

The 10¢ Incentive



to Recycle



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The Container Recycling Institute is a nonprofit research and public education organization studying alternatives for reducing container and packaging waste. CRI compiles data on generation, recovery and disposal of beverage containers, researches container and packaging reuse and recycling options, and serves as the clearinghouse for information on beverage container deposit systems.

Founded in 1991, CRI has become recognized as the expert source for information on container recycling and container deposit systems, and plays a vital role in educating policymakers, government officials, and the general public regarding the social and environmental impacts of the production and disposal of one-way beverage containers. CRI also works to debunk myths about container recycling promoted by the beverage, retail, and container manufacturing industries.

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Introduction

For over a century, bottlers operated a voluntary deposit-return system: a mainstay of the American cultural landscape. The introduction of disposable bottles and cans and the centralization of the beverage industry in the 1950's effectively killed the refillable bottle. Disposable packaging ended the period of wartime frugality: changing consumer habits permanently, and causing container litter to mushroom across the physical landscape.

In response to the growing litter problem, activists and policymakers fought to secure mandatory deposits on throwaway containers. In 1971, Oregon enacted the nation's first law placing a mandatory, refundable 5¢ deposit on all beer and soda cans and bottles. Vermont followed suit the following year. In effect, this legislation codified the older, voluntary deposit, which for years had functioned well as an incentive to recycle and a disincentive to litter. Encouraged by the results, advocates in dozens of other states campaigned for deposit laws, and by 1986, "bottle bills" were in place in 10 states. Several states have updated their deposit laws to include wine, liquor and/or non-carbonated beverages. Three decades after Oregon and Vermont made history, their deposit systems are still going strong.

Recent statewide surveys in Michigan, Iowa, and New York found that the public overwhelmingly supports existing bottle bills by a 3 to 1 margin, and they support updating them to include non-carbonated beverages. No state bottle bill has ever been repealed. Nevertheless, the powerful beverage industry lobby has kept all but a handful of new and updated bottle bill proposals "bottled up" in legislative committees.

Bottle bills are popular because they are effective at reducing litter in urban, rural, and recreational areas; keeping trash out of landfills and incinerators; raising funds for community groups; and saving energy and resources—and reducing pollution—on a global level.

Redemption rates for deposit containers range from 65% to 95%, depending on the deposit value. CRI estimates that the recycling rates in bottle bill states, which include containers picked up at curbside, are 5-15% higher still. In contrast, beverage container recycling rates in non-deposit states average 30%.

The environmental benefits of these high recycling rates are pronounced. In Michigan alone, an estimated 88 billion aluminum cans and glass and plastic bottles have been recycled through the bottle bill since 1979, saving the energy equivalent of almost 40 million barrels of crude oil and reducing greenhouse gas emissions by about 4.8 million tons. From Oregon to New York, bottle bills have also cut beverage container litter by 70% to 85%, and lowered overall litter by 30% to 65%. In 2002, Hawaii became the 11th state to pass a bottle bill. Legislators voted for deposits not only to stimulate recycling, but as a way to keep Hawaii's beaches cleaner, and to create jobs.

Deposit systems also reduce the tax burden. As elected officials across the country are forced to cut essential programs for schools, veterans, and seniors, public recycling is receiving short shrift. Local officials are re-evaluating the "necessity" of curbside programs and other municipal waste reduction measures. In this budget climate, deposit states are at a distinct advantage: the infrastructure for recycling billions of discarded containers is financed by the producers and consumers of the beverages, not the taxpayers. In recent years, policymakers and activists in most of the deposit states have tried to capitalize on this advantage by working to add non-carbonated drinks to their existing bottle bills.

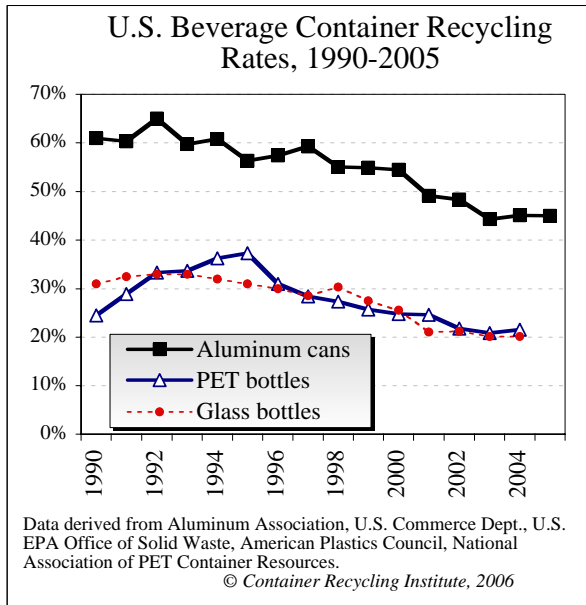
While municipal curbside recycling programs tripled nationally during the 1990's, they have been unable to keep up with increasing sales of single-serving beverages and away-from-home consumption of food and drinks. About 130 billion beverage bottles and cans were landfilled, littered or incinerated in 2004—twice the number wasted in 1990. Now that cities can no longer afford to pick up the tab, the economic and environmental roles played by deposits are more important than ever.

Jennifer Gitlitz, Research Director
Container Recycling Institute

The 10¢ Incentive: Needed Now More than Ever

Deposits Needed to Stem Tide of Waste

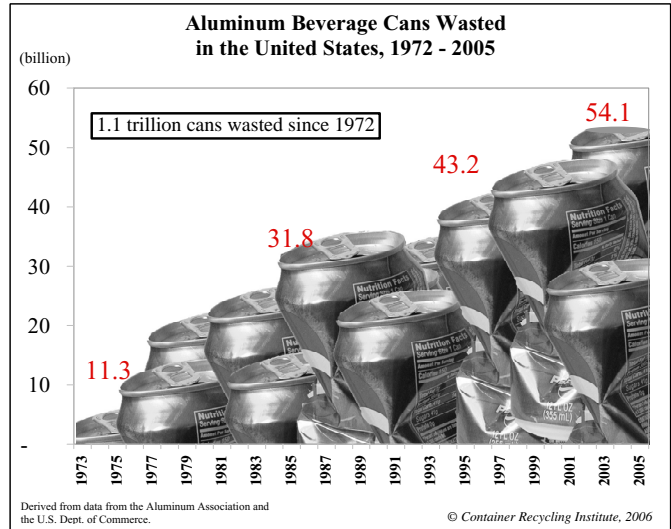
In 2004, about 130 billion aluminum, glass, and plastic beverage containers were not recycled: double the amount wasted in 1990.¹ Instead, these containers ended up in landfills and incinerators, or strewn across the landscape as litter.



As recycling has declined, wasting has risen. **Aluminum can recycling** plummeted from a high of 65% in 1992 to 45% in 2005, when almost 800,000 tons of cans were trashed. Since 1972, over 1 trillion cans have been wasted in the U.S.

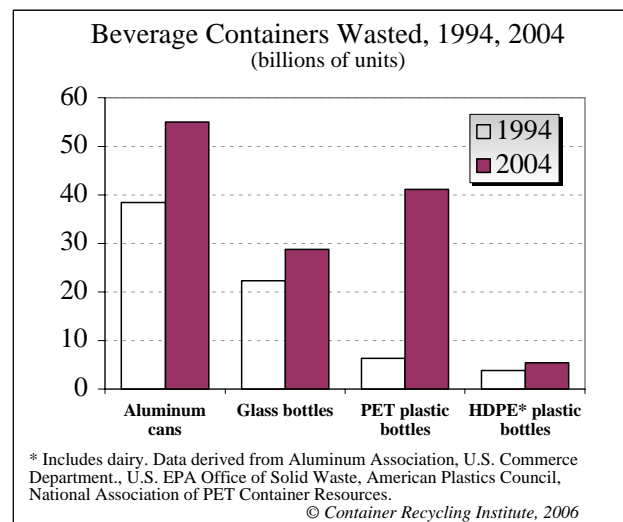
Plastic bottle recycling is faring worse still. Only 21.5% of PET plastic beverage bottles were recycled in 2004—down from a high of 37.3% in 1995. But this percentage decrease cannot by itself illustrate the magnitude of growing waste. In 1990, 719 million pounds of plastic beverage bottles were *not* recycled. By 2004, that number had more than quadrupled to almost 3 billion pounds. This wasting increase is due to the failure of the U.S. recycling infrastructure—or collection mechanism—to keep up with the rapid increase in consumption of beverages sold in plastic bottles.

Glass recycling, too, has hit the doldrums, with scant markets for the large quantities of low-quality, mixed-color glass generated by curbside programs. Data suggest that about 6.8 million tons of glass beverage bottles were landfilled in 2004.



While most Americans dislike litter, and have a general idea that recycling reduces the burden on landfills, few appreciate the much larger energy and environmental impacts of replacing millions of tons of wasted beverage containers with new bottles and cans made from virgin materials. The human, environmental and financial costs of replacing the more than 130 billion cans and bottles wasted annually are staggering. Mining and processing virgin materials consumes energy, damages diverse ecosystems, displaces indigenous people, destroys agricultural lands, and spews a multitude of noxious wastes into the planet's atmosphere, waterways, and lands.

Deposit systems are needed more than ever to minimize the environmental damage from making new containers from virgin materials.



