Study Publication Date: July 1999
Price: $3,500
Pages: 214

U.S. demand for beverage containers is expected to increase 2.2 percent per year through 2003.

*Beverage Containers*, a new study from The Freedonia Group, is designed to provide you with an in-depth analysis of major trends in the industry and the outlook for product segments and major markets -- critical information to help you with strategic planning.

This brochure gives you an indication of the scope, depth and value of Freedonia's new study, *Beverage Containers*. Ordering information is included on the back page of the brochure.

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US Demand

- US demand for beverage containers is **projected to advance at an annual pace of 2.2 percent through the year 2003 to 217 billion units.**

- **Plastic containers** will log the fastest gains as they continue to supplant metal, glass and paperboard containers across a range of applications.

- **Metal cans** will continue to account for roughly half of the beverage container market in unit terms, based on the popularity of can multipacks and cans’ traditional strength in the sizable beer and soft drink markets and the vending channel.

- Prospects will improve somewhat for **glass bottles**, as their replacement in the soft drink and milk markets has been largely completed and the loss of share to plastics is slowing in applications like bottled water and distilled spirits as well.

- **Paperboard containers** will continue to fare well in full strength fruit beverages and bulk wines, and new applications are opening for aseptic packaging in the alternative beverage market.

Industry Structure and Participants

- The beverage container industry is among the most highly concentrated segments of the packaging sector in the US.

- In 1998, the top five players -- **Ball**, **American National Can** (Pechiney), **Crown Cork & Seal**, **Metal Container Corporation** (Anheuser-Busch) and **Owens-Illinois** -- supplied almost two-thirds of US unit demand.

- Concentration in the various subsegments of the industry is also quite high, with five or fewer producers supplying over 90 percent of demand for glass, metal and paperboard beverage containers.

Other than frozen concentrated fruit beverages, all nonliquid beverages are excluded from the study, including coffee and tea (other than RTD types), powdered and condensed milk, and powdered fruit drinks and sports beverages. Also excluded are vegetable and tomato drinks, infant formula, packaged milk shakes and liquid nutritional supplements. In the case of containers, all secondary packaging (e.g., corrugated boxes and paperboard beverage carriers) is excluded, as are all bulk containers not intended primarily for in-home use.
### Study Highlights

#### Beverage Container Demand

(billion units)

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Resident Population (mil. persons)</td>
<td>246.8</td>
<td>270.1</td>
<td>0.9</td>
<td>0.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gal. bev. per capita</td>
<td>119</td>
<td>138</td>
<td>151</td>
<td>165</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beverage Production (bil. gal)</td>
<td>29.2</td>
<td>37.3</td>
<td>42.7</td>
<td>48.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% packaged</td>
<td>84.6</td>
<td>85.4</td>
<td>85.4</td>
<td>85.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packaged Bev Prdn (bil. gal)</td>
<td>24.7</td>
<td>31.8</td>
<td>36.5</td>
<td>41.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ounces/container</td>
<td>20.2</td>
<td>20.9</td>
<td>21.5</td>
<td>22.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beverage Container Demand</td>
<td>156.6</td>
<td>195.3</td>
<td>217.4</td>
<td>241.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal</td>
<td>89.7</td>
<td>102.5</td>
<td>105.9</td>
<td>109.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plastic</td>
<td>13.7</td>
<td>40.7</td>
<td>54.7</td>
<td>70.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glass</td>
<td>32.6</td>
<td>29.1</td>
<td>32.4</td>
<td>35.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paper</td>
<td>20.6</td>
<td>23.0</td>
<td>24.3</td>
<td>25.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**SUMMARY TABLE**

- **Metal Beverage Containers**: 52.5%
- **Glass Beverage Containers**: 14.9%
- **Plastic Beverage Containers**: 20.8%
- **Paper Beverage Containers**: 11.8%
Market Environment

The Market Environment Section discusses factors influencing beverage container demand, including consumer spending and beverage production trends.

This information provides you with an understanding and an analysis of the climate in which the beverage container industry operates.

