Green Packaging

US Industry Study with Forecasts for **2013 & 2018**

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Table of Contents

EXECUTIVE SUMMARY

MARKET ENVIRONMENT

GREEN PACKAGING OVERVIEW

RECYCLED CONTENT PACKAGING

REUSABLE PACKAGING

BIODEGRADABLE PLASTIC PACKAGING

MARKETS

INDUSTRY STRUCTURE

COMPANY PROFILES

(continued on next page)

Green Packaging

US Industry Study with Forecasts for ***2013 & 2018***

Table of Contents

(continued from previous page)

COMPANY PROFILES

List of Tables/Charts

EXECUTIVE SUMMARY

MARKET ENVIRONMENT

GREEN PACKAGING OVERVIEW

RECYCLED CONTENT PACKAGING

REUSABLE PACKAGING

BIODEGRADABLE PLASTIC PACKAGING

MARKETS

INDUSTRY STRUCTURE

Green Packaging

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The fastest gains are anticipated for biodegradable plastic packaging, driven by better price competitiveness and lower pricing volatility than petroleum-based plastic packaging materials.

US demand to grow 3.4% annually through 2013

US demand for green packaging -- comprised of recycled content, biodegradable and reusable packaging -- is projected to increase 3.4 percent annually to $43.9 billion in 2013. Growth will outpace overall packaging but will remain modest due to the maturity of many products and the fact that recycled content packaging has a large existing presence in paperboard and metal packaging.

Biodegradable plastic packaging to grow fastest

The fastest gains are anticipated for biodegradable plastic packaging. Gains in this segment will be driven by increased price competitiveness with conventional resins, rapidly expanding capacity and lower pricing volatility than petroleum-based plastic packaging materials. Additional stimulants include enhanced performance properties brought about by more sophisticated polymerization and blending techniques; efforts by brand owners to improve the environmental footprint of their packaging; and legislative bans on polystyrene foam foodservice disposables in some parts of the country. Preventing faster advances will be capacity limitations and disposal problems due to the lack of consumer composting networks in most areas of the US.

US Green Packaging Demand
($37.2 billion, 2008)

Recycled packaging to be driven by plastic types

While recycled content packaging demand is expected to increase in line with the overall green packaging average, robust growth for plastic recycled content packaging will be aided by more concerted efforts to boost collection volume, an increased focus on the development of food-contact approved resin grades, and further sustainability initiatives by plastic processors and brand owners. Gains will be moderated by slow growth for paper recycled content packaging, which is dominated by the large but mature corrugated and paperboard box segment.

Plastic containers, IBCs to pace reusable packaging

Reusable packaging is forecast to expand more slowly, held back by marginal growth for drums, which face competition from larger formats such as intermediate bulk containers (IBCs). More favorable prospects are anticipated for reusable plastic containers, IBCs and other reusable packaging types. In general, value gains will decelerate due to an expected moderation in raw material prices, especially for plastic and steel. The relatively long service life of most reusable packaging also limits the need for replacements, a factor that restricts growth in demand for new units.

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US Industry Study with Forecasts for ***2013 & 2018***

Sample Text, Table & Chart

TABLE V-2

REUSABLE DRUM DEMAND BY TYPE
(million dollars)

SAMPLE TABLE

Item	1998	2003	2008	2013	2018
Nondurable Goods Shipments (bil $)					
$ drums/000$ nondurables					
Reusable Drum Demand					
Steel					
Plastic					
Fibre					
$/lb					
Reusable Drum Demand (mil lbs)					
% drum					
Total Reusable Packaging (mil lbs)					

BIODEGRADABLE PLASTIC PACKAGING

Starch-Based Plastics

SAMPLE TEXT

Demand for biodegradable starch-based plastic packagi
jected to increase … million poun
Growth will refle… greater availab
proved resin blen… oduct manufac
consumers are de… mentally-frien
als due to solid w… sustainability
and the desire to r… um-based reso

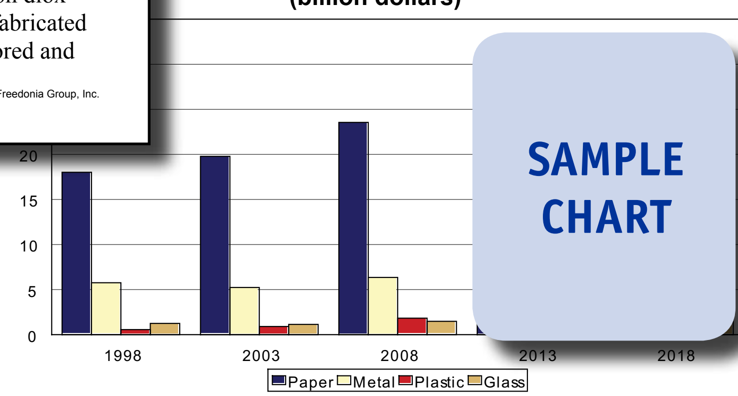
Above-average gains are anticipated for cups, plates and and containers. Gains in these markets will be predicated on spending for food eaten or prepared away from home and the rising popularity of biodegradable disposable plates and bowls for home use. Additionally, increased demand will result from efforts to divert materials from landfills and increase the use of sustainable materials. Biodegradable loose-fill packaging demand will rise more slowly based on competition from expanded polystyrene loose-fill, as well as bubble packaging and air pillows.

