

Biofuels in Agriculture Market Forecasts to 2034 – Global Analysis By Fuel Type (Bioethanol, Biodiesel, Biogas and Advanced Biofuels), Feedstock, Technology, Application, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Biofuels in Agriculture Market is accounted for \$24.9 billion in 2026 and is expected to reach \$57.4 billion by 2034 growing at a CAGR of 11.0% during the forecast period. In agriculture, biofuels are gaining significance as sustainable alternatives to conventional fossil fuels. Energy sources like biodiesel and bioethanol are widely used to operate farm equipment, irrigation pumps, and other essential systems, reducing greenhouse gas emissions and fuel expenses. Moreover, farmers convert organic waste, including crop residues and animal manure, into bioenergy, promoting efficient resource utilization. This approach supports a circular agricultural economy while strengthening energy independence in rural areas. With the growing emphasis on sustainability and clean energy, biofuels are emerging as a key driver in transforming agriculture into a more eco-friendly and cost-effective sector.

According to the USDA Foreign Agricultural Service (GAIN Report, June 2025), India's nationwide ethanol blend rate was 19.3% in 2025, slightly below the E20 target, due to regional feedstock shortages and logistical constraints.

Market Dynamics:

Driver:

Rising demand for sustainable energy in agriculture

The rising need for environmentally friendly energy sources is significantly driving the

biofuels in agriculture market. Agricultural producers are increasingly moving away from traditional fossil fuels because of fluctuating fuel costs and growing ecological awareness. Renewable options like biodiesel and bioethanol are being widely adopted to power farm equipment and irrigation operations. Support from governments and regulatory bodies through subsidies and policies further accelerates this transition. Embracing cleaner energy reduces carbon emissions, improves operational efficiency, and ensures sustainable farming practices, helping the agricultural sector meet global environmental standards while maintaining productivity and reducing dependence on non-renewable energy resources.

Restraint:

High production costs and infrastructure limitations

The biofuels in agriculture market faces challenges due to high production expenses and insufficient infrastructure support. The manufacturing of biofuels demands significant capital investment, modern technologies, and specialized machinery, which may not be accessible to all farmers. Moreover, the lack of adequate processing plants and distribution systems limits market expansion. Additional costs related to storage and transportation further reduce economic feasibility. These constraints make it difficult for farmers, particularly in developing areas, to adopt biofuels on a large scale. Consequently, dependence on traditional fossil fuels persists, restricting the overall growth of sustainable energy adoption in agriculture.

Opportunity:

Advancements in biofuel production technologies

Technological progress in biofuel production offers strong growth opportunities for the biofuels in agriculture market. Emerging methods, including advanced biofuels derived from non-food sources like crop residues and algae, improve sustainability and operational efficiency. These innovations help minimize dependence on edible crops while increasing fuel output and reducing environmental impact. Continuous research efforts are also lowering production expenses and enhancing commercial viability. As these technologies advance, they open new avenues for farmers and energy companies to integrate biofuels into agricultural practices, supporting the global shift toward renewable energy and reinforcing agriculture's contribution to sustainable energy development.

Threat:

Competition from alternative renewable energy sources

The biofuels in agriculture market faces increasing competition from other renewable energy solutions such as solar power, wind energy, and electric farming equipment. These technologies are advancing quickly and becoming more affordable and efficient, often offering lower maintenance and operational costs than biofuels. Growing investments in electrification and sustainable infrastructure further strengthen their market position. As a result, biofuels may experience reduced demand and slower adoption rates. This competitive pressure can limit funding and innovation in biofuel development, creating obstacles for long-term growth and restricting the broader role of biofuels in agricultural energy applications worldwide.

Covid-19 Impact:

The pandemic created both challenges and opportunities for the biofuels in agriculture market. Supply chain interruptions, workforce limitations, and logistical constraints hindered production and distribution processes. Lockdowns and reduced economic activities caused a drop in fuel consumption, negatively affecting biofuel demand in the short term. Despite these setbacks, the crisis emphasized the need for energy independence and environmentally friendly solutions, prompting increased focus on renewable energy investments. Farming operations continued as essential services, aiding recovery. With the easing of restrictions, the demand for sustainable fuels rebounded, supporting future market expansion and reinforcing the role of biofuels in agriculture.

