also help reduce litter on the streets by picking up bottles and cans. Nobody wants to take away that income from them. People who work with the homeless have talked to them about not leaving a mess. That has helped.”
- Neil Guglielmo, director, Los Angeles Citywide Recycling: “We have scavenging, not just for bottles and cans but for cardboard. We've found that container design helps cut down on it. We use deep, heavy containers, 60- or 90-gallon. The bottles and cans tend to settle to the bottom, and that makes it harder to find and reach them.”
- Theresa Stiner, Iowa Department of Natural Resources: “Some of our redemption centers are sheltered workshops which provide employment for individuals who might not otherwise be able to find work.”
- Peter Spendelow, Oregon Department of Environmental Quality: “Some homeless people do make a small amount of money scavenging containers. Some people in Oregon also donate their containers to the homeless, or to fund homeless shelters. This helps give us a higher recycling rate. I'm not sure what the down side is.”

Tennessee's bottle bill provides that nonprofit agencies such as homeless shelters can apply to become redemption centers, and many of them have expressed an interest in doing so.

10. Bottle bills have strong, diverse and widespread support.

With their extensive economic benefits, their benefits to young people and the poor, their implications for energy and resource conservation, and their historic role in reducing litter, bottle bills are far from being the province only of the tree-hugging crowd. Here are some of their advocates:

- Farmers. Farmers see firsthand the damage that a broken can or bottle can do to livestock, equipment and crops. That’s why the Tennessee Farm Bureau has long listed a bottle bill among its legislative priorities. In fact, the very first bottle bill in the

nation, a ban on the new “throwaway” beer bottles in 1953, was the work of Vermont’s farmers, alarmed by the numbers of cows being injured or killed by container litter.

- Sportsmen. Hunters and fishermen were instrumental in passing two of the nation’s first bottle bills, in Maine and Michigan, and the Tennessee Wildlife Federation has tried more than once to pass a bill here.
- Local governments. A large and growing number of Tennessee’s mayors, county commissioners, sheriffs and other elected and appointed officials are actively working to see that Tennessee’s bottle bill passes. They want cleaner roads above all, but they also want jobs and economic development.
- Businesses. From small grocers to outdoor outfitters to marinas to large recyclers and end-users, Tennessee’s private sector is speaking out in favor of a deposit.
- Energy analysts. Bottle bills are small but meaningful steps toward energy efficiency and oil independence. A Tennessee bill will save the equivalent of 1.5 million barrels of crude oil a year and avoid 150,000 metric tons of greenhouse gases.
- Solid waste professionals. In a December 2006 study by the U.S. General Accountability Office (“Additional Efforts Could Increase Municipal Recycling”; www.gao.gov/new.items/d0737.pdf), recycling managers in some of the country’s largest cities were asked what actions the federal government could take to improve municipal recycling rates. Their second-most-frequently cited suggestion was a national bottle bill. The only strategy recommended more often was a national education campaign. Here are some other comments:
 - James Hogan, recycling coordinator, Westchester County, NY: “A truly comprehensive recycling program is complemented by deposit container programs that divert a considerable amount of material handling and related costs out of the hands of municipal collection programs It also removes high-volume plastic soda bottles which reduces curbside collection costs.”
 - Neil Guglielmo, director, Los Angeles Citywide Recycling Division: “When you implement a container refund value, everybody benefits: the consumer, the local jurisdiction and the recyclers especially. You’re increasing the value by law of that commodity, and that increases the motive to recycle it.”
 - Alex Cuyler, recycling specialist, City of Eugene, OR: “As with most industrial processes, recycling is sustained by both quantity and quality of collected feedstocks. To effectively supply an economy that is becoming more and more dependent on the efficient use of resources, curbside recycling must be augmented by take-back systems, and vice-versa.”
- Ordinary citizens. A public-opinion poll currently being conducted by the University of Tennessee's Social Science Research Institute shows that nearly 80 percent of registered voters “support” or “strongly support” a bottle bill.