World Bioplastics

Industry Study with Forecasts for 2017 & 2022

Study #3089 | November 2013 | $6300 | 367 pages
Table of Contents

EXECUTIVE SUMMARY

MARKET ENVIRONMENT
General ................................................. 4
World Economic Overview ....................... 5
Recent Historical Trends ......................... 5
World Economic Outlook ......................... 7
World Population Outlook ....................... 10
World Manufacturing Outlook ................. 12
World Agricultural Outlook .................... 15
Maize ................................................. 17
Sugar Crops ......................................... 18
Cassava .............................................. 20
World Plastics Overview ....................... 21
Plastic Resin Demand ............................. 22
Plastic Resin Production ......................... 25
Pricing Trends ......................................... 27
World Packaging Overview ..................... 31
Regulatory & Environmental Considerations 34
Standards & Certification ...................... 35
Composting & Recycling ....................... 38
Legislation ............................................ 41

OVERVIEW
General ................................................. 44
Product Overview .................................. 45
Starch-Based Resins ............................... 48
Polyactic Acid ....................................... 53
Biobased Polyethylene ......................... 58
Polyester Bioplastics ............................ 61
Biobased Polyamides ............................ 65
Other Bioplastics ................................ 68
Cellulose-Based Resins ......................... 70
PHAs ............................................... 71
All Other ........................................... 75
Market Overview .................................... 78
Packaging ............................................ 79
Containers ........................................ 82
Packaging Film ..................................... 84
Loose-Fill & Other ................................. 85
Nonpackaging ...................................... 86
Bags ............................................... 88
Foodservice Disposables ....................... 90
Automotive & Electronics ..................... 91
Agriculture ......................................... 92
Other Nonpackaging ............................. 93
Regional Overview ................................ 95
Demand ........................................... 95
Production ......................................... 97
Trade Flows ....................................... 100

NORTH AMERICA
Economic Overview ................................. 103
Bioplastics Demand ............................... 105

United States ....................................... 108
Canada .............................................. 117
Mexico .............................................. 122

ASIA/PACIFIC
Economic Overview ................................ 176
Bioplastics Demand ............................... 178
Japan ................................................. 181
China ............................................... 188
Taiwan .............................................. 196
South Korea ....................................... 202
Other Asia/Pacific ................................. 208
Thailand ........................................... 214
Australia ......................................... 214
All Other .......................................... 215

OTHER REGIONS
Central & South America ....................... 218
Brazil ............................................... 222
Other Central & South America .............. 229
Eastern Europe .................................... 234
Africa/Mideast ..................................... 240

INDUSTRY STRUCTURE
General .............................................. 247
Market Share ....................................... 249
Mergers & Acquisitions ......................... 252
Manufacturing Requirements .................. 255
Research & Development ...................... 256
Marketing Strategies ............................. 258
Channels of Distribution ....................... 260
Cooperative Agreements ....................... 262
Joint Ventures & Manufacturing Agreements 262
Supply Agreements ............................... 264
Distribution & Marketing Agreements ....... 266
Product Development & Licensing Agreements 270

COMPANY PROFILES
Arkema SA ......................................... 277
BASF SE ............................................ 282
Braskem SA ........................................ 284
Cardia Bioplastics ............................... 288
Cargill Incorporated ............................. 294
Cereplast Incorporated .......................... 295
Corbion nv ......................................... 299
Daesang Corporation ............................ 304
DuPont (EE) de Nemours ....................... 306
Eviron Industries ................................ 310
FKUR Kunststoff .................................. 312
Grabio GreenTech................................. 315
Green Dot Holdings ............................. 316
Groupe Limagrain ............................... 318
Innovo Films ...................................... 320
Metabolix Incorporated ......................... 322
Mitsubishi Chemical ............................. 325
NatureWorks LLC ................................. 328
Newlight Technologies ......................... 333
Novamont SPA .................................... 335
Plantic Technologies ............................. 338
PTT Global Chemical ......................... 340
Rodenburg Biopolymers ....................... 343
Roquette Frères .................................. 344
Showa Denko ..................................... 346
Sphere SA ......................................... 348
StarchTech Incorporated ....................... 350
Synbra Holding ................................... 351
Teijin Limited ..................................... 352
Tianjin GreenBio Materials ................... 353
Toray Industries .................................. 355
Wuhan Huali Environmental Technology ... 357
Zhejiang Hangzhou Xinfu Pharmaceutical ... 358
Zhejiang Hisun Biomaterials ................... 359
Other Companies Mentioned in Study ..... 361-367

