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Used beverage containers: Waste or opportunity?

A survey of the major beverage companies finds vast room for improvement as most earn failing grades on recycled-content issues.

by Nishita Bashki and Pat Franklin

American consumers purchase, on average, over 500 million beverage bottles and cans each day. Only about one in three are recycled, while two out of three beverage containers sold are landfilled, incinerated or littered. Each year, the U.S. produces more packaged beverages and recycles a smaller portion of the containers.

Given the increasing volumes of beverage containers sold, falling recycling rates and demand for scrap feedstocks, producer responsibility is critical to retaining and expanding domestic markets in all regions of the country. Markets are generally strong for high quality glass containers, plastic bottles and aluminum cans. Domestic markets for scrap PET bottles outpace the supply of PET bottles collected and glass manufacturers cannot get the quantity and quality of scrap bottles necessary to make new glass bottles.

Defining the role and measuring the efforts of beverage companies in recovering containers for recycling is critically important. To that end, social responsibility group As You Sow (San Francisco) and the Container Recycling Institute (Washington) surveyed major beverage companies to measure and compare individual company performance in reducing beverage container packaging and increasing container recovery and recycling.

Beverage container recycling scorecard

The *Beverage Container Recycling Scorecard*, designed by the two organizations, was based on a survey endorsed by the Environmental Working Group (Washington), Friends of the Earth (Washington), Natural Resource Defense Council (New York) and the Sierra Club (San Francisco) and sent to major beverage companies. Five companies (Coca-Cola Co., PepsiCo, New Belgium Brewery, Polar Beverage and Starbucks) responded and, ultimately, a dozen beverage companies were evaluated on the basis of the survey response and publicly available information on Web sites and annual reports. The scorecard evaluated over 95 percent of the carbonated soft drink market, more than 60 percent of the bottled water market, and over 70 percent of the beer industry.

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Table 1 U.S. beverage container recycling scorecard

Company	Recycled content	Beverage container recovery & recycling	Source reduction	Overall grade	Total grade point average
PepsiCo	B	C+	D+	C	2.3
Coca-Cola Co.	D	C+	B	C	2.1
Miller Brewing Co.	D	D-	D	D-	0.9
New Belgium Brewery	C	F	F	D-	0.7
Coors Brewing Co.	D+	D-	F	D-	0.7
Anheuser-Busch	F	D	D	D-	0.7
Polar Beverages	F	D	F	F	0.6
Starbucks	D	F	F	F	0.3
Nestlé Waters	F	F	F	F	0.1
Cadbury Schweppes	F	F	F	F	0.0
Cott	F	F	F	F	0.0
National Beverage Corp.	F	F	F	F	0.0

Source: Container Recycling Institute, 2006.

The results of the survey should serve as a tool for investors and other stakeholders to measure and compare individual company performance in reducing beverage container packaging, using recycled content, increasing container recovery, and recycling of glass, plastic and aluminum beverage containers.

Evaluating the performance of beverage makers

Beverage companies were evaluated based on three core criteria, including:

- Commitment and actions taken to include recycled content in beverage containers
- Commitment, actions taken and policies supported to improve beverage container recovery and recycling
- Commitment and actions taken to reduce amount of packaging material (i.e., source reduction).

PepsiCo (Purchase, New York) and Coca-Cola Co. (Atlanta) topped the list of the 12 surveyed companies, with a grade of C. Four other companies earned a D-, while the remaining six all received an F (see Table 1).

Recycled content: Coca-Cola and PepsiCo have shown some leadership in their use of recycled content. PepsiCo earned the best ranking for recycled content because the company met its goal of using 10-percent recycled content in its plastic carbonated soft drink and water bottles in the U.S. by the end of 2005, and has committed to continue using this level of recycled content in 2006. Coca-Cola also met its 10-percent recycled-content goal in its PET bottles sold in North America in 2005, but did not commit to the same goal for 2006.

New Belgium Brewery (Fort Collins, Colorado) stated its commitment to use "as much recycled content as it can" in glass bottles. Coors Brewing Co. (Golden, Colorado) stated on its Web site that it is using 42-percent recycled content in its aluminum cans and 30 percent in glass bottles. Miller Brewing Co. (Milwaukee) stated that it is committed to purchasing glass with up to 50-percent recycled content, but provides no details on the use of recycled aluminum cans. Starbucks (Seattle) incorporates 10-percent post consumer waste paper in its hot paper cups as of 2006; however, Starbucks does not use any recycled content in its Ethos brand PET water bottles. Both Cadbury Schweppes (London) and Nestlé Waters (Greenwich, Connecticut) report on their Web sites that they will soon begin incorporating recycled content into PET bottles, but do not provide implementation dates or goals.