Beverage Container Waste: Whose Responsibility is it?

There are costs associated with managing discarded one-way beverage containers: whether through recycling, disposal (landfilling and incineration), or litter clean-up. The question for policymakers is: "Who should pay these costs?"

When the management burden falls entirely on state and local governments, taxpayers are, in effect, subsidizing beverage corporations (brand owners, bottlers and distributors). Refundable deposits shift these hidden subsidies from government and taxpayers to producers and consumers of the beverage products.

Beverage brand owners, and their bottlers and distributors, however, do not want to be responsible for their throwaway beverage containers. Rather than voluntarily assuming financial responsibility for their product wastes, they promote recycling their discarded products through municipal curbside programs and drop-off centers, which happen to be publicly funded. The beverage and grocery industries spend millions of dollars each year in efforts to repeal existing bottle bills, prevent the update of existing bottle bills to include non-carbonated beverages, and block new bottle bill proposals across the United States.

"They say deposits are a tax. I wish all of my taxes were 100% refundable."

Madison Marye
Virginia State Senator, 1982

Huge profits are being realized in the beverage industry, particularly in sales of single-serve beverages meant for immediate consumption. Beverage manufacturers want to profit from their packaging, but to date they have not appeared willing to pay any of the external costs of one-way bottles and cans.

"Society is telling us in unmistakable terms that we share equally with the public, the responsibility for package retrieval and disposal.

...This industry has spent hundreds of millions of dollars...in the attempt to dispute, deflect, or evade that message. It is interesting to speculate on the state of our public image, and our political fortunes, had that same sum been devoted to disposal or retrieval technology."

Dwight Reed, President
National Soft Drink Association, 1980

FACT: Beverage containers make up 5% of the municipal wastestream in the United States,² and 40 to 60% of roadside litter.³ Beverage container litter and waste are growing at an alarming rate.

FACT: A comprehensive program of curbside recycling **and** deposits recovers more containers at a lower cost per ton to government than curbside alone. The eleven states that have implemented deposit systems recycle more than twice as many beverage containers per capita as the thirty-nine non-deposit states.⁴

FACT: Vast sums of money in the form of campaign contributions and public relations campaigns have kept bottle bills bottled up in dozens of state legislatures, and have defeated nine ballot initiatives over the past thirty-five years.

FACT: Although the nation's one local bottle bill in Columbia, Missouri, was repealed in 2002, after an intense industry-funded campaign against it,* no state bottle bill has ever been repealed.

There is no cure-all for container litter and waste, but putting a 5¢ deposit on beverage cans and bottles creates a monetary incentive to recycle, and a disincentive to litter. A 10¢ deposit is even more effective.

* For details, see <http://www.bottlebill.org/legislation/campaigns/columbia/campaign-missouri.htm>.

What is a Bottle Bill and How Does it Work?

What is a Bottle Bill?

A bottle bill is a law that requires a minimum refundable deposit on beer, soda, and other beverage containers. The financial incentive provided by the refundable deposit ensures high beverage recycling rates, and dramatically reduces container litter. Putting a refundable deposit on beverage containers is not a new idea. The deposit-refund system was created by the beverage industry many decades ago as a means of guaranteeing the return of their glass bottles to be washed, refilled, and re-sold.

Which States Have Bottle Bills?

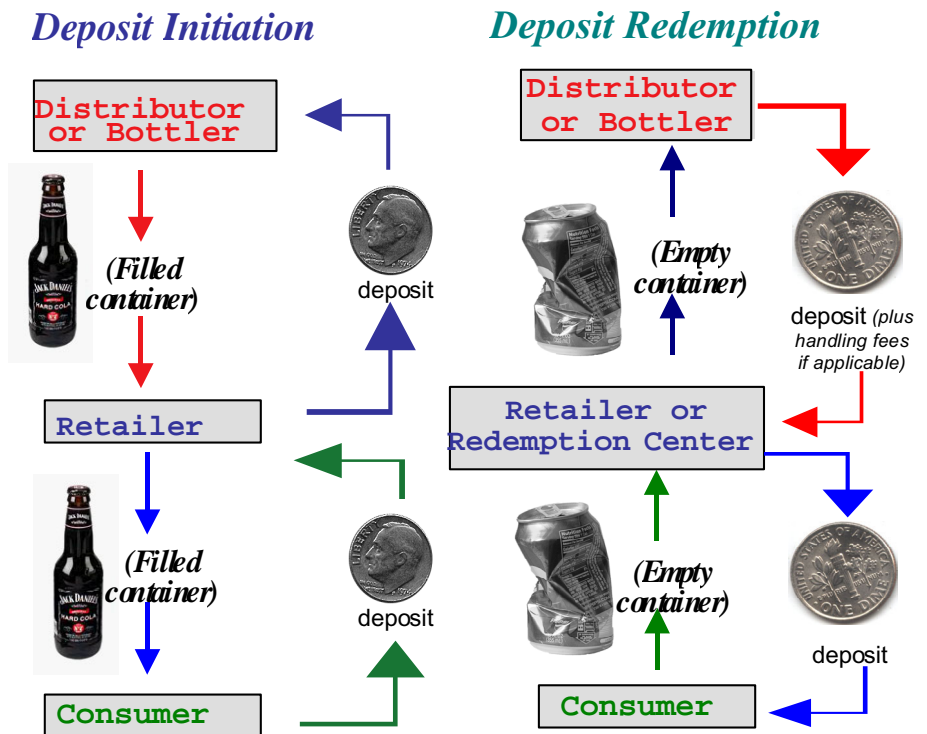
Eleven U.S. states have existing laws that require refundable deposits on all beer and carbonated soft drink containers: California, Connecticut, Delaware, Hawaii, Iowa, Maine, Massachusetts, Michigan, New York, Oregon, and Vermont. The laws vary from state to state. Hawaii's and California's laws also cover non-carbonated, non-alcoholic beverages. Maine's law covers all beverage types except dairy and cider drinks. Several states cover wine and/or liquor bottles. Delaware's deposit law exempts aluminum cans.

How Does a Bottle Bill Work?

When a retailer buys packaged beverages from a distributor, a deposit is paid to the distributor for each can or bottle purchased. The consumer pays the deposit to the retailer when buying the beverage. When the consumer returns the empty beverage container to the retail store, to a redemption center, or to a reverse vending machine, the deposit is refunded. The retailer recoups the deposit from the distributor, plus an additional handling fee in most states. The handling fee, which generally ranges from 1-3 cents, helps cover the cost of handling the containers.

The costs to distributors and bottlers are offset by the sale of scrap cans and bottles and by short-term investments made on the deposits that are collected from retailers. In addition to this income, distributors and bottlers realize windfall profits on beverage containers that consumers fail to return for the refund. These "unclaimed" or "unredeemed"

deposits remain the property of the distributors and bottlers in most states, and amount to millions of dollars a year. In Maine, Michigan and Massachusetts, the courts have ruled that because these unclaimed deposits are "abandoned" by the public, they rightfully belong to the state, and they are now used to fund environmental programs in those states. In Hawaii and California, unredeemed deposits are used to administer the deposit system. Hawaii also levies a one-cent administrative fee on each container purchased.



Deposit Systems Produce Higher Recycling Rates

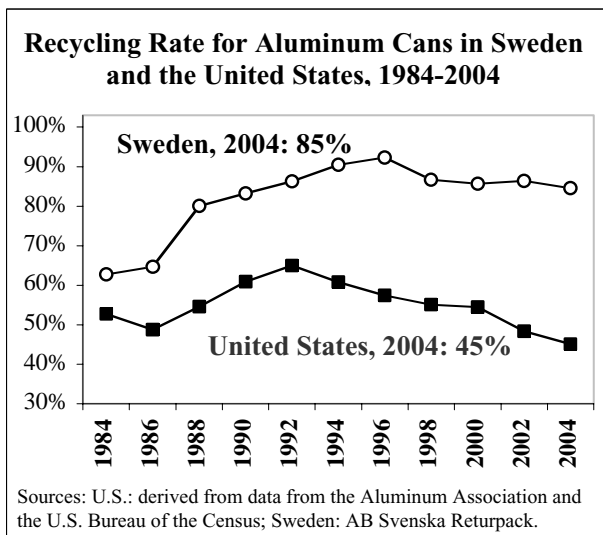
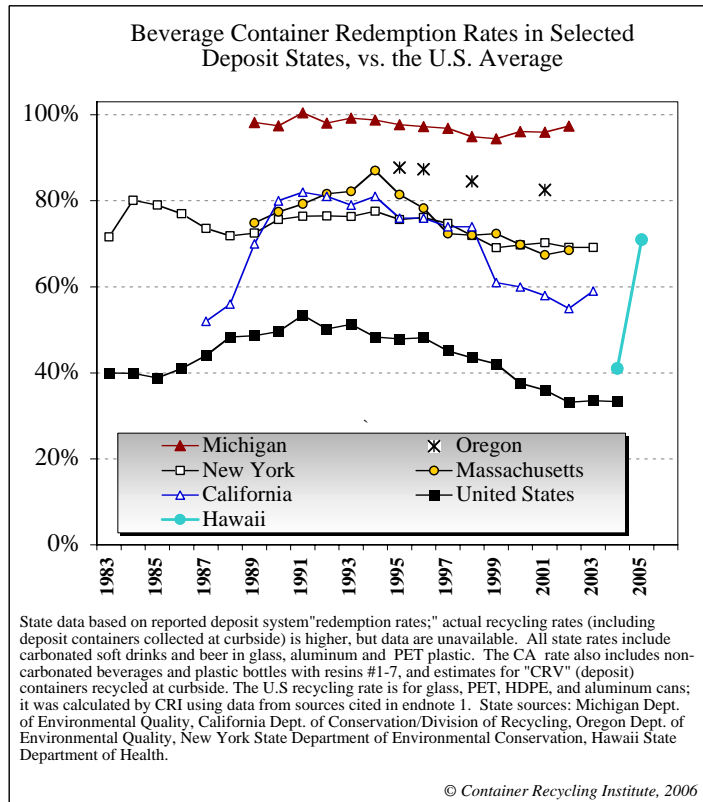
The eleven states with deposit systems have consistently achieved beverage container redemption rates two to three times higher than the rates in non-bottle bill states. While the beverage container *redemption* rate averages 70% in the bottle bill states, the actual *recycling* rate is higher (between 75% and 85%), because some consumers choose to recycle their deposit containers through curbside or drop-off programs rather than at the grocery store or redemption center.