List of Tables/Charts

EXECUTIVE SUMMARY
1 Summary Table .................................. 3

MARKET ENVIRONMENT
1 World Gross Domestic Product by Region .... 10
2 World Population by Region .................. 12
3 World Manufacturing Value Added by Region ... 14
4 World Agricultural Value Added by Region 16
5 World Maize Production by Region ........... 18
6 World Sugar Crop Production by Region .. 20
7 World Plastic Resin Demand by Region ....... 24
8 World Plastic Resin Demand by Region ..... 25
   (continued on following page)
List of Tables/Charts
(continued from previous page)

7 Plastic Resin Pricing ....................................30
Cht Plastic Resin Pricing Patterns, 2002-2022 31
8 World Packaging Demand by Region .............34

OVERVIEW
1 World Bioplastics Demand by Product ..........47
Cht World Bioplastics Demand by Region, 2012 49
2 World Starch-Based Resin Demand ...  
by Region & Market ..................................52
3 World Polyactic Acid Demand ...  
by Region & Market ..................................57
4 World Biobased Polyethylene Demand ...  
by Region & Market ..................................61
5 World Polyester Bioplastics Demand ...  
by Region & Market ..................................65
6 World Biobased Polyamide Demand ...  
by Region & Market ..................................68
7 World Other Bioplastic Demand ...  
by Type, Region, & Market .........................69
8 World Bioplastics Demand by Market ............79
9 World Packaging Demand for Bioplastics ...  
by Application & Region ..............................81
Cht World Packaging Demand for Bioplastics ...  
by Application, 2012 .................................82
10 World Nonpackaging Demand for ...  
Bioplastics by Application & Region ............87
Cht World Nonpackaging Demand for ...  
Bioplastics by Application, 2012 ................88
11 World Bioplastics Demand by Region ...........96
Cht World Bioplastics Demand by Region, 2002-2022 ...97
12 World Bioplastics Production by Region ...  
by Region, 2002-2022 ................................100
13 World Bioplastics Net Exports ...  
by Region ...............................................102

NORTH AMERICA
1 North America: Bioplastics ...  
Supply & Demand ..................................105
2 North America: Bioplastics Demand ...  
by Product & Market ................................107
Cht North America: Bioplastics Demand by Country, 2012 108
3 United States: Bioplastics ...  
Supply & Demand ..................................111
4 United States: Bioplastics Demand by Product ..........114
5 United States: Bioplastics Demand by Market ...........116
6 Canada: Bioplastics Supply & Demand ....  
by Product ............................................119
7 Canada: Bioplastics Demand by Product ..........120
8 Canada: Bioplastics Demand by Market ..........122
9 Mexico: Bioplastics Supply & Demand ...  
by Product ............................................125
10 Mexico: Bioplastics Demand by Product ..........127
11 Mexico: Bioplastics Demand by Market ..........129

WESTERN EUROPE
1 Western Europe: Bioplastics ...  
Supply & Demand ..................................132
2 Western Europe: Bioplastics Demand ...  
by Product & Market ................................135
Cht Western Europe: Bioplastics Demand by Country, 2012 136
3 Germany: Bioplastics Supply & Demand ....  
138
4 Germany: Bioplastics Demand by Product ..........140
5 Germany: Bioplastics Demand by Market ..........142
6 Italy: Bioplastics Supply & Demand ....  
145
7 Italy: Bioplastics Demand by Product ..........147
8 Italy: Bioplastics Demand by Market ..........149
9 United Kingdom: Bioplastics ...  
Supply & Demand ..................................152
10 United Kingdom: Bioplastics Demand by Product ..........153
11 United Kingdom: Bioplastics Demand by Market ..........155
12 France: Bioplastics Supply & Demand ....  
158
13 France: Bioplastics Demand by Product ..........160
14 France: Bioplastics Demand by Market ..........162
15 Netherlands: Bioplastics ...  
Supply & Demand ..................................164
16 Netherlands: Bioplastics Demand by Product ..........166
17 Netherlands: Bioplastics Demand by Market ..........168
18 Other Western Europe: Bioplastics ...  
Supply & Demand ..................................170
19 Other Western Europe: Bioplastics Demand by Country & Product ...........172
20 Other Western Europe: Bioplastics Demand by Market ..........175