Recovery and recycling efforts: Coca-Cola Co. and PepsiCo both received the highest ranking for beverage container recovery and recycling efforts, as they both committed to engage with other industry members on an industry-wide quantitative beverage container recovery goal. The goal, however, is yet to be announced and beverage container recycling remains stalled at the low rate of 33.5 percent. Only one-in-five PET bottles is collected for recycling. As long as the demand for scrap PET bottles remains higher than the volume of bottles collected, increasing the amount of recycled content in plastic beverage bottles will be difficult. Increasing recovery is the key to increasing recycled content in all beverage container types.

Source reduction: Coca-Cola Co. received the highest grades for source reduction, as it provided detailed information on its light-weighting goals for 2006, as well as its efforts in 2005. In 2005, Coca-Cola reported that by changing the shape and weight of its various bottles, overall PET use was reduced by two percent. The company stated that it reduced the weight of its glass bottles, and thus glass use, by 25 percent in 2005. For 2006, Coca-Cola's goals include reducing the weight of the 20-ounce PET water bottle by 3.5 grams, and that of the carbonated soft drink bottle of the same size by two grams through redesign.

Miller Brewing Co. stated on its Web site that it has eliminated 50 percent of the aluminum in its cans, saving 50,000 tons of aluminum per year, and also reduced the amount of glass in its bottles, saving over 100,000 tons of glass per year. Anheuser-Busch (St. Louis) maintained that it has saved over 12 million pounds of aluminum through light-weighting efforts, including lid reduction, in 2005, but does not provide details about glass usage. Nestlé Waters provided information on its move away from polyvinyl chloride (PVC) bottles in 1992, and the resulting reduction in bottle weight, as an effort toward source reduction. No further information on efforts thereafter was provided.

The recycling rate for PVC bottles is less than one percent in the U.S. and several health issues have been raised about its use. Cadbury Schweppes mentioned in its *2004 Corporate Social Responsibility* report that the "weight of many of their PET containers, cans and glass bottles has been significantly reduced over the past decade," but did not provide details.

Cadbury Schweppes, Cott (Toronto), National Beverage Corp. (Fort Lauderdale, Florida) and Nestlé Waters fared particularly badly in the survey, presenting little or no information about any recycling efforts for their beverage containers on their Web sites or in public reports.

While some progress has been made by several beverage companies on recycled content (PepsiCo, Coca-Cola and New Belgium Brewery) and in reducing the weight of containers, much more can be done to incorporate higher levels of recycled content in beverage cans and bottles and there is still room for improvement in source reduction. Despite these strides, virtually no action has been taken by beverage companies, individually or collectively, to significantly increase beverage container recovery.

What the data shows

If all beverage companies utilized 10-percent post consumer recycled content in their plastic soft drink and water bottles in 2004, they would have saved the energy equivalent of almost 1.6 million barrels of crude oil or 72 million gallons of gasoline. This would have been enough to electrify over 270,000 U.S. homes for one year. If the percentage of recycled content reached 25 percent (in 2004) for all beverage companies across all of their plastic bottles, they would have saved the energy equivalent of nearly four million barrels of

Greenhouse gas emissions and recycling rates

If the current level of beverage container sales were to remain constant (nearly 200 billion units sold per year), but the overall recycling rate were to reach 80 percent instead of the current 33.5 percent, then using the U.S. Environmental Protection Agency's WAste Reduction Model (WARM), approximately six million tons of greenhouse gas emissions (double current avoided emissions) would be avoided. These additional avoided emissions would be equivalent to taking nearly 2.4 million cars off the road for one year.

crude oil, enough to supply electricity to more than 680,000 U.S. homes for a year.

Container deposit programs have resulted in recycling rates of 70 percent or higher in the 11 states with bottle bills. Beverage companies, however, oppose this recovery system, while failing to provide sustainable alternatives for recovering the tens of billions of beverage containers each year that end up in landfills, incinerators or as litter.

