Biorefinery Technologies: Global Markets

Description:

This report provides:

- A complete techno-economic and environmental analysis of industrial biorefineries, which have been identified as the most promising route to the creation of a domestic bio-based industry

- Analyses of global market trends, with data from 2014 to 2016, and projections of compound annual growth rates (CAGRs) through 2021.

- Coverage of all biomass fractionation and conversion technologies

- Forecasts for biomass conversion processes and equipment to produce fuels, power, and chemicals from biomass

- Identification of feedstocks, chemical products, and transportation fuels

- Evaluations of the prospects for biorefineries built on different "platforms," such as the "sugar platform," based on fermentation of sugars extracted from biomass feedstocks, versus the "syngas platform," based on thermochemical conversion processes

- Detailed patent analysis and a research-and-development update

- Company profiles of major players in the industry.

Scope of the Report:

The report starts with an overview that provides the background of the industry and reports on market trends. It also indicates the importance of the industry and the ways in which biorefinery technologies fit into the global economy. It also quantifies staffing and salary, professions, carriers, occupations, new product development and market penetration. It then presents the relative percentage contribution of each of the identified platforms with forecasts to 2021.

Chapter Four quantifies the demand for the physicochemical technology platform, including processes (e.g., pressing, pretreatment, milling, separation, distillation) that do not change the chemical structure of the biomass components, but perform a size reduction or a separation of feedstock components and chemical processes (e.g., hydrolysis, transesterification, hydrogenation, oxidation, pulping) in which a chemical change in the substrate occurs.

Chapter Five quantifies the demand for the biological technology platform, including industrial microbiological processes such as anaerobic digestion, anaerobic fermentation, enzymatic conversion that occur under mild operating conditions (e.g., lower temperature and pressure) using microorganisms or enzymes.

Chapter Six quantifies the demand for the thermochemical technology platform, including pyrolysis; gasification, hydrothermal upgrading and combustion, including processes in which feedstock undergoes extreme conditions (e.g., high temperature and/or pressure, with or without a catalytic means).

Chapter Seven identifies and quantifies the demand for the hybrid technology platform including biological transformation (fermentation) of biomass gasification-derived syngas to alcohols, thermochemical catalytic transformation of biochemical platform-produced sugars (and perhaps other solubilized carbon species) to hydrocarbon biofuels and thermochemical catalytic transformation of biochemical platform produced alcohols such as ethanol or butanol into hydrocarbon biofuels.

Chapter Eight presents the development of advanced biorefinery technologies and process developments and includes an evaluation of major patents and company shares.

Chapter Nine describes the biorefinery technology industry structure. It considers a number of influencing
factors, including macro factors that affect the global economy and the agricultural economy in particular, and industry-specific factors such as the public acceptance of biorefinery products.

Consideration has also been given to the development of the industry over the period since 2013 and the forces that have led to its ongoing restructuring. It also assesses the rise of bio-based companies; outsourcing; adding value through improved formulations, drop-ins and additives; and the streamlining of product portfolios.

Chapter Ten discusses the macroeconomic aspects and energy perspective and geographical diversification of the major international trends.

Chapter Eleven analyzes the future of the regulation and legislation of the biorefinery industry.

The report concludes with a chapter that contains comprehensive profiles of the relevant companies involved in biorefinery technologies, including biorefinery technology integrators that currently have assets that can be deployed to transform biomass feedstocks.

Contents:

1: Introduction
   - Study Goal And Objectives
   - Reasons For Doing The Study
   - Intended Audience
   - Analyst's Credentials
   - Methodology

2: Summary
   - Table Summary : Global Market For Biorefinery Technologies By Type Of Platform, Through
   - Figure Summary : Global Market For Biorefinery Technologies By Type Of Platform, 2013-