ASIA/PACIFIC
1 Asia/Pacific: Bioplastics ...  
Supply & Demand ..................................178
2 Asia/Pacific: Bioplastics Demand ...  
by Product & Market ................................180
Cht Asia/Pacific: Bioplastics Demand by Country, 2012 181
3 Japan: Bioplastics Supply & Demand ....  
183
4 Japan: Bioplastics Demand by Product ..........185
5 Japan: Bioplastics Demand by Market ..........187
6 China: Bioplastics Supply & Demand ..........191
7 China: Bioplastics Demand by Product ..........193
8 China: Bioplastics Demand by Market ..........195
9 Taiwan: Bioplastics Supply & Demand ....  
198
10 Taiwan: Bioplastics Demand by Product ..........200
11 Taiwan: Bioplastics Demand by Market ..........202
12 South Korea: Bioplastics Supply & Demand ....  
204
13 South Korea: Bioplastics Demand by Product ..........206
14 South Korea: Bioplastics Demand by Market ..........208
15 Other Asia/Pacific: Bioplastics Supply & Demand ....  
211
16 Other Asia/Pacific: Bioplastics Demand by Country & Product ..........213
17 Other Asia/Pacific: Bioplastics Demand by Market ..........217

OTHER REGIONS
1 Central & South America: Bioplastics ...  
Supply & Demand ..................................220
2 Central & South America: Bioplastics Demand by Product & Market ..........222
3 Brazil: Bioplastics Supply & Demand ....  
225
4 Brazil: Bioplastics Demand by Product ..........227
5 Brazil: Bioplastics Demand by Market ..........229
6 Other Central & South America: Bioplastics Supply & Demand ..........231
7 Other Central & South America: Bioplastics Demand by Product ..........232
8 Other Central & South America: Bioplastics Demand by Market ..........233
9 Eastern Europe: Bioplastics ...  
Supply & Demand ..................................236
10 Eastern Europe: Bioplastics Demand by Country & Product ..........238
11 Eastern Europe: Bioplastics Demand by Market ..........240
12 Africa/Mideast: Bioplastics ...  
Supply & Demand ..................................243
13 Africa/Mideast: Bioplastics Demand by Product ..........245
14 Africa/Mideast: Bioplastics Demand by Market ..........246

INDUSTRY STRUCTURE
1 World Bioplastics Sales ...  
by Company, 2012 ..................................248
Cht World Bioplastics Market Share ...  
by Company, 2012 ..................................249
2 Selected Acquisitions & Divestitures ..........254
3 Selected Joint Ventures & Manufacturing Agreements ..........263
4 Selected Supply Agreements ..........265
5 Selected Distribution & Marketing Agreements ..........267
6 Selected Product Development & Licensing Agreements ..........271
Gains will be driven by consumer preferences for sustainable materials, the increased adoption of bioplastics by plastic processors and compounders, and by new product developments.

**World demand to rise 19% annually through 2017**

Global demand for biobased and biodegradable plastics will rise 19 percent per year to 960,000 metric tons in 2017. The bioplastics industry, while still in the emerging growth phase, has established itself as a fixture in a number of commercial markets and applications. Robust growth in demand is expected in virtually all geographic markets, driven by consumer preferences for sustainable materials, the increased adoption of bioplastics by plastic processors and compounders, and new product developments that expand the range of applications for bioplastics. However, despite the rapid rise in demand, bioplastics are still expected to account for less than one percent of the overall plastic resin market in 2022.