Changing beverage market: Booming sales, plummeting recycling rates

The mix of beverage containers has changed significantly over the years, with PET bottles representing over a quarter of the total number of containers sold in 2004 and aluminum cans about half of total sales. In 1993, PET bottles made up just nine percent and aluminum cans comprised 67 percent of total sales. Glass is now only 18 percent of the mix, as compared to nearly 32 percent in 1993.

In the last 12 years, the number of beverage containers sold increased over 40 percent in the U.S., while beverage container recycling rates declined by one-third. Sales of PET carbonated soft drink (CSD) bottles more than doubled between 1992 and 2004, from 12 billion units to over 28 billion. PET bottled water sales experienced a 700-percent increase in an even shorter timeframe, growing from 3.3 billion units in 1997 to an estimated 26 billion in 2005. Glass beverage bottle and aluminum beverage can sales also increased, but on a much more moderate scale. Can sales grew by eight percent, from 92.4 billion in 1992 to 100 billion units in 2004, while glass bottle sales increased 12.5 percent, from 32 billion units in 1993 to 36 billion units in 2003 (see Table 2).

For the first time since 1985, the carbonated soft drink (CSD) industry showed a slight decline of 0.2 percent in 2005. On the other hand, the bottled water industry reported a growth in volumes of nearly 11 percent in 2005 over the previous year. U.S. beer domestic shipments also showed a slight decline in 2005 over 2004 shipments. Increased imports and sales of premium beers led to a slight increase in sales as a whole (see Table 5).

While container sales have skyrocketed, beverage container recycling rates have been steadily falling since the early 1990s. Recycling rates for glass beverage containers have decreased from 33.0 percent in 1993 to 20.1 percent in 2005. Despite the high scrap value of aluminum cans, the aluminum can recycling rate has declined from a peak of 65 percent in 1992 to 45 percent in 2005. While PET beverage bottle recycling rates increased slightly in 2004 to 21.5 percent, the rate dropped from a high of 37.3 percent in 1995 to 20.8 percent in 2003.

Table 2 Beverage container sales, 1973-2003 (in billions of units)

Container type	1973	1983	1993	2003	2005
Aluminum cans	10	56	94	99	98
Glass bottles	25	32	32	36 (1)	36 (1)
PET plastic bottles	—	4 (1)	9	48	56 (1)
HDPE plastic bottles	—	3 (1)	5	7	9 (1)
Total	35	95	140	190	199

(1) Estimates
Data provided by the Aluminum Association (Washington), Glass Packaging Institute (Alexandria, Virginia), U.S. Environmental Protection Agency (Washington), U.S. Department of Commerce (Washington), American Plastics Council (Arlington, Virginia) and Beverage Marketing Corporation (New York).
Source: Container Recycling Institute, 2006.

Table 3 Top 10 carbonated soft drink companies (in percents)

Companies	2005 market share	2004 market share	Share change	Volume change
Coca-Cola Co.	43.1	43.1	Flat	-0.1
Pepsi-Cola Co.	31.4	31.7	-0.3	-1.2
Cadbury Schweppes	14.6	14.5	+0.1	+0.6
Cott Corp.	5.4	5.5	-0.1	-2.0
National Beverage Corp.	2.4	2.4	Flat	-1.0
Red Bull	0.4	0.3	+0.1	+41.0
Big Red	0.4	0.4	Flat	+0.3
Hansen Natural	0.3	0.2	+0.1	+72.8
Rockstar	0.2	0.1	+0.1	+96.5
Monarch Co.	0.1	0.1	Flat	+0.1

Source: Beverage Digest, 2006

Table 4 Top 10 PET bottled water brands (1)

Brand	2005 market share (percent of revenue)	2004 market share (percent of revenue)	Market share point change	2005 revenue growth (in percent)
Aquafina (PepsiCo)	14.5	15.8	-1.3	15.1
Private Label	13.2	13.2	Flat	25.4
Dasani (Coca-Cola)	11.8	11.8	Flat	24.7
Poland Spring (Nestlé)	6.8	7.0	-0.2	22.2
Propel (PepsiCo)	6.3	5.5	0.8	42.7
Danone	5.4	5.1	0.3	32.1
Arrowhead (Nestlé)	4.9	5.3	-0.4	15.9
Deer Park (Nestlé)	3.7	3.9	-0.2	18.6
Crystal Geyser	2.8	3.4	-0.6	2.1
Ozarka (Nestlé)	2.7	2.5	0.2	34.4

