Zinc air batteries post fastest gains

In a continuation of historical trends, zinc air batteries will post the most rapid advances of single-use (primary) batteries, buoyed by increased purchases of hearing aids by an aging population. Primary lithium batteries will post similar advances through 2020, boosted by their higher energy density relative to other single-use types and their ability to be used in high-drain applications.

Alkaline batteries continue to dominate market

Alkaline batteries, which accounted for two-thirds of overall single-use battery demand in 2015, will continue to dominate the market, due to their affordability, widespread availability, and the large existing stock of electric and electronic products that they can power. While alkaline battery sales will improve from the declines in dollar terms during the 2010-2015 period, climbing just under one percent per year, the number of units sold will continue to fall.

Consumer applications to face strong competition

The consumer market, which in 2015 accounted for almost two-thirds of all single-use battery sales, will post the largest gains in value terms but will register the weakest gains of any major single-use battery market in percentage terms. The growing energy requirements of many consumer devices and lower lifetime cost of rechargeables will continue to promote a shift in overall battery demand toward rechargeable types at the expense of single-use cells. In addition, competition from smartphones will lead to decreased use of products such as camcorders, cameras, and MP3 players, further dampening sales gains. Nevertheless, manufacturers have developed single-use batteries that are capable of use in high-drain applications, and demand for these higher-value advanced cells will help bolster segment sales in dollar terms.

Medical equipment spending to drive growth

Healthcare applications will see the fastest gains in demand for single-use batteries of all major markets through 2020, buoyed by an acceleration in medical equipment spending growth, the rising number of adults over the age of 65, and the increasing number of battery-powered medical devices in use. Though a relatively small market, healthcare will also record the second largest gains in dollar terms, trailing only the much larger consumer market.

Study coverage

This study analyzes the US single-use (primary) battery market. It presents historical demand data (2005, 2010 and 2015) plus forecasts (2020 and 2025) by product (e.g., alkaline, primary lithium, zinc air, silver oxide, zinc-carbon/zinc-chloride, etc.) and market (e.g., entertainment, toys and games, lighting, photography, industrial, government, other). The study also considers key market environment factors, assesses the industry structure and evaluates company market share.

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PRODUCTS

Alkaline Batteries

Sales of alkaline batteries will expand nearly one percent per annum through 2020 to $2.3 billion, returning to slow growth after a period of slight decline in recent years. All of this increase will be due to higher product prices. In unit terms, product sales will continue to fall. Alkaline battery demand will be restrained by strong competition from higher energy density rechargeable batteries, which prove less expensive over the longer term. In addition, government restrictions further restricting zinc-carbon applications will have a negative impact on future growth. Alkaline has already supplanted zinc-carbon/zinc-chloride as the chemistry of choice for general-purpose applications due to the former’s higher energy density, superior performance, lower internal resistance, and longer shelf-life. As a result, there is strong competition among alkaline battery manufacturers, which will temper future dollar gains. In addition, technological advances that improve alkaline battery life or protect power will further limit sales.

Some offsetting support will be provided by the ongoing need for single-use batteries in consumer applications such as in toys and games as well as lighting. Likewise, increases in manufacturing output in all sectors of industry and government spending will promote unit sales of alkaline batteries in these markets. In low-drain devices like smoke detectors, alkaline batteries will work much longer than rechargeable cells before needing to be changed, making the former a practical source of power in these applications. In addition, the Federal Communications Commission’s August 2015 ruling that voice over internet protocol (VoIP) telephone service providers must offer consumers the option to buy backup power sources for use during electric outages will promote alkaline sales to a degree. For example, in response to this ruling, Verizon is offering a PowerServe device fueled by 12 D-cell batteries.

TABLE VI-3

INDUSTRIAL PRIMARY BATTERY DEMAND
(million dollars)