Beverage Industry Overview

US shipments of liquid beverages are projected to expand 2.6 percent annually through the year 2003 to a record high of 35.9 billion gallons, a modest deceleration from the mid-to-late 1990s pace. Advances will be supported by a relatively healthy economy, expanding pre-teen and young adult populations, rising patronage of foodservice establishments, concerns regarding the safety of the nation’s tap water, and population migration patterns favoring warmer regions of the country. Packaging trends, such as the switch from twelve- to 16- and 20-ounce single-serving sizes, will also play an important role in generating volume growth. Limiting further gains will be the maturity of many industry segments and generally stagnant population growth in the younger age segments (with the previously noted exceptions).

In general, the most successful products will be those best able to offer consumers taste, nutrition and convenience at an affordable price. Thus, juices, bottled waters, iced teas and other “nutraceutical” drinks, diet soft drinks, low-fat milks and sports beverages are all expected to enjoy rising demand. However, carbonated soft drinks will remain the most widely consumed beverage, boosted by high dollar multimedia advertising, changes in the packaging mix and the acceptance of carbonated soft drinks as an anytime beverage.

While alcohol consumption will continue to be limited by health, safety and cost considerations, the modest upswing in demand experienced in the mid-to-late 1990s is expected to persist. Contributing factors include an emerging scientific consensus that alcohol of all types may offer certain health benefits, celebratory activities relating to the turn of the millennium (which will create greater interest in sparkling wines) and an expected surge in the early-20s age demographic, which represent a major beer drinking segment.
The Markets Section analyzes trends and considers the threats and opportunities in each of the major markets for beverage containers.

The information presented will help you:

- Focus your sales and marketing efforts on high growth areas.
- Propose new areas for development.

Sports Beverages

Isotonic sports drinks accounted for nearly two percent of total packaged beverage production in both liquid and powdered form. The popularity of "functional" beverages ranging from energy-enhancing soft drinks to nutraceutical teas has made it increasingly difficult to distinguish this category from other beverage types, a trend which is expected to continue. In 1999, for example, Triarc introduced a line of SNAPPLE HYDRO juice- and tea-based beverages containing natural electrolytes.

Overview

US production of liquid isotonic sports beverages is projected to advance almost eight percent yearly through 2003 to 775 million gallons, slower than the past decade’s average pace but faster than any other major segment of the beverage industry. Consumers favor isotonics based on their healthy image and association with an athletic lifestyle. Still, many demographics outside of the traditional customer base -- adolescents and serious athletes -- remain untapped, indicating significant potential for further growth. As such, vendors will increasingly target groups like women, children and the elderly, while simultaneously working to position their products as general active thirst quenchers. Further advances will be limited by a degree of market maturity and competition from bottled waters, juices, energy-enhancing soft drinks and (among the elderly) canned nutritional supplements.

New product introductions and line extensions, often in conjunction with novel packaging, are playing an important role in the effort of sports drink vendors to compete for market share.
Beverage Containers

The Container Sections provide demand for historical years and forecast growth to 2003 and 2008.

Containers discussed include:

- Metal Cans
- Plastic Containers
- Glass Containers
- Paperboard Containers

This information helps you:

- Analyze your company's growth potential in the industry.
- Outline your strategic plans for five and ten years out.
- Establish sales goals.

GLASS CONTAINERS

Glass bottles were the original packaging medium for most beverage products and offer a number of advantages in beverage packaging markets. First, glass containers are generally perceived to have a high-quality or premium image, relative to alternative packaging materials. Such an image is considered especially important for upscale drinks like wine, spirits, specialty beers, and single-serving juice, coffee and tea products, where producers strive to create a prestigious image.

Second, glass containers enjoy a fairly well-developed recycling infrastructure. Moreover, unlike plastics, glass packages can easily be sorted for recycling (simply separated by colors) and can be repeatedly recycled into new containers in a closed-loop system. The use of previously ground glass, or cullet, to make new containers also renders the production process cleaner and more efficient. Of course, multitrip returnable glass bottles offer obvious environmental benefits.