3: Overview
   - Introduction
   - Industry Definition
   - Global Market For Biorefinery Applications
   - Market Penetration
   - Overview Of The Biorefinery Technology Supply Chain
   - Overview Of The Biomass Value Chain Conversion Process
   - Overview Of Industry And Material Uses
   - Overview Of Biorefinery Technology Conversion Routes
   - Biorefinery Technology Market Features And Relative Subgroups
   - Importance Of Biorefinery Technologies
   - Value-Added Biorefinery Technology Opportunities
   - Selected Jobs In Advanced Biorefinery Technologies
   - History Of Biorefinery Technologies And Maturity Status
   - Anticipated Chemical And Material Development Pathway By Key Feedstock
   - Overview Of Important Developments In Biorefinery Technologies
   - Future Of Biorefinery Technologies
   - Macroeconomic Overview
   - Overview Of Global Demand For Biorefinery Technologies

4: Demand For The Physicochemical Platform
   - Introduction
   - Demand For The Physicochemical Technology Platform By Product Segment

5: Demand For The Biological Platform
   - Introduction
   - Demand For Fermentation Technology By Product Segment
   - Demand For Biotransformation Technology By Category

6: Demand For The Thermochemical Platform
   - Introduction
   - Demand For The Thermochemical Platform By Type Of Conversion
   - Demand For Thermochemical Platform By Type Of Energy Recovery Technology
Table 70: Biological Conversion For Chemical Building Blocks, Their Derivatives And Their Potential Applications
Table 71: Global Market For Fermentative Technology By Product Segment, Through
Table 72: Global Market For Feedstock In Bioethanol Production, Through
Table 73: Global Market For Bioethanol Production By Malting Technology, Through
Table 74: Global Market For Bioethanol Production By Type Of Corn Milling Technology, Through
Table 75: Global Market For Bioethanol Production By Type Of Sugar Feedstock Technology, Through
Table 76: Global Market For Bioethanol Production By Type Of Cellulosic Feedstock Technology, Through
Table 77: Global Market For Bioethanol Production By Type Of Cellulosic Hydrolysis Technology, Through
Table 78: Global Market For Bioethanol By Type Of Dehydration Technology, Through
Table 79: Global Market For Fermentative Biogas Production Technology By Type Of Environment, Through
Table 80: Microbial Groups Involved In Environmental Remediation
Table 81: Anaerobic Digestion Technology
Table 82: Global Market For Anaerobic Digestion Technology By Type Of Environment, Through
Table 83: Global Market For Landfill Biogas By Type Of Environment, Through
Table 84: Sulfur Removal Technology
Table 85: Global Market For Biogas By Type Of Recovery And Purification Technology, Through
Table 86: Global Industrial Production Of Organic Acid From Biomass Feedstocks
Table 87: Global Market For Fermentation-Derived Specialty/Fine Chemical Technology By Type, Through
Table 88: Global Market For Biotransformation Technology By Product Category, Through
Table 89: Value-Added Biochemicals Potentially Derived From Cellulose, Hemicellulose And Lignin
Table 90: Global Market For Biotransformation Technology By Type Of Chemical, Through
Table 91: Global Market For Biotransformation Technology By Type Of Active Pharmaceutical Ingredient, Through
Table 92: Global Market For Biotransformation Technology By Type Of Drug, Through
Table 93: Global Market For Biotransformation Technology By Type Of Specialty/Fine Chemical, Through
Table 94: Biotransformation Of Polymers
Table 95: Global Market For Biotransformation Of Polymers By Type, Through
Table 96: Global Market For Biotransformation Of Vinyl Polymer By Type, Through
Table 97: Biofuel Production Via Biotransformation Technology
Table 98: Global Market For Biotransformation Technology By Type Of Biofuel, Through
Table 99: Global Market For Biofuel Production Technology By Type Of Microalgae Pond Design, Through
Table 100: Global Market For Biotransformation Technology By Type Of Microalgae By Mode Of Operation, Through