**Biobased commodity resins to be fastest growing types**

Starch-based resins and polylactic acid (PLA) will remain the leading bioplastic products through 2017, combining to account for over 60 percent of demand. For starch-based resins, advances will be bolstered by increased regulation of conventional plastic products, particularly plastic bags, as governments around the world continue to promote sustainability. PLA demand will benefit from the development of resins and compounds with enhanced performance attributes, suitable for more durable applications such as fibers, automotive parts, and electronic components.

The most rapid gains in demand, however, are expected for biobased commodity resins such as polyethylene and polypropylene, which are just beginning to enter the commercial market. The rapid adoption of these bioplastics will be fueled by their ability to be used as a “drop-in” for existing applications, as well as by an increased focus on biobased content rather than biodegradability as a desired attribute. By 2022, biobased polyethylene terephthalate (PET) is also expected to become available in commercial quantities and begin to penetrate the beverage container market.

**Western Europe to remain dominant regional market**

Western Europe was the largest regional consumer of bioplastics in 2012, accounting for over half of global demand. The region will see strong gains through 2017 as well, bolstered by added regulations and incentives that favor bioplastics over conventional resins. North America will also register strong advances, with demand in the region expected to more than double, driven by rising consumption of PLA and biobased commodity resins. Advances in the Asia/Pacific region will be fueled by robust growth in China, which has become a major consumer of bioplastic resins used to manufacture goods for export.
MARKETS

Japan: Products

Demand for bioplastics in Japan will rise 17.3 percent per year to 77,000 metric tons in 2017, lagging gains in the Asia/Pacific region as a whole. Gains will be driven by a variety of factors, including falling bioplastic prices, a rising consumer focus on sustainability issues, the ongoing development of certification and labeling systems for bioplastics in Japan, the increased availability and variety of bioplastic products, and legislative and regulatory action. Legislative and regulatory action are also expected to play a role. The Japanese government has set an ambitious goal of replacing 20 percent of petroleum-based plastic consumption with bio-based plastics by 2020. While this goal will almost certainly not be met due to limited product availability and the higher prices of bioplastics, government incentives promoting the development and use of bioplastics in Japan will continue to be strong.

The bioplastics market in Japan includes a diverse range of products, with PLA, starch-based resins, and biodegradable polyesters each accounting for more than one-sixth of 2012 demand. Of these, the fastest gains through 2017 are expected for PLA, which will benefit from more widespread availability as expanded Asian production begins to come online. Additionally, Japanese resin producers and compounders are making efforts to improve the performance of PLA resins in order to penetrate durable goods markets such as automotive and electronics uses. For example, NEC, Teijin, Toray, and Unitika are all working to develop PLA-based materials for durable applications, either through enhancement of base resin properties, compounding with performance additives, or blending with other plastics. More moderate gains are forecast for starch-based resins and polyesters, in part due to the limited popularity of biodegradable bags in Japan.

The most rapid growth among bioplastic products in Japan, however, will be for biobased polyethylene and newly available products.
Synbra Holding BV
Zeedijk 25
4871 NM Etten-Leur
Netherlands
31-1-6837-3370
http://www.synbra.com

Annual Sales:  $460 million (estimated)
Employment: 1,400 (estimated)
Key Products: expanded polylactic acid foam

Synbra Holding is a leading European supplier of expanded polystyrene packaging, construction insulation and plastics. The Company operates via several subsidiaries.

The Company competes in the world bioplastics industry through Synbra Technology BV (Netherlands), a subsidiary that produces expandable polystyrene (EPS) and related compounds. The company also performs EPS recycling. Furthermore, Synbra Technology manufactures expanded polyactic acid (PLA) foam, a bioplastic product based on a PLA polymerization technology developed by and licensed from the Sulzer Chemtech AG subsidiary (Switzerland) of Sulzer Limited (Switzerland) and the Corbion Purac subsidiary (Netherlands) of Corbion nv (Netherlands). Major products made by Synbra Technology using the licensed technology include SYNTERRA PLA, which is produced from lactides obtained from Corbion Purac. SYNTERRA PLA is utilized in the company’s manufacture of BIOFOAM plastics, which are designed as environmentally friendly alternatives to EPS in various packaging applications. Synbra maintains a facility in Etten-Leur, Netherlands that makes SYNTERRA PLA and BIOFOAM bioplastics.