Plastic Beverage Container Demand by Market

(million units)

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bevs Packaged in Plastic (mil gal)</td>
<td>8352</td>
<td>10042</td>
<td>14265</td>
<td>17990</td>
<td>22163</td>
</tr>
<tr>
<td>ounces/unit</td>
<td>78.2</td>
<td>64.9</td>
<td>44.9</td>
<td>42.1</td>
<td>40.2</td>
</tr>
<tr>
<td>Plastic Beverage Container Demand</td>
<td>13669</td>
<td>19811</td>
<td>40660</td>
<td>54745</td>
<td>70500</td>
</tr>
<tr>
<td>Soft Drinks</td>
<td>7100</td>
<td>11100</td>
<td>23700</td>
<td>32000</td>
<td>41750</td>
</tr>
<tr>
<td>Milk</td>
<td>4615</td>
<td>5350</td>
<td>6200</td>
<td>7100</td>
<td>8050</td>
</tr>
<tr>
<td>Other</td>
<td>1954</td>
<td>3361</td>
<td>10760</td>
<td>15645</td>
<td>20700</td>
</tr>
</tbody>
</table>

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Gain a better understanding of your competition and analyze your company's position in the industry with information about:

- **market share**
- **product development**
- **manufacturing**
- **marketing & distribution**
- **mergers & acquisitions**
- **integration strategies**
- **cooperative agreements**

### Integration Strategies

A number of beverage container manufacturers and end users have pursued vertical integration strategies in order to gain marketing and technological advantages and better control of costs and raw materials. Such strategies have also permitted these companies to improve quality control, enhance product differentiation, improve their ability to respond to demand fluctuations, and to assure an adequate and reliable supply of raw materials and/or finished products (i.e., containers).

Both upstream (i.e., backward), as well as downstream (i.e., forward) vertical integration are employed to varying degrees in the US beverage container industry. Upstream integration into raw materials procurement or production helps lower manufacturing costs, as well as securing reliable supplies of quality feedstocks. Such activity is most common in the paperboard segment, where leading box makers like International Paper have timberland resources, produce paperboard and convert their own board into beverage containers, among other products. Pechiney is an example of a vertically integrated aluminum and aluminum can supplier. Many glass bottle manufacturers also own supplies of one or all of the raw materials necessary to make glass, whereas plastic bottle producers are usually not vertically integrated.

A few drink container producers are also integrated upstream in that they produce container manufacturing machinery and filling equipment. For instance, Crown Cork & Seal builds filling, packaging and handling machinery for aluminum and steel cans.

The industry also exhibits a degree of downstream or forward integration, by which beverage companies (producers and/or bottlers) obtain a portion of their container requirements from captive operations. Examples include Coors (glass...
Company Profiles

The profiles section analyzes 35 beverage container producers active in the U.S. market. These profiles represent a sampling or cross-section of the types of companies involved in the industry.

Divisions, subsidiaries, joint ventures, etc., are discussed under appropriate parent companies.

Sources for profiles included:

- Information provided by key staff members in the respective companies
- Annual reports
- 10-K reports
- Security analysts reports
- Corporate product literature

Tetra Laval International SA
Case Postale 430
1009 Pully
Switzerland
41-21-729-22-11

Tetra Pak Incorporated
101 Corporate Wood Parkway
Vernon Hills, IL 60061
847-955-6000

The Tetra Laval Group operates as a holding company for Tetra Pak International SA, Alfa Laval AB and Alfa Laval Agri AB. Tetra Laval had 1998 sales of $9.6 billion. The privately-owned company employs 35,000. (Sales and employment as reported by company.)

Tetra Pak International, which operates in the US through its Tetra Pak subsidiary, produces a variety of containers including various aseptic cartons, which allow storage of liquid and other food products without refrigeration. These include composite drink packs and all-plastic milk packaging solutions. Like its parent company, the US subsidiary develops, produces and markets processing, packaging and distribution systems for liquid foodstuffs.