Table 101: Global Market For Biofuel Production Technology By Type Of Microalgae Extraction Technology Through
Table 102: Thermochemical Conversion For Power, Heat, Chemical Feedstocks And Fuel
Table 103: Global Market For Thermochemical Platform By Type Of Conversion, Through
Table 104: Global Market For Biomass Industrial Direct Combustion Technology By Type Of Reactor, Through
Table 105: Global Market For Biomass Gasification By Type Of Reactor Technology, Through
Table 106: Commercial And Pre-Commercial (≤50 Tons Per Day) Bio-Oil Facilities
Table 107: Global Market For Biomass Pyrolysis Technology By Type, Through
Table 108: Global Market For Biomass Hydrothermal Liquefaction Technology By Type, Through
Table 109: Global Market For Thermochemical Technology Platform By Type Of Energy Recovery Technology, Through
Table 110: Hybrid Biorefinery Platforms
Table 111: Global Market For Hybrid Technology Platform By Type Of Combination, Through
Table 112: Methods For Converting Different Biomass Sources Into Bioproducts
Table 113: Conversion Of Biomass To Bio-Based Products
Table 114: Description Of An Advanced Biorefinery Plant
Table 115: Advanced Biorefinery Plants By Plant Size Range Sorted By Technology Platform
Table 116: Advanced Biorefinery Technology Development
Table 117: Bio-Derived Products Within The Economy
Table 118: Biorefinery Technologies Development And Significance
Table 119: Biological Platform Developments
Table 120: Integrated Cellulosic Ethanol Biorefinery
Table 121: Bioethanol From Wood Straw By Acid Hydrolysis And Fermentation Technology
Table 122: Most Promising Pretreatment Technologies By Method Of Pretreatment
Table 123: Thermochemical Platform Developments
Table 124: Physicochemical Platform Developments
Table 125: Hybrid Platform Developments
Table 126: Major Biomass Conversion By Technology
Table 127: Petrorefinery Supply Chain
Table 128: Necessary Value Chains And Capital Investments By Type Of Biorefinery
Table 129: Added Value Of Bio-Derived Products Through Processing And Standardization
Table 130: Value Addition Of Bio-Based Products
Table 131: Geographical Commercialization Of Advanced Biorefineries
Table 132: Horizon 2020 Energy Efficiency Call 2015-
Table 133: Title IX Of The Agriculture Act Of 2014, Through
Table 134: Commercialization Stage Of Bioproducts And Technologies
Table 135: Path To Commercial Deployment Of Advanced Biorefineries By Company, 2003-
Table 136: Typical Scale Of Operation For Various Second-Generation Biofuel Plants Using Energy Crop-Based Lignocellulosic Feedstocks
Table 137: Capital Costs And Efficiencies Of Principal Bioelectricity And Competitive Conversion Technologies
Table 138: U.S. Department Of Energy Cofunded Integrated Biorefineries
Table 139: Geographic Distribution Of Biorefinery Jobs
Table 140: Geographic Trends In Biorefinery Technology Products By Country
Table 141: Global Commodity Prices, Through
Table 142: Global Population By Region, Through
Table 143: Global Trends In R&D Spending, 2014-
Table 144: Global Energy Consumption By Feedstock, Through
Table 145: Global Supply And Distribution Of Major Vegetable Oils By Type Of Oil, Through
Table 146: Yearly Average Exchange Rates For Converting Foreign Currencies Into U.S. Dollars*
Table 147: Important Upcoming Environmental Regulations By Activity

List Of Figures

Summary Figure: Global Market For Biorefinery Technologies By Type Of Platform, 2013-
Figure 1: Value Chain Of The Natural Ingredient Industry
Figure 2: Basic Oleochemical, Downstream Oleochemical And Derivative Production Technology
Figure 3: Transesterification And Epoxidation, Hydroformylation And Metathesis Reactions
Figure 4: Basic Oleochemical And Downstream Oleochemical Production Technology
Figure 5: Chemical Processes For Methyl Or Ethyl Ester Biodiesel Production And Product Yields
Figure 6: Biotechnical Synthesis Of End Products And Intermediates For The Chemical, Material, Fuel, And Energy Industries
Figure 7: Polylactic Acid Production From Biomass
Figure 8: Bio-Based Routes To 1, 3-Propanediol

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