The biodiesel segment is expected to be the largest during the forecast period

The biodiesel segment is expected to account for the largest market share during the forecast period because of its extensive adoption and seamless integration with diesel-based farm equipment. It is widely favored by farmers since it can be blended with traditional diesel fuel and utilized without major engine adjustments. Produced from sources such as plant oils, animal fats, and recycled materials, biodiesel is both accessible and renewable. It helps lower carbon emissions while improving engine efficiency and durability. Additionally, its affordability, ease of implementation, and strong regulatory support for sustainable fuels play a crucial role in maintaining its leading position in agricultural energy usage globally.

The biofuel producers & refiners segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the biofuel producers & refiners segment is predicted to witness the highest growth rate, supported by rising demand for clean energy and continuous technological advancements. These organizations are essential in transforming agricultural raw materials into efficient biofuels, contributing to overall market development. Increased investments, capacity expansions, and collaborations are strengthening their position. Government initiatives promoting renewable energy further boost their growth potential. By adopting advanced refining techniques and improving production efficiency, this segment is enhancing output while reducing costs, making it a significant contributor to the future growth and sustainability of the agricultural biofuels industry.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share owing to robust policy support, modern farming systems, and high acceptance of renewable energy solutions. The region has plentiful feedstock resources like corn and soybeans, widely utilized in producing bioethanol and biodiesel. Government regulations, including blending requirements and financial incentives, promote biofuel usage among farmers and industries. Continuous innovation and strong investments in research improve production capabilities and efficiency. Furthermore, the presence of leading biofuel companies and an established distribution network enhances market strength, securing North America's leading role in the agricultural biofuels sector globally.

Region with highest CAGR:

Over the forecast period, the Asia-Pacific region is anticipated to exhibit the highest CAGR, driven by increasing energy requirements, expanding agricultural activities, and strong policy support. Governments are actively promoting renewable energy to reduce reliance on conventional fuels. The availability of large quantities of agricultural waste and rising investments in production infrastructure contribute to market expansion. Growing environmental awareness and supportive regulations are further encouraging adoption among farmers and industries. In addition, improvements in technology and a developing rural economy are strengthening growth prospects, positioning Asia-Pacific as a key region for future biofuel development in agriculture.

Key players in the market

Some of the key players in Biofuels in Agriculture Market include Corteva Inc., bp, Valero Energy Corporation, Phillips 66, POET, ADM, Marathon Petroleum Corporation, Darling Ingredients, Bunge, Chevron Corporation, Gevo, Neste, Green Plains, Cargill, The Andersons, Renewable Energy Group, Louis Dreyfus and Groupe Avril.

Key Developments:

In October 2025, bp pulse has extended its agreement with Transport for London (TfL) to 2029, continuing its commitment to providing reliable charging solutions across London. Since the framework began in 2018, bp pulse has been instrumental in supporting the adoption of electric vehicles, particularly for the ride-hail and taxi sectors.

In August 2025, Corteva, Inc., DuPont de Nemours, Inc and The Chemours Company announced a settlement to comprehensively resolve all pending environmental and other claims by the State of New Jersey against the Companies in various litigation matters and other state directives. The Settlement will resolve all legacy contamination claims related to the companies' current and former operating sites and claims of statewide PFAS contamination unrelated to those sites, including from the use of aqueous film forming foam.

Fuel Types Covered:

Bioethanol

Biodiesel

Biogas

Advanced Biofuels

Feedstocks Covered:

Energy Crops

Agricultural Residues

Oilseeds

Algae & Microorganisms

Animal Waste & Manure

Technologies Covered:

Fermentation

Transesterification

Anaerobic Digestion

Gasification & Pyrolysis

Hydrothermal Liquefaction

Applications Covered:

On-farm Energy Use

Rural Power Generation

Transportation

Industrial Use

End Users Covered:

Farmers & Agricultural Cooperatives

Biofuel Producers & Refiners

Rural Communities & Power Utilities

Agro-industries

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

Market share assessments for the regional and country-level segments

Strategic recommendations for the new entrants

Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

Strategic recommendations in key business segments based on the market estimations

Competitive landscaping mapping the key common trends

Company profiling with detailed strategies, financials, and recent developments

Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

Contents

1 EXECUTIVE SUMMARY

- 1.1 Market Snapshot and Key Highlights
- 1.2 Growth Drivers, Challenges, and Opportunities
- 1.3 Competitive Landscape Overview
- 1.4 Strategic Insights and Recommendations

