

# The World Market for Bio-Based Chemicals, 2nd Edition

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## Abstracts

The bio-based chemicals market has continued steady and solid growth in the past two years, helped along by stabilization in glycerin prices to achieve a market of \$3.6 billion in 2011. Glycerin and lactic acid accounted for just over two-thirds of the bio-based chemical market by value in 2011. However, by 2021 this market share will shrink to 53% as the emerging markets for bio-based polyethylene (PE) and epichlorohydrin (ECH) achieve 10-fold growth through the decade.

Strong biodiesel markets in South America, Europe and Asia have ensured plentiful global crude glycerin feedstocks in the last few years. While glycerin prices have stabilized since their incredible slump in 2009, their continued affordable price is driving the emergence of new bio-based intermediate chemicals using glycerin as the feedstock: propylene glycol (PG), ECH and methanol. However, the success of these new market segments greatly depends on the continued availability of affordable glycerin.

Lactic acid sales weathered the recession very well, continuing their strong, steady growth seen since 2006. Chemical and pharmaceutical applications, which includes polylactic acid (PLA) production, is maintaining its place as the fastest growing sector of lactic acid sales. In the biopolymer segment, PLA continues to lead the segment by a strong margin, while the polyhydroxyalkanoate (PHA) market, though still strong, is experiencing real fluidity due to the exit of ADM from its joint venture with Metabolix. Biopolymers have strong growth potential over the next decade, particularly if companies such as Braskem and Dow manage to increase capacity for bioethylene production and convince manufacturers of its drop-in capacity for polyethylene and other plastics.

Steady sales for lactic acid and biopolymers over the next decade will act as stable drivers for the bio-based chemicals market through to 2021. The overall growth of the market, however, greatly depends on the continued adoption of biodiesel to provide steady glycerin production and the market growth of new glycerin-based intermediate chemicals. SBI Energy expects the bio-based chemicals market to grow to \$12.2 billion by 2021, accounting for 25.4 billion pounds of bio-based chemical production at the end of the decade.

The World Market for Bio-Based Chemicals, 2nd Edition by SBI Energy provides key insight into current and future markets for bio-based chemicals worldwide, with a particular emphasis on U.S., European and Asian markets. The analysis includes definitions, current product offerings and market detail on the following segments:

Glycerin, including both raw and refined products

Lactic acid, its salts and esters (i.e. lactide and other derivatives)

Bio-based polymers used to form plastics

Other industrial organic acids, amino acids and organic compounds made from bio-based feedstocks and used as precursors for the production of other chemicals.

The report also analyzes the key drivers behind the bio-based chemical market, and looks at industries that make use of bio-based chemicals for their end products, particularly bioplastics, surfactants, solvents and adhesives.

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PROCTOR & GAMBLE

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SOLVAY

## APPENDIX A ACRONYMS USED IN THE REPORT

## **APPENDIX B COMPANY CONTACT INFORMATION**

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