Starch is an inexpensive material that is available year round. It is also biodegradable within various environments. There are two basic types of starch-based plastics: thermoplastic starch (containing between 75 percent and 95 percent starch) and starch blends with synthetic polymers (containing between 60 percent and 75 percent starch). Early biodegradable plastics were not fully degradable because the corn starch would decompose, leaving behind a nondegradable polyethylene residue, or starch would be trapped within the polyethylene, which protected the starch from the forces of decomposition. These drawbacks initially gave biodegradable plastics a bad reputation. Newer generations of biodegradable plastics are formulated to degrade completely to carbon dioxide, water and harmless biomass. Starch-based plastic can be fabricated on the same machinery as conventional plastic, and can be colored and

137

CHART IV-1

RECYCLED CONTENT PACKAGING DEMAND BY MATERIAL, 1998-2018
(billion dollars)



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US Industry Study with Forecasts for ***2013 & 2018***

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Sample Profile, Table & Forecast

TABLE VII-9

SHIPPING MARKET FOR GREEN PACKAGING
(million dollars)

Item	1998	2003	2008	2013	2018
Gross Domestic Product (bil $)	87				600
$ green pkg/000$ GDP	(				15
Shipping Green Packaging Demand	1				30
Recycled Content	1				30
Reusable Packaging					36
Biodegradable					64
% shipping					.1
Total Green Packaging Demand	27				50

SAMPLE TABLE

COMPANY PROFILES

Clear Lam Packaging Incorporated
1950 Pratt Boulevard
Elk Grove Village, IL 60007
847-439-8570
http://www.clearlam.com

Annual S … 1/09)
Employr …)

Key Proc … stock and flexible films

SAMPLE PROFILE

Cle… ms and laminates, thermofo… ther products for packagin… ny operates in three divisions: Clear Lam Thermoforming, Clear Lam Rigid Rollstock and Flexible Films. In March 2008, Clear Lam sold a fourth division, MAP Systems Equipment, to Packaging Technologies Incorporated (Davenport, Iowa).

The Company is active in the US green packaging industry via all three divisions. The Company's Clear Lam Thermoforming division manufactures thermoformed containers suitable for packaging baked goods, delicatessen items, candy, produce and meats. These containers are available in clear and pigmented types in multicompartment, round, octagonal, rectangular, square and hinged-lid configurations, among other styles. Clear Lam Packaging produces thermoformed containers from amorphous polyethylene terephthalate (APET), as well as NATUREWORKS polylactic acid (PLA) from NatureWorks LLC (Minnetonka, Minnesota), a 50/50 joint venture held between Cargill Incorporated (Minneapolis, Minnesota) and Teijin Limited (Japan). NATUREWORKS PLA resin is derived entirely from natural corn

233

"Demand for reusable packaging in the chemical market is expected to rise 1.4 percent per year to $1.8 billion in 2013. Below-average advances will reflect slow growth for drums due to competition from larger capacity bulk packaging types such as intermediate bulk containers (IBCs) along with more moderate price increases following spikes in raw material costs in the 2003-2008 period. Additionally, limited expansion in chemical production will constrain opportunities for drums since chemicals are the largest drum market. Other reusable packaging types, such as ..."
--Section VII, pg. 176

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Other Studies

World Corrugated Boxes

This study analyzes the global corrugated box industry. It presents historical demand data for the years 1998, 2003 and 2008 and forecasts for 2013 and 2018 by containerboard grade (kraft linerboard, semichemical medium, recycled board), corrugated box market (food and beverages, other), world regional market (e.g., Asia/Pacific, North America, Western Europe) and major national market. The study also considers market environment factors, evaluates company market share and profiles industry participants.

#2485 .... 04/2009..................... $5600

Beverage Containers in China

This study analyzes the beverage container industry in China. It presents historical demand data for the years 1997, 2002 and 2007 and forecasts for 2012 and 2017 by beverage container market (e.g., milk, carbonated soft drinks, water, fruit beverages, teas, beer, distilled spirits, rice wine, wine) and material (e.g., plastic, glass, paperboard, metal, ceramic). The study also considers market environment factors, details industry structure, evaluates company market share and profiles industry participants.

#2484 .... 04/2009..................... $5200

Paper vs Plastic in Packaging

US demand for plastic packaging will continue to outpace paper in markets where they compete, albeit more slowly as applications mature. The fastest market share increases for plastic will occur in pet food and soy beverage packaging, followed by protective packaging, foodservice and dairy products, among others. This study analyzes selected competitive markets in the US for paper and plastic packaging, with forecasts for 2012 and 2017 by material and market. It also discusses market leaders and profiles industry players.

#2443 .... 01/2009..................... $4700

Cups & Lids

US demand for cups and lids will advance 4.3% annually through 2012. Drinking cups will remain the dominant cup type while packaging cups will grow the fastest. Growth in lids will outpace cups as more drinking cups use lids, especially higher-value specialty lids. Foodservice will remain the dominant market while food packaging grows more rapidly. This study analyzes the $6.3 billion US cup and lid industry, with forecasts for 2012 and 2017 by product and market. It also details market share and profiles major players.

#2429 .... 11/2008..................... $4600

Beverage Containers

US demand for beverage containers will grow 2.4% annually through 2012. Gains will be driven a healthy outlook for single serving containers and enhanced or functional beverages. Plastic containers will remain the largest and fastest growing segment. Bottled water will continue to post above-average market gains. This study analyzes the $22.5 billion US beverage container industry, with forecasts for 2012 and 2017 by type and market. It also evaluates company market share and profiles major players.

#2423 .... 11/2008..................... $4700

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