The Container Recycling Institute has estimated a national beverage container recycling rate of about 33%,⁵ a rate that would be much lower if it were not for the high recycling rates in the eleven deposit states pulling up the national average.

Other data corroborate the higher recycling rates in deposit states. A 2002 multi-stakeholder report by Businesses and Environmentalists Allied for Recycling (BEAR) estimated that the overall U.S. beverage container recycling rate was 40.5% in 1999, and that the average rate in non-deposit states was 28% that year.

The 10¢ Incentive

With a higher financial incentive, the average 70% redemption rate can easily be exceeded. As the figure to the right shows, Michigan has a redemption rate of 95%, due to its 10¢ refund value: the only one in the United States. This redemption rate is well above the rates achieved in New York, Massachusetts, Oregon, and Hawaii, where the deposit is 5¢, and in California, where until 2004, the deposit for most containers was only 2.5¢.



Other countries with higher deposit values also achieve higher recycling rates. For example, the voluntary, industry-operated deposit system in Sweden has a deposit value of 50 öre, about 10¢, and has achieved a nationwide aluminum can recycling rate of 85%—forty percentage points higher than the 2004 U.S. aluminum can recycling rate of 45%.⁶ Sweden's PET bottle recycling rate was 79.8% in 2004—four times higher than the 21.5% of PET beverage bottles recycled in the U.S. that year.

A nationwide system of 10¢ deposits on beverage containers would virtually guarantee that 80% to 90% of the beverage cans and bottles sold in the United States would be recycled.

A 10¢ Incentive to Conserve Energy and Reduce Pollution

When containers are wasted (landfilled, littered or incinerated), they must be replaced with new bottles and cans made from virgin materials. Production using virgin (primary) materials is more energy-intensive than production using scrap (secondary) materials, and it generates more pollutants of all kinds: airborne emissions, toxic liquid effluents, and solid wastes from mining and industrial processing.

The environmental effects of this “replacement production” are particularly pronounced for aluminum cans. Primary aluminum production entails strip mining bauxite ore, refining it into alumina using fuel oil and other chemical inputs, transporting it vast distances, and smelting it into aluminum ingot using large quantities of electricity. New hydroelectric dams are often built to produce electricity for aluminum smelters, damaging river ecosystems and displacing indigenous peoples in many regions of the world.

The manufacturing processes for PET plastic, HDPE plastic, and glass bottles are not as environmentally egregious as aluminum can production, but they are still energy consumptive and polluting. As the table below shows, the energy used to replace the estimated 133 billion beverage containers wasted in 2005 could have supplied the total residential energy needs of 3 million American households for a year.

A national system with a 10¢ deposit could achieve at least an 80% recycling rate, saving an additional 34 million barrels of crude oil equivalent (bcoe) annually—over and above the 30 million bcoe already being saved by current recycling efforts.

In 2004, about 4.5 million tons of greenhouse gas emissions also produced in the process of replacing the 130 billion bottles and cans not recycled. A national deposit system achieving an 80% recycling rate could reduce current “replacement-related” greenhouse gas emissions by about 3 million tons.

Thousands of tons of other pollutants could also be source-reduced though a nationwide deposit system, including NOx and SOx (contributors to acid rain and smog), toxic fluorides and volatile hydrocarbons, dioxins, and many industrial effluents.

Energy Impacts of Replacing Beverage Containers Wasted in 2005					
	Potential Energy Savings (a)	Estimated Containers Wasted, 2005 (b)		Energy Wasted Through "Replacement Production" in 2005 (c)	
Container Type	(MBtu/ton recycled)	Units (billion)	Tons (million)	Barrels of Crude Oil Equivalent (million)	Households' Total Annual Energy Needs Met (million)
Aluminum cans	207	54	0.8	28.6	1.7
PET plastic bottles	53	44	1.5	14.3	0.9
HDPE plastic bottles	51	7	0.4	3.7	0.2
Glass bottles	3	29	6.9	3.2	0.2
Total		133	9.6	49.7	3.0

(a) Source for per ton energy savings: "Waste Management and Energy Savings: Benefits by the Numbers." Choate, Ferland et. al., U.S. Environmental Protection Agency, Washington DC, October 2005.

(b) Sales, recycling, and wasting figures derived from the Aluminum Association, the U.S. Department of Commerce, the U.S. EPA Office of Solid Waste, the American Plastics Council, the National Association of PET Container Resources, the Beverage Marketing Corporation, and *Beverage World* magazine. 2005 figures for PET, HDPE, and glass are CRI estimates based on trends.

(c) Factors used: 5.78 MBtu/barrel crude oil. Source for average annual residential energy consumption (94.6 MBtu per household): U.S. Department of Energy, Energy Information Administration, "A Look at Residential Energy Consumption in 2001." www.eia.doe.gov/emeu/consumption.

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Beverage Container Litter: Unsightly, Dangerous, and Costly

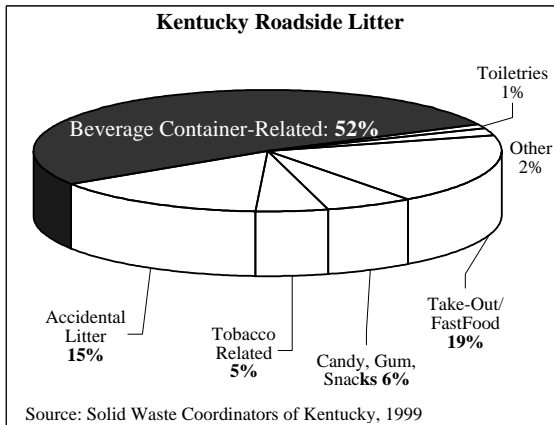
Beverage Container Litter Prevalent in Non-Deposit States

Beverage containers comprise 40% to 60% of roadside litter in non-deposit states. This litter is not only unsightly; it is costly to clean up.

In Virginia, as in many other states, the beverage industry supported a litter tax as an alternative to a bottle bill. Despite the \$1.8 million annual litter tax and anti-litter laws, the Virginia Department of Transportation spent an estimated \$6.6 million in 2001 to pick up litter on state-owned roads and highways.

The Virginia Shenandoah Valley Audubon Society, a participant in the state's Adopt-a-Highway program, carefully recorded the litter they picked up several times a year from 1990 to 1998. They found that beverage containers accounted for 69% of litter collected on their adopted highways over the 9-year period.⁷

In a 1999 statewide study, the Solid Waste Coordinators of Kentucky found that beverage containers and closures made up 52% of roadside litter, as the below figure shows. The same study found that beverage container material made up 42% of litter in state waterways, and an average of 49% of litter at all sites.⁸



Container litter is also dangerous to people and animals. After Massachusetts enacted its deposit law, doctors at Children's Hospital in Boston found a 60% decrease in sutured, glass-related lacerations.⁹

The president of the Pennsylvania Farmers Union has estimated that the costs of litter-related damage average \$938 per farm per year. These costs include equipment damage, feed contamination, crop losses, and livestock deaths from ingesting broken glass and cans.¹⁰

Refundable Deposits are the Most Effective Way to Reduce Litter

Bottle bills were originally enacted to reduce beverage container litter. Government funded studies conducted pre- and post-bottle bill in seven states showed reductions in beverage container litter ranging from 69% to 84%, and reductions in total litter ranging from 30% to 65%, as the table below shows.¹¹

State	Beverage Container Litter Reduction	Total Litter Reduction
New York	70-80%	30%
Oregon	83%	47%
Vermont	76%	35%
Maine	69-77%	35-65%
Michigan	84%	41%
Iowa	76%	39%
Massachusetts	n/a	30-35%

See sources in endnote 11.

While deposit laws reduce total litter by 30% to 65%, cleanup surveys suggest that anti-litter campaigns are less successful. The renowned \$1.5 million a year "Don't Mess with Texas" anti-litter program has been credited with reducing litter in Texas by more than 72%. The success of the program is called into question, however, in light of data from the Center for Marine Conservation. According to their 1995 International Coastal Cleanup, volunteers collected an average of 2,461 pounds of litter per mile of beach: two and a half times the average amount collected during each of 42 beach cleanup efforts in other states that year.¹²

Recent studies in New York and Massachusetts corroborate these findings. Four litter cleanups in 2002 and 2003 showed that in states with existing traditional bottle bills, non-deposit beverage containers are 5 to 14 times more likely to be littered than deposit containers.