2 RESEARCH FRAMEWORK

- 2.1 Study Objectives and Scope
- 2.2 Stakeholder Analysis
- 2.3 Research Assumptions and Limitations
- 2.4 Research Methodology
 - 2.4.1 Data Collection (Primary and Secondary)
 - 2.4.2 Data Modeling and Estimation Techniques
 - 2.4.3 Data Validation and Triangulation
 - 2.4.4 Analytical and Forecasting Approach

3 MARKET DYNAMICS AND TREND ANALYSIS

- 3.1 Market Definition and Structure
- 3.2 Key Market Drivers
- 3.3 Market Restraints and Challenges
- 3.4 Growth Opportunities and Investment Hotspots
- 3.5 Industry Threats and Risk Assessment
- 3.6 Technology and Innovation Landscape
- 3.7 Emerging and High-Growth Markets
- 3.8 Regulatory and Policy Environment
- 3.9 Impact of COVID-19 and Recovery Outlook

4 COMPETITIVE AND STRATEGIC ASSESSMENT

- 4.1 Porter's Five Forces Analysis
 - 4.1.1 Supplier Bargaining Power
 - 4.1.2 Buyer Bargaining Power
 - 4.1.3 Threat of Substitutes
 - 4.1.4 Threat of New Entrants

- 4.1.5 Competitive Rivalry
- 4.2 Market Share Analysis of Key Players
- 4.3 Product Benchmarking and Performance Comparison

5 GLOBAL BIOFUELS IN AGRICULTURE MARKET, BY FUEL TYPE

- 5.1 Bioethanol
- 5.2 Biodiesel
- 5.3 Biogas
- 5.4 Advanced Biofuels

6 GLOBAL BIOFUELS IN AGRICULTURE MARKET, BY FEEDSTOCK

- 6.1 Energy Crops
- 6.2 Agricultural Residues
- 6.3 Oilseeds
- 6.4 Algae & Microorganisms
- 6.5 Animal Waste & Manure

7 GLOBAL BIOFUELS IN AGRICULTURE MARKET, BY TECHNOLOGY

- 7.1 Fermentation
- 7.2 Transesterification
- 7.3 Anaerobic Digestion
- 7.4 Gasification & Pyrolysis
- 7.5 Hydrothermal Liquefaction

8 GLOBAL BIOFUELS IN AGRICULTURE MARKET, BY APPLICATION

- 8.1 On-farm Energy Use
- 8.2 Rural Power Generation
- 8.3 Transportation
- 8.4 Industrial Use

9 GLOBAL BIOFUELS IN AGRICULTURE MARKET, BY END USER

- 9.1 Farmers & Agricultural Cooperatives
- 9.2 Biofuel Producers & Refiners
- 9.3 Rural Communities & Power Utilities