Products offered by Tetra Pak include paper-based aseptic containers and gable top containers. The company also offers some polyethylene terephthalate (PET)-based flexible packaging products; however, in 1998, the company’s Lincolnshire, Illinois flexible packaging operations were moved to Geneva, Switzerland as part of an effort to focus Tetra Pak’s packaging business on rigid packaging. Tetra Pak produces aseptic containers from a composite of extrusion-
Companies Profiled

Alcoa Incorporated
Closure Systems International
Alusuisse Lonza Group Limited
Algroup Lawson Mardon
Amcor Limited
Twinpak Incorporated
Anheuser-Busch Companies Incorporated
Metal Container Corporation
Ball Corporation
Blue Ridge Paper Products Incorporated
Carolina Paper
DairyPak
Brown-Forman Corporation
Thoroughbred Plastics
Champion International Corporation
Coca-Cola Enterprises Incorporated
Southeastern Container
Western Container
Consumers Packaging Incorporated
Anchor Glass Container
Glenshaw Glass Company
Pet-Pak Containers
Coors (Adolph) Company
Cott Corporation
Crown Cork & Seal Company Incorporated
CONSTAR International
Dean Foods Company
Gallo (E&J) Winery Incorporated
Graham Packaging Company
International Paper Company
Liqui-Box Corporation
Liquid Container Limited Partnership
McComick & Company Incorporated
Setco Incorporated
Owens-Illinois Incorporated
Continental PET Technologies
Pechiney
American National Can Company
PepsiCo Incorporated
Tropicana Products Limited
Plastipak Packaging Corporation
Clean Tech Incorporated
PVC Container Corporation
McKechnie Plastic Packaging
Novapak Corporation
Reid Plastics Incorporated
Reynolds Metals Company
Saint-Gobain
Ball-Foster Glass Container

SIG Group
Carribloc Incorporated
Silgan Holdings Incorporated
Clearglass Containers
Sonoco Products Company
Suiza Foods Corporation
Continental Plastic Containers
Franklin Plastics
Tetra Laval International SA
VIAG AG
Schmalbach-Lubeca Plastic Containers USA
Westvaco Corporation

Beverage Containers # 1136

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Freedonia does not just collect and reprint data; Freedonia develops data. Our analysts thoroughly investigate an industry by extensively interviewing key industry participants and analyzing information from sources such as associations, government and trade literature. Once this research is complete, Freedonia establishes one set of forecasts. All writing, editing and forecasting is done in-house to assure quality and consistency. In cases where data does not exist, Freedonia develops the data based on input/output ratios, bills of materials and flow charts. The following chart summarizes Freedonia's methodology:
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Since 1985, Freedonia has published over 1,400 titles covering areas such as chemicals, coatings and adhesives, building materials, plastics, industrial components and equipment, health care, packaging, household goods, security, and many other industries.

Freedonia has produced a wide variety of titles, including:

- Caps & Closures
- Paper Versus Plastics in Packaging
- World Soft Drink Containers
- Rigid Food Containers

Because Freedonia is a reliable information source, our forecasts are cited in numerous publications such as The Wall Street Journal, Financial Times, Plastics News, Glass Digest and Packaging World.

In-house operations
Because all of our staff work at the same location, interaction between analysts and departments provides a strong system of checks and balances.

Consistency
Our Economics Group develops indicators that are used by all analysts. Therefore, every Freedonia study is based on a consistent set of economic assumptions (GDP, consumer expenditures, beverage production, etc.)

Reliable forecasts
Because all of our forecasts consider the environment in which a product or industry is operating, as well as threats and opportunities to the market, Freedonia forecasts are reliable indicators of future performance.

One-on-one interviews
All studies are produced by conducting interviews with key industry participants and end-users.

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About The Freedonia Group

Advantages of Freedonia Reports

Beverage Containers # 1136

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Freedonia's clients include major US and international companies in the manufacturing, services, consulting and financial sectors.

Typical purchasers of Freedonia studies:

- Key Executives
- Corporate Planners
- Market Researchers
- Financial Analysts
- Information Centers
- New Product Developers
- Merger & Acquisition Specialists

Since 1985 we have provided research to customers ranging in size from global conglomerates to one person consulting firms. More than 90% of the industrial companies in the Fortune 500 use Freedonia research to help with their strategic planning.