In September 2002, the American Littoral Society took part in the Ocean Conservancy's annual International Coastal Cleanup, and collected litter at 250 beach sites in New York State. Of the 16,915 beverage containers that were counted at 67 sites in the survey, 38% were deposit containers (beer, wine coolers, and carbonated soft drinks), and 62% were non-carbonated beverages currently excluded from New York State's deposit law. These include bottled water, fruit juices and drinks, sports drinks, teas, milk, wine and liquor.

Scenic Hudson's annual Great River Sweep yielded similar results in April 2002. At 176 cleanups in 98 communities along New York's Hudson River, over 5,000 volunteers separated beverage containers from other debris, and then compared the counts of deposit containers and non-returnable containers. They found that non-deposit containers made up 61% of the beverage

litter, though they accounted for only 23.5% of the New York State beverage container market.¹³

In Massachusetts, two similar surveys were conducted in Worcester and along the Charles River in Boston, as part of the Massachusetts Riverways Program 2003 Earth Day cleanups. At the Charles River event, volunteers found that non-deposit beverage containers exceeded the number of deposit beverage containers by a ratio of 4.5 to 1. The Worcester cleanup yielded a similar ratio of 4.2 to 1 (see photo below). The market share of non-carbonated beverages in Massachusetts is similar to their market share in New York: about three carbonated, deposit containers sold for each non-carbonated, non-deposit container sold (3.2 to 1 in Massachusetts).

Russ Cohen, Rivers Advocate with the MassRiverways Program, writes in a report documenting the cleanup results, "By combining these two ratios (4.5 to 1 x 3.2 to 1), the cleanup tallies show that it is about fourteen times more likely that a non-deposit beverage container sold in Massachusetts will end up littering our waterways and landscapes than will a deposit container."¹⁴



Members of Massachusetts Community Water Watch participate in an Earth Day litter cleanup in Worcester in March 2003. The pile on the left contains non-deposit bottle and can litter, and the small pile on the right is deposit container litter. Source: Massachusetts Riverways, 2003.

A Comprehensive Approach to Recycling

Curbside or Deposits: Which is Better?

The question is often asked, “Which is better: deposits or curbside, buybacks or drop-offs?” The answer is that these recycling options are not mutually exclusive. Together they can all be part of a comprehensive approach to recycling.

The argument has been wrongly cast in either/or terms. Policymakers must remain clear about what it is they want to accomplish. If the goal is to maximize recovery of recyclables, reduce reliance on raw materials for manufacturing new containers, and maximize waste diversion, then a combination of recovery options should be employed to ensure the highest diversion and recovery rates possible.

“Both systems can serve as elements of comprehensive recycling programs. Neither constitutes a comprehensive program by itself. Neither excludes the use of the other.”
 Bottle Bills and Curbside Recycling: Are they Compatible?
 Congressional Research Service, 1993

Not only are combined curbside and deposit systems more effective than curbside programs alone, the materials collected through deposit programs are of a much higher quality than materials collected through curbside recycling programs.

Deposits: “Bang for the Buck”

The BEAR study found that in 1999, a combination of recycling methods in the ten deposit states (Hawaii had not yet enacted its law) resulted in beverage container recycling rates more than *two and a half times higher* than in non-deposit states. The ten deposit states recycled 490 containers per

capita in 1999, at a cost of 1.53¢ per unit. The forty non-deposit states, which relied solely on curbside programs and drop-off centers, recycled 191 containers per capita at a cost of 1.25¢ per unit,¹⁵ as the table below shows.

Deposits Systems and Curbside Programs are Compatible

Deposit systems are compatible with and complementary to curbside programs. Data derived from *BioCycle’s* 2004 “State of Garbage” report reveal that on average, 79% of the population in deposit states is served by curbside recycling. Nationwide, about half of the population has access to curbside recycling.

In 1991, the Seattle Solid Waste Utility studied the impact of a bottle bill on its successful curbside recycling program. They found that a combined curbside/deposit system would divert more tonnage **and** would result in an annual cost savings to the City of \$591,245 to \$849,219. Even after compensating recycling companies for lost revenue related to the collection and sale of recyclables, the City would realize a net gain of \$236,917 to \$632,774. The study found that a comprehensive system would “divert additional tonnage with no significant impact to either City costs or curbside recycling profits.”¹⁶

	Program Type	Overall Recovery Rate	Annual Per Capita Recovery (units)	Net Cost Incl. Revenues (cents/unit)
NON-DEPOSIT STATES	Curbside	18.5%	127	1.72
	Residential Drop-off	4.5%	31	0.3
	Other (e. g., non- residential and buy-backs)	4.8%	33	unknown
	Subtotal, 40 Non-Deposit States	27.9%	191	1.25
DEPOSIT STATES	Weighted Average, 9 Traditional Deposit States	61.6%	422	2.21
	CA Redemption System	54.5%	373	0.55
	Curbside	9.5%	65	1.72
	Residential Drop-off	1.6%	11	0.3
	Other (e. g., non- residential and buy-backs)	1.8%	13	unknown
	Subtotal, 10 Deposit States	71.6%	490	1.53
Total, United States		40.6%	277	1.31
Source: Derived from data in Table ES-1, "Understanding Beverage Container Recovery: A Value Chain Assessment Prepared for the Multi-Stakeholder Recovery Project, Stage 1." Businesses and Environmentalists Allied for Recycling (BEAR), a Project of Global Green USA, January 16, 2002.				

The Bottle Bill's Impact on Jobs, Sales, Prices, & Public Health

Jobs

Net employment gains have been documented in nearly every state that has enacted a bottle bill. The collection and recycling of beverage containers in bottle bill states has created tens of thousands of new jobs in retail, distribution, and recycling. In states that have a handling fee, a redemption industry has evolved to redeem the empty containers.¹⁷

The steady supply of plastic soda bottles coming from deposit states created a demand for PET plastics that developed into a recycling industry. The number of plastics recycling businesses has tripled since 1990, with more than 1,700 businesses handling or reclaiming post-consumer plastics and employing tens of thousands of workers in 2003.¹⁸

Prices

While price increases have been reported in some states after implementation of the bottle bill, there are indications that a portion of these increases was due to inflation.

- Soft drink prices are among the most price-variable among all food or beverage products on the market, giving soda companies great liberty to set prices to their advantage and make deposit laws appear inflationary.
- In 1984 the New York Beer Wholesalers acknowledged that **over half** of the 11% to 18% price increase in New York was due to inflation within the industry.¹⁹

- Shortly after implementation of the Massachusetts bottle bill in 1983, Donald J. Dowd, Vice President of Coca-Cola New England, was quoted in the *Boston Globe* as saying, “*Our prices pre-bottle bill and post-bottle bill are virtually the same.*”

Sales

The general pattern of beverage sales in deposit states has been an initial slight decline followed by a return to normal growth patterns. Sales figures for a 3-5 year period after the deposit laws were passed show sales increased at or above the national average in most of the states with deposit laws.²⁰

Public Health

In December 2002, Mark Linda, a disease prevention specialist who oversees grocery store inspections in nine Iowa counties, disputed claims that bottle and can redemption areas spread listeria or other food-borne illnesses.

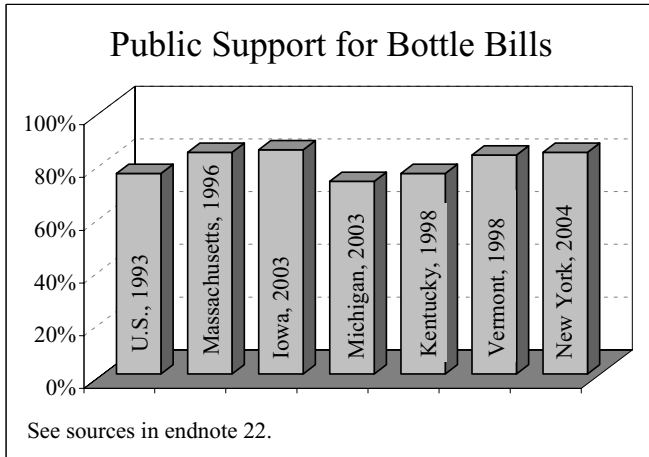
“[Grocers’] claims are fraudulent and are not based on any science,” Mr. Linda said. “This is a pretty thinly disguised attempt to gain public support for a repeal of the bottle bill.” Linda maintains he has never seen a sanitation violation in a can and bottle redemption area.

Jobs Created by Beverage Container Deposit Laws		
State	# of New Jobs	Source
Iowa	1,200	"States' Experience with Beverage Container Deposit Laws Shows Positive Benefits." U.S. General Accounting Office (U.S. GAO), Dec. 1980.
Maine	626	
Michigan	4,684	
New York	3,800	"New York State Returnable Container Act: A Preliminary Study." New York Beer Wholesalers Association, 1984.
Oregon	380	"Potential Effects of a National Mandatory Deposit on Containers." U.S. GAO. Dec., 1977
Vermont	375	"Vermont 5 Cent Deposit." Vermont Agency for Environmental Conservation, 1977.
Massachusetts	1,800	"Report of Cabinet Task Force on Bottle Bill Mandatory Deposit Legislation for Massachusetts." May 1979.