(1) Total food, drug and mass merchandise outlets only (excluding Wal-Mart)
Source: Beverage World and Information Resources, Inc., 2006

Grading methodology

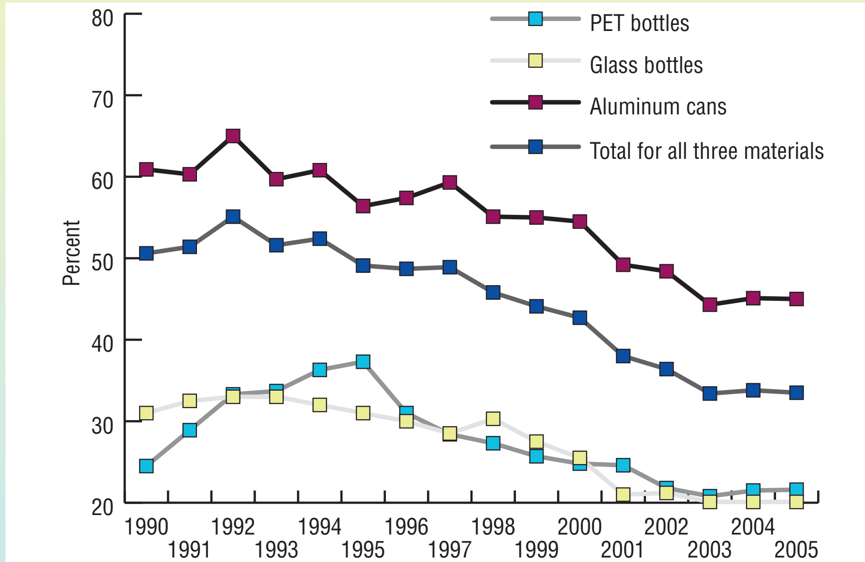
A total of seven indicators were used to evaluate and grade each beverage company in three core areas.

Recycled content
- Adoption of goals on use of recycled content
- Use of recycled content in containers.

Recovery and recycling
- Support of industry-wide container recovery and recycling goals
- Direct involvement in voluntary schemes to increase beverage container recycling
- Support for public policies that increase recovery and recycling rates.

Source reduction
- Adoption of goals to reduce the use of materials in container production
- Disclosure of information and steps taken for source reduction.

Figure 1 U.S. beverage container recycling rates, 1990-2005



Source: Container Recycling Institute, 2006.

Pushing the envelope

The performance of beverage companies in the scorecard survey suggests that all beverage companies must strive to match or exceed the standards set by Coca-Cola and PepsiCo in order to increase recycling rates, increase demand for recovered containers, and reduce consumption of natural resources and pollution. In order to increase recycled content, and recycling rates, all beverage companies should:

- Commit to using the highest possible levels of post-consumer recycled content in beverage containers
- Commit to a measurable, sustainable national recovery goal for beverage containers
- Support public policies that increase recycling of beverage containers
- Commit to source reduction and improved recyclability of beverage containers
- Publicly report on their progress each year.

Table 5 Major beer companies market shares and volumes (in percents)

Companies	2005 market share	2004 market share	Share change	Volume change
Anheuser-Busch	48.5	49.4	-0.9	-1.8
Miller Brewing Co.	18.3	18.5	-0.2	-1.2
Coors Brewing Co.	10.9	11	-0.1	-0.9
Heineken USA [1]	3.5	2.6	0.9	33.7
Pabst	3.2	3.6	-0.4	-9.3
Gambrinus	2.8	2.5	0.3	14.1
Barton	2.4	2.2	0.2	11.5
Guinness	1.5	1.5	Flat	2.9
Yuengling	0.8	0.7	0.1	14.1
Boston	0.6	0.6	Flat	7.6
Others	5.5	4.7	0.8	15.3
U.S. Market				-0.2
Imports				7.1

(1) Heineken USA included in 2005. Molson USA included with Coors 2004-05.

Source: Beer Marketers' Insight, 2006

As You Sow and the Container Recycling Institute will continue monitoring the beverage industry's efforts to reduce beverage container waste and increase recovery, and will report on its progress in subsequent scorecards. **RR**

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