9.4 Agro-industries

10 GLOBAL BIOFUELS IN AGRICULTURE MARKET, BY GEOGRAPHY

10.1 North America

10.1.1 United States

10.1.2 Canada

10.1.3 Mexico

10.2 Europe

10.2.1 United Kingdom

10.2.2 Germany

10.2.3 France

10.2.4 Italy

10.2.5 Spain

10.2.6 Netherlands

10.2.7 Belgium

10.2.8 Sweden

10.2.9 Switzerland

10.2.10 Poland

10.2.11 Rest of Europe

10.3 Asia Pacific

10.3.1 China

10.3.2 Japan

10.3.3 India

10.3.4 South Korea

10.3.5 Australia

10.3.6 Indonesia

10.3.7 Thailand

10.3.8 Malaysia

10.3.9 Singapore

10.3.10 Vietnam

10.3.11 Rest of Asia Pacific

10.4 South America

10.4.1 Brazil

10.4.2 Argentina

10.4.3 Colombia

10.4.4 Chile

10.4.5 Peru

10.4.6 Rest of South America

10.5 Rest of the World (RoW)

10.5.1 Middle East

10.5.1.1 Saudi Arabia

10.5.1.2 United Arab Emirates

10.5.1.3 Qatar

10.5.1.4 Israel

10.5.1.5 Rest of Middle East

10.5.2 Africa

10.5.2.1 South Africa

10.5.2.2 Egypt

10.5.2.3 Morocco

10.5.2.4 Rest of Africa

11 STRATEGIC MARKET INTELLIGENCE

11.1 Industry Value Network and Supply Chain Assessment

11.2 White-Space and Opportunity Mapping

11.3 Product Evolution and Market Life Cycle Analysis

11.4 Channel, Distributor, and Go-to-Market Assessment

12 INDUSTRY DEVELOPMENTS AND STRATEGIC INITIATIVES

12.1 Mergers and Acquisitions

12.2 Partnerships, Alliances, and Joint Ventures

12.3 New Product Launches and Certifications

12.4 Capacity Expansion and Investments

12.5 Other Strategic Initiatives

13 COMPANY PROFILES

13.1 Corteva Inc.

13.2 bp

13.3 Valero Energy Corporation

13.4 Phillips

13.5 POET

13.6 ADM

13.7 Marathon Petroleum Corporation

13.8 Darling Ingredients

13.9 Bunge

- 13.10 Chevron Corporation
- 13.11 Gevo
- 13.12 Neste
- 13.13 Green Plains
- 13.14 Cargill
- 13.15 The Andersons
- 13.16 Renewable Energy Group
- 13.17 Louis Dreyfus
- 13.18 Groupe Avril

List Of Tables

LIST OF TABLES

- Table 1 Global Biofuels in Agriculture Market Outlook, By Region (2023-2034) (\$MN)
- Table 2 Global Biofuels in Agriculture Market Outlook, By Fuel Type (2023-2034) (\$MN)
- Table 3 Global Biofuels in Agriculture Market Outlook, By Bioethanol (2023-2034) (\$MN)
- Table 4 Global Biofuels in Agriculture Market Outlook, By Biodiesel (2023-2034) (\$MN)
- Table 5 Global Biofuels in Agriculture Market Outlook, By Biogas (2023-2034) (\$MN)
- Table 6 Global Biofuels in Agriculture Market Outlook, By Advanced Biofuels (2023-2034) (\$MN)
- Table 7 Global Biofuels in Agriculture Market Outlook, By Feedstock (2023-2034) (\$MN)
- Table 8 Global Biofuels in Agriculture Market Outlook, By Energy Crops (2023-2034) (\$MN)
- Table 9 Global Biofuels in Agriculture Market Outlook, By Agricultural Residues (2023-2034) (\$MN)
- Table 10 Global Biofuels in Agriculture Market Outlook, By Oilseeds (2023-2034) (\$MN)
- Table 11 Global Biofuels in Agriculture Market Outlook, By Algae & Microorganisms (2023-2034) (\$MN)
- Table 12 Global Biofuels in Agriculture Market Outlook, By Animal Waste & Manure (2023-2034) (\$MN)
- Table 13 Global Biofuels in Agriculture Market Outlook, By Technology (2023-2034) (\$MN)
- Table 14 Global Biofuels in Agriculture Market Outlook, By Fermentation (2023-2034) (\$MN)
- Table 15 Global Biofuels in Agriculture Market Outlook, By Transesterification (2023-2034) (\$MN)
- Table 16 Global Biofuels in Agriculture Market Outlook, By Anaerobic Digestion (2023-2034) (\$MN)
- Table 17 Global Biofuels in Agriculture Market Outlook, By Gasification & Pyrolysis (2023-2034) (\$MN)
- Table 18 Global Biofuels in Agriculture Market Outlook, By Hydrothermal Liquefaction (2023-2034) (\$MN)
- Table 19 Global Biofuels in Agriculture Market Outlook, By Application (2023-2034) (\$MN)
- Table 20 Global Biofuels in Agriculture Market Outlook, By On-farm Energy Use (2023-2034) (\$MN)
- Table 21 Global Biofuels in Agriculture Market Outlook, By Rural Power Generation

(2023-2034) (\$MN)

Table 22 Global Biofuels in Agriculture Market Outlook, By Transportation (2023-2034) (\$MN)

Table 23 Global Biofuels in Agriculture Market Outlook, By Industrial Use (2023-2034) (\$MN)

Table 24 Global Biofuels in Agriculture Market Outlook, By End User (2023-2034) (\$MN)

Table 25 Global Biofuels in Agriculture Market Outlook, By Farmers & Agricultural Cooperatives (2023-2034) (\$MN)

Table 26 Global Biofuels in Agriculture Market Outlook, By Biofuel Producers & Refiners (2023-2034) (\$MN)

Table 27 Global Biofuels in Agriculture Market Outlook, By Rural Communities & Power Utilities (2023-2034) (\$MN)

Table 28 Global Biofuels in Agriculture Market Outlook, By Agro-industries (2023-2034) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Rest of the World (RoW) Regions are also represented in the same manner as above.

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