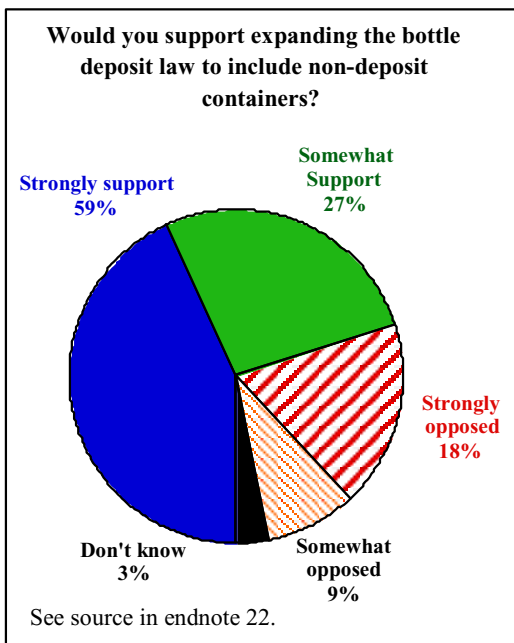
Public Support vs. Industry Opposition

Bottle Bills are Popular

Consumers overwhelmingly support deposits, as shown in public opinion polls where respondents are asked if they support a national bottle bill. State polls conducted by universities, businesses, and non-profit organizations also show strong public support for container deposit legislation.²¹



In a 2004 public opinion poll on New Yorkers' attitudes toward the bottle bill, over 85% of respondents voiced support for adding non-carbonated beverages to the state's container deposit law.²²



Ballot Initiatives Defeated by Industry

Bottle bill opponents have spent huge sums of money to defeat ballot initiatives over the past thirty years, with industry opponents outspending proponents by as much as 30 to 1.²³ In a 2002 referendum in Columbia, Missouri, beverage and grocery companies waged the most expensive local initiative campaign in the city's history, and succeeded in repealing the nation's only local deposit ordinance.

Bottled Up in Committee

Bottle bills have been stymied in state legislatures and the U.S. Congress for over two decades, seldom getting to the floor for a full vote. They are generally defeated in small committees, often by narrow margins. These defeats are due to the tremendous influence the well-funded, politically powerful beverage industry lobby wields over our elected officials.

A 1996 report by the U.S. Public Interest Research Group revealed that between 1989 and 1994, when a national bottle bill proposal was under consideration by the Senate Environment and Public Works Committee, 34 political action committees (PACs) in the beverage, grocery, retail, and container manufacturing industries spent over \$14 million in campaign contributions aimed at defeating national bottle bill proposals.²³ Anti-deposit PACs gave an average of \$16,999 each to EPW committee members who voted against the national bottle bill: more than 40 times the average contribution they made to senators who voted for the bill (\$416). The bill failed 10-6.

From 1982 to 1979, industry lobbies spent almost \$9 million to defeat new or updated deposit initiatives in Colorado, Ohio, Oregon, Washington State, and Washington, DC.²³

Despite continued attempts by these lobbies to repeal existing bottle bills over the last 30 years, no state bottle bill has ever been repealed.

Support for Bottle Bills is Widespread

Governors value their states' deposit laws...

"As a tourist-oriented state whose major attraction is its natural beauty, we are very aware of the contribution of the deposit system in keeping our roadsides clean...The deposit law has had a positive effect in fostering over 1,600 jobs with annual wages of \$22.8 million at local redemption centers throughout the state."

Angus King, Governor of Maine
September 24, 1996

"The bottle bill has been a great success, and we support the bottle bill and its goal of recycling plastics and glass and cleaning up our roadways...We have seen evidence of strong grassroots support for expansion of the bottle bill..."

Thomas Vilsack, Governor of Iowa
June 2, 2002

"...[the Returnable Container Act - RCA] has internalized the cost of solid waste management for beverage containers covered by the RCA.... Therefore the taxpayer does not have to subsidize the disposal of empty beverage containers."

George Pataki, Governor of New York
October 26, 1996

"Michigan's bottle bill has been incredibly successful at keeping recyclable containers off our roadways, away from our beaches and out of our landfills. However, every new water, juice, iced tea or sports drink that hits the market represents a new beverage container that isn't covered by our recycling laws. It's time to expand the most successful bottle bill program in the country to include those containers."

Jennifer Granholm, Governor of Michigan
April 11, 2003

"Oregon's historic bottle bill inspired the country to go into the container recycling business. More importantly, it has saved energy and natural resources and reduced litter in our parks and on our roads."

John Kitzhaber, Governor of Oregon
July 19, 2002

So do recycling professionals...

"A truly comprehensive recycling program is complemented by deposit container programs which divert a considerable amount of material and related handling costs out of the hands of municipal collection programs and shifts that responsibility back to the beverage industry. It also removes high-volume plastic soda bottles which reduces curbside collection costs."

James Hogan, Recycling Coordinator
Westchester County, New York

"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."

Alex Cuyler, Recycling Specialist
City of Eugene Solid Waste and Recycling

"Expansion is necessary because of the popularity of the popular non-carbonated products. A lot of these drinks are being consumed out of the home and on the road, so it makes sense to add the deposit...OCCRA sees a bigger opportunity to save money from the handling of fewer recyclables and cutting down on litter."

Andrew Radin, Recycling Director
Onondaga County NY Resource Recovery Agency

"If the goal is to capture the maximum amount of materials possible, then curbside recycling, deposits and dropoff centers should all be part of a well-thought out pollution prevention and waste reduction plan."

Lanier Hickman, Former Director
Solid Waste Mgmt. Assoc. of North America

"The presence of a bottle bill would increase recycling levels of beverage containers and reduce the City's overall solid waste management system costs...In short, a bottle bill would divert additional tonnage with no significant impact to either city cost or curbside recycling profits."

Seattle Solid Waste Utility

So do elected officials, policymakers and environmental leaders...

"On April 22, 1970, millions of people across the nation and around the world came together for the first Earth Day. It stirred public opinion. People felt it... I have a clear memory of Governor Tom McCall of Oregon proposing the nation's first bottle bill and imposing fines for littering. It was controversial, but I got it. It resonated with me. We were a nation ready to change."

Michael Leavitt, Administrator, U.S. EPA

Speech to the National Press Club, Apr. 14, 2004

"The bottle bill has been...an unqualified success here in Maine, with the fears that were raised against it long since having been proven to be without merit. ...In 1996, I brought legislation to Washington to introduce a national deposit bill. While that would be ideal, the state-by-state approach remains more viable in the short term."

U.S. Representative Tom Allen

Letter to TN State Rep. Russ Johnson, Oct. 11, 2005

"New York's Bottle Bill has been enormously successful in boosting recycling and reducing litter. The time has come to expand the law to require deposits on bottled water and other non-carbonated beverages. We should also use the unclaimed deposits to add to the Environmental Protection Fund."

NY State Attorney General Eliot Spitzer

Speech on WAMC public radio, Mar. 26, 2006

"...the answer is a new federal law, proposed by Sen. James M. Jeffords...[that] would set a national refundable deposit of 10 cents on a beverage container and require producers to reach an 80% recycling rate."

Alan Hershkowitz, PhD

Natural Resources Defense Council

"...the economics of a curbside program would change if materials were removed through other collection strategies. However...the goal is maximum waste stream reduction, not the most cash effective curbside collection program... numerous cities have effective deposit programs and residential curbside collection."

Peter L. Grogan, Former President

National Recycling Coalition

Major newspapers...

"George Pataki has built a progressive record on environmental issues. But [his] solid record will remain incomplete unless he can win Senate approval of three excellent measures that nearly everyone except a small band of Republicans, including the Senate majority leader, Joseph Bruno, seems to want, [including] the Bigger, Better Bottle Bill."

Editorial, The New York Times

December 25, 2005

"The [Massachusetts] bottle bill began as an anti-litter measure but became a hallmark of the recycling revolution. Expanding it now makes good environmental and fiscal sense."

The Boston Globe

Editorial, March 11, 2003

"After three decades, the bottle bill has done much more than help clean up litter. It has helped foster a recycling ethic that's become part of the fabric of Oregon life."

The Oregonian

Editorial, April 2001

"Michigan's 26-year-old bottle return law has worked so well to reduce litter and reuse resources it's hard to believe we're only one of 10 states to have one."

Detroit Free Press

Editorial, June 24, 2002

"...the idea has overwhelming commonsense appeal. The plan would reduce litter, save energy and resources, conserve space in landfills, enhance tourism, make Kentucky a prettier place to live and, just maybe, spark an environmental ethic that could spread across the state."

Lexington Herald Leader

Editorial, December 1998

And even some beverage producers...

"I am embarrassed and appalled to see my bottled water products discarded on the side of the road. I feel a personal sense of responsibility about it. I hardly ever see discarded soda products as litter. The so-called 'Bigger Better Bottle Bill' needs to be passed [in New York]."