<table>
<thead>
<tr>
<th>Item</th>
<th>2005</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturers’ Shipments (bil $)</td>
<td>4474</td>
<td>4658</td>
<td>5313</td>
<td>6185</td>
<td>7170</td>
</tr>
<tr>
<td>$ batteries/mil $ mfg</td>
<td>94</td>
<td>114</td>
<td>101</td>
<td>95</td>
<td>87</td>
</tr>
<tr>
<td>Industrial Single-Use Battery Demand</td>
<td>422</td>
<td>530</td>
<td>536</td>
<td>590</td>
<td>625</td>
</tr>
<tr>
<td>By Application:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEM</td>
<td>115</td>
<td>140</td>
<td>137</td>
<td>145</td>
<td>150</td>
</tr>
<tr>
<td>Replacement/MRO</td>
<td>307</td>
<td>390</td>
<td>399</td>
<td>445</td>
<td>475</td>
</tr>
<tr>
<td>By Chemistry:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alkaline</td>
<td>255</td>
<td>330</td>
<td>330</td>
<td>360</td>
<td>380</td>
</tr>
<tr>
<td>Primary Lithium</td>
<td>85</td>
<td>120</td>
<td>130</td>
<td>156</td>
<td>173</td>
</tr>
<tr>
<td>Zinc-Carbon/Zinc-Chloride</td>
<td>15</td>
<td>9</td>
<td>9</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Other Single-Use</td>
<td>67</td>
<td>71</td>
<td>67</td>
<td>66</td>
<td>65</td>
</tr>
<tr>
<td>% industrial Alkaline</td>
<td>14.6</td>
<td>16.1</td>
<td>16.5</td>
<td>16.9</td>
<td>16.7</td>
</tr>
<tr>
<td>Single-Use Battery Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: The Freedonia Group

TABLE IV-3

PRIMARY BATTERY FOREIGN TRADE
(million dollars)

<table>
<thead>
<tr>
<th>Item</th>
<th>2005</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-Use Battery Shipments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- exports</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ imports</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single-Use Battery Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports as a Percent of Shipments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imports as a Percent of Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: The Freedonia Group

This study can help you:

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

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Related Studies

Circuit Breakers & Fuses
The US market for circuit breakers and fuses is forecast to advance by 4.3 percent per year through 2020 to $5.3 billion. Sales will be fueled by ongoing efforts to expand and upgrade the US electrical grid. The electric power market is and will remain the largest end user, though the residential market will offer the best gains. This study presents historical demand data plus forecasts for 2020 and 2025 by product and market. The study also analyzes key market environment factors, assesses the industry structure, and evaluates company market share.
#3471.............September 2016.............. $5100

Rechargeable (Secondary) Batteries
US demand for rechargeable batteries is forecast to expand 5.3 percent annually through 2020 to $14.2 billion. Gains will be fueled by continued strong growth in hybrid and electric vehicle production. Rechargeable lithium batteries will see the fastest overall demand gains through 2020 with product sales expanding at double-digit rates. This study presents forecasts (2020, 2025) for demand by product and market. The study also reviews key market environment factors, assesses the industry structure and evaluates company market share.
#3458.............September 2016.............. $4900

World Battery Materials
Global demand for battery materials will rise 8.3 percent annually to $46.8 billion in 2019. Chemicals will be the fastest growing materials, led by lithium and nickel used in Li-Ion and Ni-MH batteries. China will remain the fastest growing market. This study analyzes the $31.4 billion world market for battery materials, with forecasts for 2019 and 2024 by product and application for six world regions and 16 major countries. Total demand is given for an additional six countries. The study also evaluates company market share and profiles industry participants.
#3350.............December 2015.............. $6200

World Batteries
Global battery demand is forecast to rise 7.8 percent per year to $120 billion in 2019. China will remain the largest national market as well as one of the fastest growing. Secondary batteries will outpace primary types. Rechargeable lithium-ion batteries will be the fastest growing products. This study analyzes the $83 billion world battery industry, with forecasts for 2019 and 2024 by type and market for six world regions and 16 countries. The study also reviews battery technology, evaluates company market share and profiles industry participants.
#3309...............July 2015............... $6700

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

About The Freedonia Group
The Freedonia Group is a leading international industry market research company that provides its clients with information and analysis needed to make informed strategic decisions for their businesses. Studies help clients identify business opportunities, develop strategies, make investment decisions and evaluate opportunities and threats. Freedonia research is designed to deliver unbiased views and reliable outlooks to assist clients in making the right decisions. Freedonia capitalizes on the resources of its proprietary in-house research team of experienced economists, professional analysts, industry researchers and editorial groups. Freedonia covers a diverse group of industries throughout the United States and other world markets. Industries analyzed by Freedonia include:
Automotive & Transport • Chemicals • Construction & Building Products • Consumer Goods • Energy & Petroleum • Industrial Components • Healthcare & Life Sciences • Machinery & Equipment • Metals, Minerals & Glass • Packaging • Plastics & Other Polymers • Security • Services • Textiles & Nonwovens • Water Treatment

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