Paper vs. Plastic in Packaging
US forecasts to 2006 & 2011

Plastic to continue gaining market share on paper in packaging applications
Plastic packaging will continue to make inroads vis-a-vis its paper and paperboard packaging counterparts through 2006, expanding 3.3 percent per year to 10.7 billion pounds in 2006. Gains will be predicated upon plastic’s light weight, strength, moisture-resistance and durability. Plastic packaging also has storage, production and distribution advantages over other packaging mediums. Low cost, clarity, moisture-resistance and high barrier properties of plastic are difficult, if not impossible, for paper to match.

Plastic packaging trends
Best plastic packaging growth opportunities are anticipated in areas such as shipping drums, snacks, egg cartons, juice and fruit containers and candy. Plastic pet food pouches will also expand rapidly at the expense of multilayer paper sacks and paperboard boxes due to their better barrier properties and consumer convenience in resealability. Plastic packaging demand will also continue to benefit from technological and processing advances resulting in faster line speeds and better performance attributes such as increased barrier properties, puncture resistance and clarity.

Paper packaging trends
Paper and paperboard packaging is well established and competitive in many segments due to its better environmental profile and continued cost efficiencies. Nonetheless, paper packaging will continue to lose market share to plastic packaging virtually across-the-board due to the better performance attributes of plastics. Best growth potential for paper and paperboard packaging is expected in areas such as carry-out and prepared foods, shipping sacks and juice and fruit drinks based on paper’s strength, breathability and price advantages in smaller containers such as juice. Most rapid losses will occur in egg cartons, milk cartons and retail bags/sacks.

Industry composition
The packaging sector is dominated by large, multinational packaging firms with further consolidation anticipated in light of continual needs for expansion and new product development. Packaging concerns commonly specialize on the basis of major product (e.g., retail bags), material (paper or plastic) or end-use market (food, beverage, etc.). Nonetheless, much cross- and multi-line participation among packaging firms also exists.

Study coverage
Details on these and other major findings are contained in the new Freedonia study, Paper vs. Plastic in Packaging, available for $3900. This study analyzes selected competitive paper and plastic packaging markets in the US, with a focus on the loss of traditional paper-based packaging markets to plastics. Historical data through 2001 plus forecasts to 2006 and 2011 are provided for competitive paper and plastic packaging applications.

The market environment is analyzed, as well as developments in retail sales and manufacturing activity, pricing factors and international markets. An overview of the industry structure includes a discussion of competitive variables, assessment of market shares and profiles of key players such as Bemis, International Paper, Pactiv, Printpack and Sonoco Products.

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Freedonia's proprietary database of thousands of economic and industry series, with an internally consistent set of intermediate and long range projections, provides the background for Freedonia's studies.

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COMPANY PROFILES
presented for over
40 competitors in
the US industry
This study can help you:

- Determine your market & sales potential
- Learn more about industry competitors
- Assess new products & technologies
- Identify companies to merge with or acquire
- Complement your own research & planning
- Gather data for presentations
- Confirm your own internal data
- Make better business decisions

Freedonia’s methods involve:

- Establishing consistent economic and market forecasts
- Using input/output ratios, flow charts and other economic methods to quantify data
- Employing in-house analysts who meet stringent quality standards
- Interviewing key industry participants, experts and end-users
- Researching a proprietary database that includes trade publications, government reports and corporate literature

COMPETITIVE PRODUCT PACKAGING

Egg Cartons

Shelled egg consumption in the US is expected to increase little more than one percent yearly through 2006 to 53.5 billion. Eggs will continue to be marketed as an affordable protein source, with the continued development of lower cholesterol eggs and scientific/medical evidence questioning the link between egg consumption and cardiovascular disease. Egg carton demand will expand more than one percent annually to 2.9 billion units in 2006, requiring 162 million pounds of molded pulp and plastic. Slightly slower carton weight growth reflects the fact that advances will be concentrated in plastic cartons, which are lighter than their molded pulp counterparts.

Plastic egg carton demand will continue to outstrip its molded pulp counterpart, raising its percentage of total units to 60 percent in 2006. Further advances will be limited by moderation in packaged egg consumption brought about by a decline in home baking activity in favor of prebaked items, increased use of lower cholesterol egg products such as EGG BEATERS, and more breakfast meals being consumed outside of the home. Polystyrene offers superior cushioning properties compared to molded pulp cartons, which is a crucial consideration in egg packaging. A recent development has been the introduction of clear polyethylene terephthalate egg cartons. Due to their higher cost, however, it is expected that these cartons will be used for the packaging of premium shell eggs based on their upscale appearance and ability to let consumers check for egg breakage before purchasing.