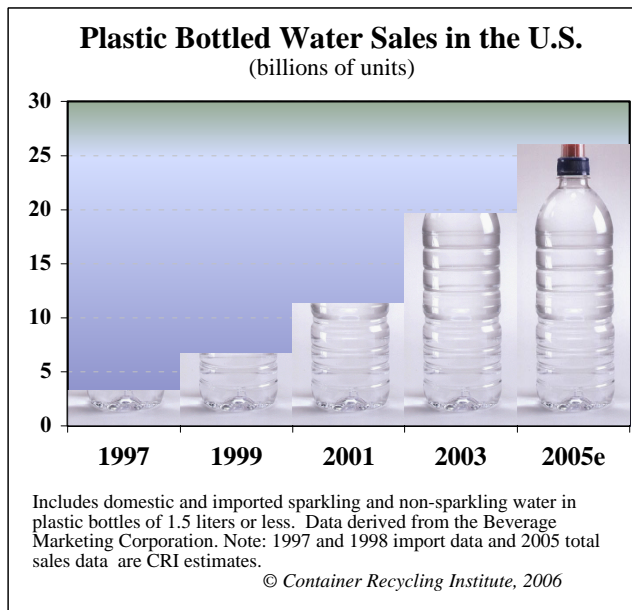
Andrew Swanander, Owner

Mountain Town Spring Water

The Need to Update Deposit Laws

The Changing Beverage Market

After exploding onto the billion-dollar beverage scene in the 1990's, non-carbonated drinks, including bottled water, fruit beverages, sports drinks, and ready-to-drink teas, have increased dramatically over the past decade.



Policymakers, recycling professionals, labor groups and environmentalists are working to update deposit laws to include these beverages, which did not exist when deposits were enacted in the 1970's and 1980's. Maine and California updated their laws to include non-carbonated beverages in 1989 and 1999, respectively. When Hawaii's law was passed in 2002, it included non-carbonated, non-alcoholic drinks.

PET bottled water sales have skyrocketed from 4 billion units in 1997 to an estimated 26 billion units in 2005—rivaling even soda in PET plastic.

The Changing Container Market

The container market, too, has changed over the past decade. Aluminum cans and glass bottles are losing market share to PET plastic bottles. Sales of PET soft drink bottles alone grew from 6.5 billion in 1990 to 23 billion in 2002.²⁴ PET

plastic bottles represent a disproportionate volume of the non-carbonated beverage market.

Beverage consumption patterns are also changing, with more and more beverages in single-serve containers being consumed away from home. Curbside recycling programs are unable to capture these containers. This conventional wisdom was challenged in 2005 by BPEC, a consortium of major beverage brand owners. They said that 66% of packaged beverages were actually being consumed at home. However, the data on which this claim is based is proprietary, and has not yet been made available for independent review.²⁵

Improve Curbside Recycling Efficiency

Updated bottle bills will affect glass and plastic containers more than aluminum cans, since very few non-carbonated beverages sold in the U.S. are packaged in aluminum cans.

The cost of curbside collection and processing far outweighs the revenue generated by the sale of commingled glass and plastic bottles. Plastic bottles have a high volume-to-weight ratio, taking up excessive space in curbside recycling collection trucks.

Glass breaks and contaminates materials, especially paper, in the curbside stream, reducing the value of all the materials collected.

"Glass and plastic are the leading contaminants in recycled fiber, wreaking havoc throughout the paper industry."

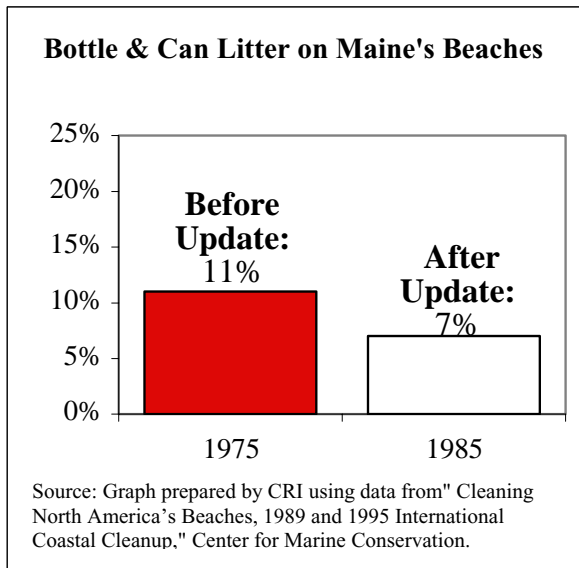
Johnny Gold, Senior V.P.
The Newark Group/Recycled Fibers

Updated deposit laws remove most glass and plastic containers from the wastestream, increasing the efficiency of curbside and commercial recycling programs, and reducing collection and processing costs. In addition, the value of the glass and plastic bottles collected through deposits systems is higher than those collected at curbside, because deposit systems produce cleaner, color-sorted materials.

Reduce Litter and Related Costs

Soda and beer container litter has been reduced in bottle bill states, but bottled water, juice, tea, and sports drink containers are more common than ever on beaches, playgrounds, city streets, and country roads. Deposit opponents argue that updated deposit laws will do nothing to curb litter, but the evidence contradicts this. For example:

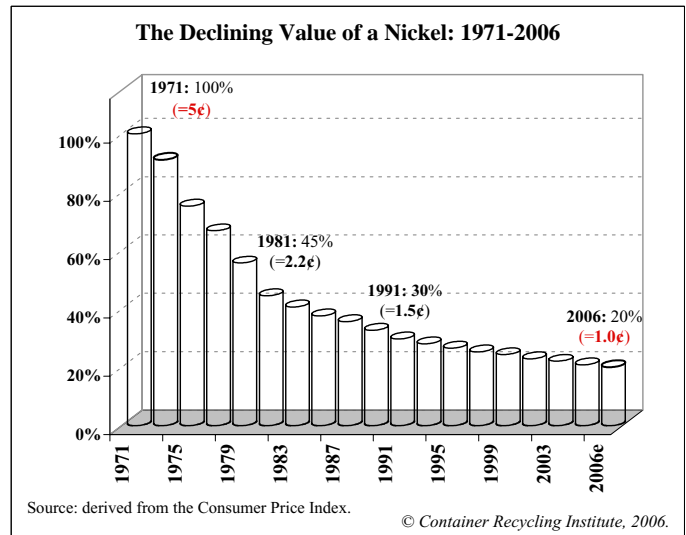
- ◆ An annual litter survey conducted by The Center for Marine Conservation along 213 miles of Maine's shoreline found that bottle and can litter on Maine beaches dropped 30% a year after the bottle bill was updated to include non-carbonated beverages, as shown:



- ◆ In 2002, New York's Scenic Hudson found that 61% of the container litter collected in the Great River Sweep consisted of non-carbonated, non-deposit containers, even though these containers comprise only 23.5% of total beverage sales in New York.

10¢ Deposit to Increase Redemption Rates

Redemption rates for beverage containers have been on the decline in recent years, due in large part to the declining value of the 5¢ deposit, and its failure to keep pace with inflation. In 1971, Oregon adopted the nation's first deposit law, setting the refund value at a nickel per container. Because the deposit value was not tied to any measure of inflation or purchasing power—such as the Consumer Price Index or the minimum wage—it has remained unchanged to the present. Oregon's nickel refund served as the standard for most of the nation's other deposit states.



Like Oregon, none of the other deposit states have tied their refund values to an inflationary index. Eight years after Oregon's bottle bill was enacted, the nickel was worth 2.8¢ in 1971 terms—56% of its original value, as the above graph shows.

Despite this loss in real value, the nickel served as the model deposit amount and was adopted by Maine in 1978, Iowa in 1979, and Connecticut in 1980. In 1983, both New York and Massachusetts adopted new bottle bills with a 5¢ deposit, although by that time the nickel was only worth 41% as much as it had been when adopted by Oregon legislators.

In October 2003, the California redemption value (CRV) was raised from 2.5¢ to 4¢ for containers under 24 ounces, and from 5¢ to 8¢ for containers over 24 ounces. If the redemption rate fails to reach 75% by the end of 2006, the CRV will increase to 5¢ and 10¢ respectively. Even Hawaii set its initial deposit value at 5¢ in 2002.

Inflationary pressure has continued to erode the value of deposits. A nickel in 2006 has the same purchasing power as a penny did in 1971 when Oregon's bottle bill was enacted. For many people, it is simply no longer worthwhile to save a can or bottle for the 5¢ refund value.

While redemption rates in deposit states now average about 70% (twice the overall national rate), the average redemption rate was 85% for many years. Michigan, the only state with a 10¢ deposit, continues to redeem more than 95% of all containers sold. Updating all bottle bills to a 10¢ deposit could raise redemption rates in those states by as much 20 percentage points.

Answers to Ten Frequently Asked Questions

1. Do deposit systems address a significant portion of litter?

Yes. Beverage containers comprise 40% to 60% of litter as shown in many government-sponsored surveys. The Solid Waste Coordinators of Kentucky found that 49% of total litter collected in a statewide litter survey consisted of beverage containers.²⁶ Deposit laws significantly reduce beverage container litter, thereby reducing overall litter as well. Following the implementation of bottle bills in various states, container litter was reduced by 69% to 84% and total litter was reduced by 34% to 64%.²⁷

2. Do deposits target a significant portion of the waste stream?

Yes. While soft drink containers make up 3.8% of the wastestream, all beverage containers that would be covered by an expanded bottle bill (soft drinks, beer, non-carbonated drinks, wine and liquor) comprise 5.3% of the municipal solid waste stream.²⁸ While these percentages may seem small, a small percentage of a huge number is still a significant number.