Some of Freedonia's customers in the beverage container market include: American National Can, Anheuser Busch, Ball Corporation, VIAG AG and Westvaco Corporation.
Caps & Closures
The US cap and closure market will approach 157 billion units in 2003, propelled by more closure-intensive containers. Also supporting unit gains will be new applications and smaller container sizes in some markets. Value gains will slow yet still remain at above-average rates based on the continued popularity of value-added plastic closures. This study analyzes the US cap and closure industry to 2003 and 2008 by material, type, and end-use. The study also presents market share and profiles key suppliers.
#1124. . . . . . . 6/99. . . . . . . . . . $3,500

Cosmetic & Toiletry Containers
New products, favorable demographics, growing exports and smaller containers will support unit gains in US cosmetic and toiletry containers. Plastics will remain the top material, with the use of more expensive resins and metals-as well as advanced graphics-supporting value gains. Hair and skin care products will be the fastest growing market. This study analyzes the $1.9 billion US cosmetic and toiletry container industry to 2003 and 2008 by material and market, presents market shares and profiles key firms.
#1102. . . . . . . 6/99. . . . . . . . . . $3,400

Paper Versus Plastics in Packaging
Plastics will continue to supplant paper in US markets where the two materials compete, but the rate of penetration will slow. Paper and board will remain dominate, even outpacing plastics in some consumer packaging. Plastics will make inroads in beverage containers, egg cartons, food trays and most other packaging. This study examines the 75 billion pound US competitive paper and plastic packaging industry to 2002 and 2007 by type and application. It also details market share and profiles key companies.
#1073. . . . . . 12/98. . . . . . . . . . $3,500

Plastic Containers
US plastic container shipments will grow over 4% annually as improved barrier properties allow plastics to cut deeper into competitive material markets. Resin use will outpace unit shipments as larger containers like pails and bottles supplant food trays, although the trend will be toward lighter weight containers. The study analyzes the US plastic container industry to 2002 and 2007 by type and end-use, including market share and company profiles.
#1018. . . . . . 6/98. . . . . . . . . . $3,400

Food & Beverage Containers - Private Company Report
Several private firms hold significant shares of the US food and beverage container industry. Four control a combined 6% of the food segment, while two private firms hold a combined 3% of the more concentrated beverage segment. This report profiles over 170 privately-held food and beverage container firms including Field Container, Graham Packaging, Gulf States Paper, Landis Packaging, Plastipak Packaging, Reid Plastics, SF Holdings and Tetra Pak. It also forecasts industry demand and details market share.
#1005. . . . . . 7/98. . . . . . . . . . $3,000

Metal Cans
Mature markets and competition from glass and plastics will slow annual metal can growth significantly. Advances in can technologies and designs will offer pockets of opportunity. Cans' recyclability will also remain an important competitive advantage, with the aggregate recovery rate surpassing 65% by 2002. This study analyzes the $11 billion metal can industry in the US to 2002 and 2007 by material, type and end-use market. Recycling data is also provided, as are market shares and key company profiles.
#998. . . . . . 5/98. . . . . . . . . . $3,300

Rigid Food Containers
Price increases and changes in size will result in container value growing over 3% per year. Factors contributing to growth include a shift in the product mix towards value-added packaging, and sustained interest in highly packaged prepared foods. Opportunities will be limited by intense competition from converted flexible packaging. This study analyzes the $11 billion US market for rigid food containers to 2002 and 2007 by material, type and end-use. It also evaluates market shares and key company companies.
#985. . . . . . 3/98. . . . . . . . . . $3,400

World Beer Containers
Global demand for beer containers will outpace beer production based on smaller container sizes in developing markets, and more packaged versus draft beer in developed markets. One-way packaging, both metal cans and recyclable glass bottles, will further supplant returnable glass bottles. This study analyzes the world beer container industry by type to 2001 and 2006 for over 20 countries and six regions. The study also profiles key firms and details market shares.
#939. . . . . . 11/97. . . . . . . . . . $3,800

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