TABLE VI-5
JAPAN: BIOPLASTICS DEMAND BY MARKET
(thousand metric tons)

<table>
<thead>
<tr>
<th>Item</th>
<th>2002</th>
<th>2007</th>
<th>2012</th>
<th>2017</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (million persons)</td>
<td>127.4</td>
<td>127.8</td>
<td>127.5</td>
<td>126.3</td>
<td>124.4</td>
</tr>
<tr>
<td>kg bioplastic/capita</td>
<td>0.07</td>
<td>0.15</td>
<td>0.27</td>
<td>0.61</td>
<td>1.41</td>
</tr>
<tr>
<td>Bioplastics Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packaging:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Containers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packaging Film</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loose-Fill &amp; Other Packaging</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonpackaging:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bags</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foodservice Disposables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive &amp; Electronics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Nonpackaging</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Japan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asia/Pacific Bioplastics Demand</td>
<td>16.5</td>
<td>47.4</td>
<td>92.6</td>
<td>220.0</td>
<td>510.0</td>
</tr>
<tr>
<td>Total</td>
<td>44.5</td>
<td>92.0</td>
<td>220.0</td>
<td>440.0</td>
<td>950.0</td>
</tr>
</tbody>
</table>

“Like the range of bioplastic products in Japan, markets for bioplastics in the country show a substantial degree of diversity. Packaging containers and bags were the leading outlets for bioplastics in Japan, but packaging film, foodservice disposables, and automotive and electronics applications also composed a significant portion of demand. While nonpackaging outlets accounted for the vast majority of the market in 2012, more rapid gains going forward are forecast for the packaging segment in Japan.”

--Section VI, pg. 186
### Order Form

**World Bioplastics** ........................................................... $6300

- [ ] Corporate Use License (add to study price) *
  - [ ] Additional Print Copies @ $600 each *
  - Total (including selected option) $__________

- [ ] Enclosed is my check (5% discount) drawn on a US bank and payable to The Freedonia Group, Inc., in US funds (Ohio residents add 8% sales tax)

- [ ] Bill my company  [ ] American Express  [ ] MasterCard  [ ] Visa

  **Credit Card #**

  **MM**  **YY**

  **Expiration Date**

**Name** ________________________________

**Title** ________________________________

**Company** ________________________________

**Division** ________________________________

**Street** ________________________________

  **City/State/Zip** ________________________________

  **Country** ________________________________

**Phone** ________________________________  **Fax** ________________________________

**Email** ________________________________

**Signature** ________________________________

* Please check appropriate option and sign below to order an electronic version of the study.

**Individual Use License Agreement**

The undersigned hereby represents that the above captioned study will be used by only individual(s) who are employees of the company and that the study will not be loaded on a network for multiple users. In the event that usage of the study changes, the Company will promptly notify Freedonia of such change and will pay to Freedonia the appropriate fee based on Freedonia’s standard fee schedule then in effect. Note: Entire company corporate use license, add $2600; one additional user, add $600; two additional users, add $1200; three additional users, add $1800.

**Signature** ________________________________

---

**Corporate Use License**

Now every decision maker in your organization can act on the key intelligence found in all Freedonia studies. For an additional $2600, companies receive unlimited use of an electronic version (PDF) of the study. Place it on your intranet, e-mail it to coworkers around the world, or print it as many times as you like.

**Click here to learn more about the Corporate Use License**

---

**Free Handling & Shipping**

There is NO charge for handling or UPS shipping in the US. Expect delivery in 3 to 5 business days. Outside the US, Freedonia provides free airmail service. Express delivery is available at cost.

**Orders Outside of the US**

Checks must be made payable in US funds, drawn against a US bank and mailed directly to The Freedonia Group. For wire transfers please contact our customer service department at info@freedoniagroup.com. Credit cards accepted.

**Credit Card Orders**

For convenience, Freedonia accepts American Express, MasterCard or Visa. Credit card purchases must include account number, expiration date and authorized signature.