More importantly, the upstream environmental effects of container wasting are disproportionately high. For example, beverage containers account for at least 20% of the greenhouse gas emissions resulting from landfilling a ton of municipal solid waste and replacing the wasted products with new products made from virgin materials.²⁹

3. Do deposit systems duplicate other recycling programs?

No. Deposits not only complement other recycling systems, but they recover many more containers at a very reasonable cost. A 2002 report by Businesses and Environmentalists Allied for Recycling (BEAR), found that a combination of recycling methods operating in the nation's ten deposit states recycled a total of 490 containers per capita in 1999, at an average unit cost of 1.53¢, while the nation's forty non-deposit states (which relied on curbsides and drop-offs to do the whole job) recycled a total of 191 containers per

capita that year, at an average unit cost of 1.25¢.³⁰ In other words, deposit states have a greater bang for the buck: at an additional cost of only 1.5¢ per six-pack, their recovery rates are more than two and a half times higher than states without bottle bills.

4. Do deposits rob curbside programs of valuable aluminum can revenue?

No more than buyback centers do. Like aluminum can buyback centers, deposit systems compete with curbside for the valuable aluminum cans in the waste stream. If the goal is maximizing recycling, diverting waste from landfills and conserving resources, then we should employ all means possible to achieve those goals. In any case, curbside programs are failing to adequately capture aluminum cans due to an increasing trend of immediate consumption. The U.S. aluminum can recycling rate experience a net drop of 20 percentage points from 1992 to 2004, despite a doubling in the population with access to curbside recycling programs.³¹ Curbside programs do not, and cannot be expected to, target bottles and cans consumed away from home.

Under deposit systems, the cost of recycling is borne by producers and consumers, not by governments and taxpayers. It is unfair to expect curbside recycling to generate revenue when this expectation has never been made of landfilling or incineration. Furthermore, it is unfair to expect one container type to "carry" the others.

In any case, cans are losing market share to PET bottles³² and cannot be counted on indefinitely as a stable source of curbside program revenue.

In fact, deposits actually *help* curbside programs by removing cumbersome, low-value glass and plastic bottles from the waste stream.

Finally, under deposit systems, some towns and cities (and most municipalities in California) are actually collecting a portion of the deposit value for the cans and bottles that are recovered through the curbside collection program.

5. Do consumers support beverage container deposit laws ?

Yes. Beverage container deposit laws enjoy widespread public support nationwide, ranging from 70% in a 1990 poll by the U.S. General Accounting Office, to 76% in 1993 poll by Peter D. Hart Research Associates. Historically, statewide surveys have shown that between 70% and 85% of the public supports bottle bills.³³ Recent statewide polls in three states confirmed earlier findings: public support for existing deposit laws was 73% in Michigan (2003), 84% in New York (2004), and 90% in Iowa (2003).³⁴

Many people prefer both deposit systems and curbside programs, but approximately half the American population does not have access to curbside recycling.³⁵ Moreover, curbside programs do not capture containers purchased for away-from-home consumption.

Deposit law opponents argue that bottle bills negatively affect the elderly who may have difficulty returning the containers to be redeemed. However, bottles and cans are much heavier when they are carried home full from the store. Redemption trips are convenient, since most are combined with people's regular errands and trips to the store.

Opponents also argue that bottle bills disproportionately affect the poor. However, beverages in single serve containers cost more per ounce than beverages in larger sizes, which have the same deposit value. Those on limited incomes would get more for their money by buying larger containers. Also, many low-income individuals, as well as the homeless, make money by picking up beverage container litter and redeeming it.

6. Are deposits a tax?

No. Unlike taxes, deposits are 100% refundable. Consumers who return their containers get their deposits back.

Municipal recycling programs, on the other hand, are usually paid for with tax dollars. Under a deposit system, distributors and bottlers absorb the cost, which they may or may not choose to pass on to their consumers. Under deposit systems, those who create the waste pay for it. This is called the "polluter pays principle."

Distributors argue that deposit systems are expensive and increase prices, but there is no documented evidence that prices in deposit states are higher than prices in non-deposit states.

7. Do deposit laws create health problems for retailers or the public?

No. There are no documented health problems associated with deposit systems.³⁶ Retailers have the authority to refuse to redeem beverage containers if they are too dirty. Redemption centers and reverse vending machines can mitigate any problems of handling empty containers in grocery stores.

8. Do deposit laws reduce sales and increase prices?

Deposit systems internalize disposal, recycling and litter-related costs, shifting those costs from government to beverage distributors and bottlers. They may choose to pass those costs on to consumers through increased prices, but after the Massachusetts bottle bill was enacted, a local Coca-Cola bottler said, "Our prices pre-bottle bill and post-bottle bill are virtually the same."

Even if *consumers* do end up paying a few cents more for a six-pack of beer or soda, as *taxpayers* they will benefit from the reduced costs of disposal, recycling and litter cleanup.

Sales may decline slightly while distributors, retailers and consumers adjust to the system, but studies have shown that within a year sales resume normal patterns.

9. Who supports & opposes deposits?

Generally, environmental and public interest groups, farmers, bicyclists and sportsmen support bottle bills, as the table below shows. Many businesses would openly support bottle bills, but because their customers (Coke, Pepsi, Anheuser-Busch and other beverage companies) oppose these laws, they must remain neutral or even oppose bottle bills that would actually benefit their businesses.

Proponents:	Opponents:
Association of Postconsumer Plastic Recyclers*	Aluminum Association
Garden Clubs of America	American Beverage Association
International Rivers Network	
League of Women Voters of the U.S.	Anheuser-Busch
National Audubon Society	American Plastics Council
National League of Cities	Can Manufacturers' Institute
National Parks and Conservation Association	Coca Cola Company
Natural Resources Defense Council	Food Marketing Institute
National Wildlife Association	Glass Packaging Institute
Rails to Trails	Grocery Manufacturers' Association
Scenic America	International Bottled Water Association
Sierra Club	
Trout Unlimited	National Beer Wholesalers' Association
U.S. PIRG	PepsiCo.

* In May 2006, APR announced its support of expanding existing bottle bills, and its opposition to their repeal.

Nearly all beverage manufacturers, bottlers and distributors, container manufacturers, and retailers oppose deposit laws. Although bottles and cans can be recycled through deposit/return systems for a net cost as low as one half cent per container, the beverage industry still opposes deposit laws because they do not want anything to cut into their bottom line.³⁷

The beverage industry has fought a tireless and well-funded battle to block new deposit laws from being enacted, and to prevent states with existing ones from updating their laws to include non-carbonated beverages. Despite these efforts, Maine and California successfully updated their

deposit laws in 1989 and 1999 respectively, and in June 2002 Hawaii became the 11th state to pass a deposit law. Since 2001, 18 states have introduced new deposit bills and seven states have introduced update proposals.

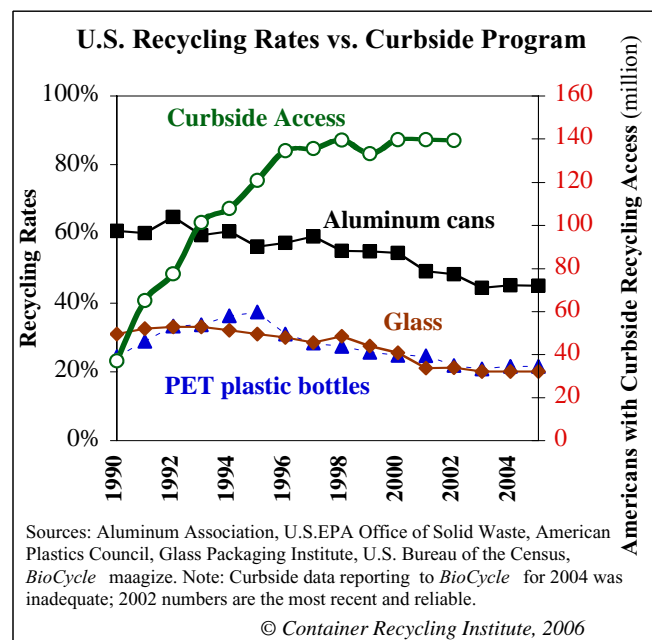
A national bottle bill was introduced in 2003 by Sen. Jim Jeffords of Vermont, garnering 5 co-sponsors including presidential contenders John Kerry and Joe Lieberman.

Proponents of bottle bills are always outspent and out-lobbied by the beverage industry, but declining beverage container recycling rates, the economics of curbside recycling and the popularity of "extended producer responsibility" are reinvigorating the bottle bill movement.

10. Can bottle bills reverse declining recycling rates?

Yes. Container recycling rates in deposit states are 2 to 3 times higher than in non-deposit states. Despite a tripling in curbside program access from 1990 to 2000, recycling rates for cans, glass, and plastic dropped during that period. This may seem like a paradox, but it isn't. Residential curbside programs do not target and cannot capture containers that are consumed away from home.

A refundable deposit provides a clear financial incentive to return deposit containers for recycling: by either the person who purchased the beverage, or by someone else.