Molded pulp egg carton demand will continue to decline through 2006 to 1.1 billion units and 71 million pounds. Molded paper containers will continue to lose market share to plastic packaging, although the rate of loss will be restrained by the environmentally friendly reputation of paper compared to polystyrene. Advantages of molded paper include degradability, durability and cost.

TABLE IV-10
FROZEN FOOD MARKETS FOR COMPETITIVE PAPER & PLASTIC PACKAGING
(million pounds)

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<tbody>
<tr>
<td>Frozen Foods Shipments (bil 1996$)</td>
<td>15.2</td>
<td>18.3</td>
<td>21.2</td>
<td>24.2</td>
<td>27.8</td>
</tr>
<tr>
<td>lbs pkg/1000$ shpts</td>
<td>52.8</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Frozen Food Packaging Demand</td>
<td>802</td>
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<td></td>
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<td></td>
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<tr>
<td>Paper</td>
<td>614</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Rigid Containers</td>
<td>378</td>
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<td></td>
<td></td>
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<tr>
<td>Trays</td>
<td>160</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Flexible Packaging</td>
<td>76</td>
<td></td>
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<tr>
<td>Plastic</td>
<td>188</td>
<td></td>
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<td></td>
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<tr>
<td>Flexible Packaging</td>
<td>99</td>
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<tr>
<td>Trays</td>
<td>64</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Pouches</td>
<td>25</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>% plastic</td>
<td>23.4</td>
<td></td>
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</tr>
<tr>
<td>% paper</td>
<td>76.6</td>
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</table>

Source: The Freedonia Group, Inc.

Carry-Out & Prepared Foods

Plastic carry-out food and prepared food containers will continue to make inroads via-a-vis paper and paperboard due to their performance advantages such as moisture resistance, also expand rapidly in light of its convenience and packaging will also benefit from the popularity of store salad bars and other food industry segments on plastic containers. Carry-out food service products related containers. High visibility clamshells are g of restaurant takeout containers and are often used in supermarkets for prepared.
Paper vs. Plastic in Packaging

Manufacturing technology enhancements, coupled with higher end-user performance requirements and efforts by producers to draw attention to their products, will drive growth in the rapidly expanding US market for packaging pouches. This study analyzes the US flat and stand-up pouch industry to 2006 and 2011 by pouch construction, feature and application. It also examines raw material and machinery trends, evaluates industry market share, reviews mergers and acquisitions, and profiles the leading competitors.

Plastic Containers

US plastic container demand will increase 4.1% per year through 2006. Gains on other materials will be based on plastic’s clarity, light weight, design flexibility, strength, shatter resistance, barrier properties, tamper evidence, and ease of opening and dispensing. Bottles will remain the dominant type, while PET displaces HDPE as the leading resin. This study analyzes the $11.3 billion US plastic containers industry to 2006 and 2011 by type, resin and application. It also presents market share data and profiles key companies.

Plastic Film

US demand for plastic film will reach 14.6 billion pounds in 2006, driven by cost and performance advantages over other materials, as well as technology and processing improvements. Low density polyethylene will remain the dominant resin while polypropylene, high density polyethylene and ethylene vinyl alcohol film grow the fastest. This study analyzes the 12.8 billion pound US plastic film industry to 2006 and 2011 by type, application and market. It also evaluates market share and profiles key companies.

World Pressure Sensitive Tapes

The global pressure sensitive (self-adhesive) tape market will grow 5.5% through 2006, driven in part by the new, high-performance tapes. Corrugated carton sealing tapes will remain the largest volume segment, while technical and specialty tapes used in industrial fastening and bonding grow the fastest. The study details the US$14 billion world pressure sensitive tapes industry to 2006 and 2011 by type, material, region and for 23 countries. It also presents market shares and profiles major competitors.

Pharmaceutical Packaging

Drug packaging demand in the US will grow 4.3% yearly through 2006. Blister packaging will remain the top group based on strength in unit dose, compliance, clinical trial, high barrier and high visibility formats. Pouches and strip packs will compete with blister in unit dose. Prefillable inhalers and syringes will grow the fastest in market value. This study analyzes the $4.2 billion US drug packaging industry to 2006 and 2011 by material, product and end-use. It also details market share and profiles key firms.

World Converted Flexible Packaging

World demand for converted flexible packaging will rise 4.6% per year through 2005. Growth will be driven by new applications and further gains on rigid containers, based on environmental advantages and improving barrier properties and convenience. Plastic films will expand their lead over paper and foil. This study analyzes the US$38 billion world converted flexible packaging industry to 2005 and 2010 by material, market, region and for 17 countries. It also evaluates market share and profiles key firms.