**Save 15%**

If you order three (3) different titles at the same time, you can receive a 15% discount. If your order is accompanied by a check or wire transfer, you may take a 5% cash discount (discounts do not apply to Corporate Use Licenses).
About The Freedonia Group

The Freedonia Group, Inc., 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, the emerging China market, and other world markets. Industries analyzed by Freedonia include:

- Chemicals
- Plastics
- Life Sciences
- Packaging
- Building Materials
- Security & Electronics
- Industrial Components & Equipment
- Automotive & Transportation Equipment
- Household Goods
- Energy/Power Equipment

Freedonia Custom Research

Freedonia Custom Research delivers the same high quality, thorough and unbiased assessment of an industry or market as an industry study. Since the research initiative is based upon a company’s specific needs, companies harness Freedonia’s research capabilities and resources to answer unique questions. When you leverage the results of a Freedonia Custom Research engagement, you are able to obtain important answers to specific questions and issues associated with: mergers and acquisitions, new product launches/development, geographic expansion, entry into new markets, strategic business planning, and investment and funding decisions.

Freedonia Custom Research is ideal for companies seeking to make a strategic difference in the status quo and focus on future business growth. Working side by side with clients, Freedonia’s team is able to define a research project that is custom-tailored to answer specific questions and provide the basis from which a company can make informed business decisions.

Other Studies

Plastic Foams
US demand for plastic foams is forecast to rise 4.1 percent annually to 8.6 billion pounds in 2017, valued at $24.7 billion. Packaging will remain the leading outlet while construction and household products grow the fastest. Polyurethane will remain the most commonly used plastic foam and will enjoy the best growth opportunities, led by flexible polyurethane foam. This study analyzes the 7.1 billion pound US plastic foam industry, with forecasts for 2017 and 2022 by market and resin. The study also evaluates company market share and profiles industry players. #3114 .......... December 2013 .......... $5100

Fiber-Reinforced Plastic Composites
US demand for fiber-reinforced plastic (FRP) composites will climb 4.7 percent annually to 4.3 billion pounds in 2017, valued at $22.9 billion. Motor vehicles will remain the largest market while construction will grow the fastest as it rebounds from the 2007-2012 period. Both thermostet and thermoplastic FRP composites will grow in line with the average. This study analyzes the 3.5 billion pound US FRP composites industry, with forecasts for 2017 and 2022 by fiber, product and market. The study also evaluates company market share and profiles industry players. #3092 .......... October 2013 .......... $5100

Natural Polymers
US demand for natural polymers is forecast to expand 6.9 percent annually to $4.6 billion in 2016. Cellulose ethers, led by methyl cellulose, will remain the largest product segment. Exudate and vegetable gums will enjoy the most rapid gains in demand. The oilfield market will grow the fastest, driven by rising demand for guar gum in hydraulic fracturing fluids. This study analyzes the $3.3 billion US natural polymer industry, with forecasts for 2016 and 2021 by market and product. The study also evaluates company market share and profiles industry players. #2963 .......... November 2012 .......... $4900

Recycled Plastics
US demand for post-consumer recycled plastic will rise 6.5 percent yearly to 3.5 billion pounds in 2016. Bottles will remain the leading source while other types gain market share. LDPE/LLDPE will be the fastest growing recycled resins. Packaging will continue as the top market, driven by food and beverage bottles and thermoformed containers. This study analyzes the 2.5 billion pound US recycled plastics industry, with forecasts for 2016 and 2021 by source, resin, and market. The study also evaluates company market share and profiles industry players. #2961 .......... November 2012 .......... $5100

Bioplastics
US demand for biodegradable and non-biodegradable bio-based resins is forecast to climb at a 20 percent annual pace through 2016 to 550 million pounds. Polylactic acid will remain the largest bioplastic segment, while bio-based polyethylene and degradable polyesters will grow the fastest at double-digit rates. Nonpackaging markets will outpace packaging uses. This study analyzes the 220 million pound US bioplastic industry, with forecasts for 2016 and 2021 by resin, product and market. The study also evaluates company market share and profiles industry players. #2908 .......... June 2012 .......... $4900