Conclusion: Choosing the 10¢ Incentive

Beverage container recycling in America is at a crossroads.

On the one hand, beverage container recycling rates are dropping precipitously, and more glass, plastic, and aluminum containers are being wasted than ever before. This is primarily a result of increased per capita beverage consumption, a shift toward single-serving rather than family-size containers, and more away-from-home consumption that curbside recycling programs cannot capture. Other factors, such the failure of the nickel deposit to keep up with inflation in deposit states, and a comparatively strong economy, which makes fewer people economically dependent on recycling as a source of supplementary income, have further hindered beverage container recycling.

On the other hand, there is more interest among activists and legislators in passing new and expanded bottle bills than at any time in the past decade. The mounting volume of container waste, state and local budget crises, and a growing interest in “extended producer responsibility” make the prospect of industry-funded—rather than taxpayer-funded—recycling systems more attractive than ever.

But legislators’ efforts at enacting deposit laws—one of the nation’s earliest examples of extended producer responsibility—continue to be hampered by the formidable beverage and retail industry lobbies. Through campaign contributions, politically astute lobbyists, industry front groups, and paid media advertising, these powerful lobbies have prevented the passage of all but one new deposit law in the last 17 years.

The influence of the industry lobby can only be countered by *a motivated, well-informed public*, and in turn by *concerted grassroots activity*.

The facts speak for themselves: a fully-refundable 4¢ to 5¢ deposit has produced beverage container recycling rates of 70% to 85% in the bottle bill states, in contrast to rates of 35% or lower in non-deposit states. Michigan’s 10¢ deposit is even more effective: recovering 95% of beverage containers sold. European nations and Canadian provinces have also proven that higher deposits produce return rates of 85% or more—without causing undue hardship to consumers *or* causing the self-destruction of the beverage and retail industries.

The beverage container wasting trend can be reversed in the United States, too.

By choosing the 10¢ Incentive, we can choose to reduce litter, shift disposal costs away from taxpayers to producers and consumers, use less energy, and reduce myriad environmental damages. The time to choose the 10¢ Incentive is now.

Endnotes

- ¹ Excludes milk, aseptic boxes, foil pouches, and gable-top cartons. When these are included, total wasting is closer to 155 billion units. Source: “Internal Market Data Analysis.” The Container Recycling Institute, Jan. 2004, with subsequent revisions. Analysis was conducted using data from the Aluminum Association, U.S. Dept. of Commerce, American Plastics Council, National Association of PET Container Resources, U.S. Environmental Protection Agency, Beverage Marketing Corporation, *Beverage World* magazine, and Aseptic Packaging Council.
- ² “Municipal Solid Waste in the United States: 2000 Facts and Figures.” U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, June 2002, table 19.
- ³ “Litter in Kentucky: A View from the Field.” Solid Waste Coordinators of Kentucky, May 1999.
- ⁴ “Understanding Beverage Container Recycling: A Value Chain Assessment Prepared for the Multi-Stakeholder Recovery Project.” Global Green USA, January 2002, table ES-1.
- ⁵ The 33% overall beverage container recycling rate estimated by CRI includes milk packaged in HDPE jugs. It does not include beverages packaged in non-rigid containers (aseptic drink boxes, foil pouches, and gable-top cartons).
- ⁶ Rates calculated using sources from: the Aluminum Association, the U.S. Bureau of Census, the Dept. of Commerce, and AB Svenska Returpack.
- ⁷ Personal email communication with Sam Patten, Coordinator, Northern Shenandoah Valley Audubon Society Adopt-A-Highway Program, July 2000.
- ⁸ “Litter in Kentucky: A View from the Field.” Solid Waste Coordinators of Kentucky, May 1999.
- ⁹ Douglas M. Baker, MK; Sally E. Moore; and Paul H. Wise, MD, PhD, MPH. “The Impact of ‘Bottle Bill’ Legislation on the Incidence of Lacerations in Childhood,” *American Journal of Public Health*, October 1986.
- ¹⁰ Larry Breech. “U.S. Bottle Bill Deserves Support.” *Philadelphia Inquirer* op-ed, October 21, 2002.
- ¹¹ NY: “Final Report of the Temporary State Commission on Returnable Beverage Containers.” March 1985. Also, “New York State Returnable Container Act: A Preliminary Study.” School of Business and Public Administration of Long Island University, 1984.
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IA: “Litter Survey.” Iowa Department of Transportation, Highway Division, April 1980.
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- ¹² “1995 International Coastal Cleanup: U.S. Results.” Ocean Conservancy (formerly Center for Marine Conservation), Washington, DC, June 1996.
- ¹³ Andy Bicking and Evan Weissman. “Scenic Hudson’s Great River Sweep 2002: Litter Survey & Environmental Benefit Project Report,” Scenic Hudson, Inc., June 7, 2002.
- ¹⁴ Russ Cohen. “Report on Beverage Container Tally at the April 26, 2003 Worcester Earth Day Cleanup,” and “Report on Returnable vs. Non-returnable Beverage Container Tally at April 12, 2003 Charles River Cleanup.” Also, personal communication from Russ Cohen, Massachusetts Riverways Program, May 2003.
- ¹⁵ “Understanding Beverage Container Recycling: A Value Chain Assessment Prepared for the Multi-Stakeholder Recovery Project.” Global Green USA, January 2002, table ES-1.
- ¹⁶ “Potential Impact of a National Bottle Bill on Seattle’s Curbside Recycling Program.” Seattle Solid Waste Utility, September 1991.
- ¹⁷ “Cashing In: Political Contributions and the National Bottle Bill Debate.” Mary Wells. U.S. Public Interest Research Group, 1996.
- ¹⁸ “General Facts About Plastics.” American Plastics Council, http://www.plasticsresource.com/s_plasticsresource/sec.asp?TRACKID=&CID=127&DID=229 (June 2003).
- ¹⁹ “New York State Returnable Container Act: A Preliminary Study.” 1984.
- ²⁰ “Cashing In: Political Contributions and the National Bottle Bill Debate.” Mary Wells. U.S. Public Interest Research Group, 1996.
- ²¹ IA: Robert E. Kramer and Gene E. Lutz. “Attitudes and Opinions on Iowa’s Beverage Container Recycling Law,” Center for Social and Behavioral Research, University of Northern Iowa, June 1998.
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- MA: "Public Opinion Survey on the Expanded Bottle Bill." Massachusetts PIRG, March 1996.
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- VT: "Town Meeting Day Survey." Senator Bill Doyle.
- ²² "Survey of New York Registered Voters: Attitudes Toward New York's Bottle Bill and Proposed Reforms." Public Policy Associates, Inc., Lansing, Michigan, February 2004. This survey was commissioned by Environmental Advocates of New York with a grant from the Overbrook Foundation, and was developed in conjunction with the Container Recycling Institute, the Natural Resources Defense Council, and the New York Public Interest Research Group. The telephone survey of 800 randomly sampled registered voters was conducted in January 2004 and had a margin of error of +/- 3.5 %.
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- ²⁴ Figures derived from "Beverage Packaging in the U.S., 2003 Edition." Beverage Marketing Corporation, December 2003, and "2002 National Post-Consumer Plastics Recycling Report." Prepared for the American Plastics Council by R.W. Beck, September 2003.
- ²⁵ For sources, see endnote 21.
- ²⁶ "Litter in Kentucky: A View from the Field." Solid Waste Coordinators of Kentucky, May 1999.
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- ²⁸ Derived from Table 18 in "Municipal Solid Generation, Recycling, and Disposal in the United States: Facts and Figures for 2003." U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. EPA530-F-05-003 April 2005.
- ²⁹ Jennifer Gitlitz. "Trashed Cans: The Global Environmental Impacts of Aluminum Can Wasting in America," Container Recycling Institute, June 2002.
- ³⁰ "Understanding Beverage Container Recycling: A Value Chain Assessment Prepared for the Multi-Stakeholder Recovery Project." Global Green USA, January 2002, table ES-1.
- ³¹ "Municipal Solid Waste in the United States: 2000 Facts and Figures." U.S. Environmental Protection Agency, , June 2002, Table 17. Also, "The State of Garbage in America," *BioCycle*, December 2001.
- ³² "Beverage Packaging in the US: 2003 Edition." Beverage Marketing Corporation, December 2003.
- ³³ For sources, see endnote 21.
- ³⁴ Michigan: 2003 survey of 1,000 registered Michigan voters found that updating the state's bottle bill to include water, juice, sports drinks and iced teas was supported by 74% of Democrats and Republicans. Survey conducted by Public Policy Associates Lansing, Michigan. New York: See endnote 21.
- ³⁵ "The State of Garbage in America." *BioCycle*, December 2001.
- ³⁶ Container Recycling Institute, 2002. In an internal survey, health departments in all ten deposit states were contacted by phone and asked to report incidences of health code violations or documented cases of transmission of infection due to deposit systems. None were reported.
- ³⁷ The net cost (including material sales revenue) of recycling one beverage container under the California redemption system in 1999 was estimated as \$0.0055. Under an automated reverse-vending machine (RVM) system, it was \$0.0113. Source: "Understanding Beverage Container Recycling: A Value Chain Assessment Prepared for the Multi-Stakeholder Recovery Project." Global Green USA, January 2002, table ES-1.