

Second Generation Biofuels Global Market In 2029

The Business Research Company's Second Generation Biofuels Global Market Report 2025 - Market Size, Trends, And Global Forecast 2025-2034

LONDON, GREATER LONDON, UNITED KINGDOM, December 15, 2025 /EINPresswire.com/ -- [Second Generation Biofuels Global Market](#) to Surpass \$31 billion in 2029. In comparison, the Biofuels market, which is considered as its parent market, is expected to be

approximately \$255 billion by 2029, with Second Generation Biofuels market to represent around 12% of the parent market. Within the broader Oil And Gas industry, which is expected to be \$10,208 billion by 2029, the Second Generation Biofuels market is estimated to account for nearly 0.3% of the total market value.

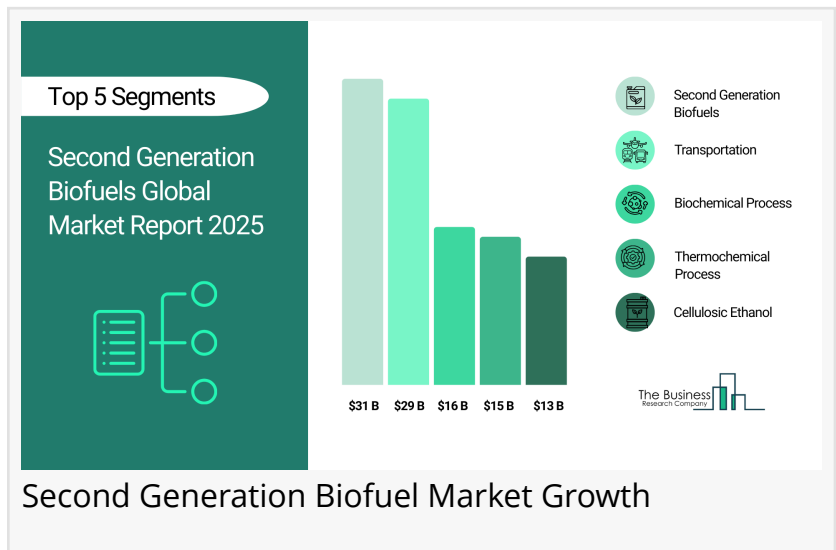


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The Business Research Company

renewable energy.

Which Will Be The Largest Country In The Global Second Generation Biofuels Global Market In 2029?

The USA will be the largest country in the second generation biofuels market in 2029, valued at \$13,724 million. The market is expected to grow from \$7,918 million in 2024 at a compound annual growth rate (CAGR) of 12%. The rapid growth can be attributed to the government



Which Will Be the Biggest Region in [the Second Generation Biofuels Global Market](#) in 2029

North America will be the largest region in the second generation biofuels market in 2029, valued at \$15,724 million. The market is expected to grow from \$9,020 million in 2024 at a compound annual growth rate (CAGR) of 12%. The rapid growth can be attributed to the government support for green technologies, rising trends of a circular economy and increased investment in

support for green technologies, rising trend of a circular economy and increased investment in renewable energy.

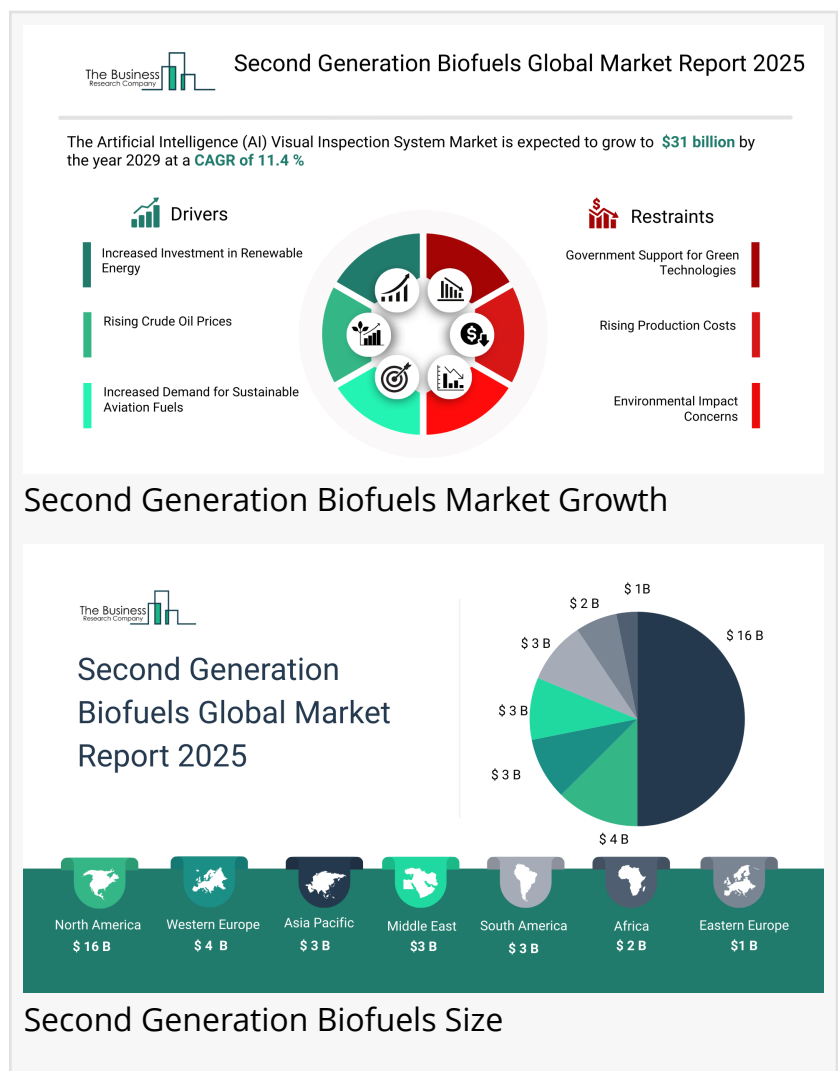
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What will be Largest Segment in the Second Generation Biofuels Global Market in 2029?

The second generation biofuels global market is segmented by type into cellulosic ethanol, biodiesel, bio butanol, bio dimethyl ether (DME) and other types. The cellulosic ethanol market will be the largest segment of the second generation biofuels market segmented by type, accounting for 41% or \$12,801 million of the total in 2029. The cellulosic ethanol market will be supported by the abundant availability of lignocellulosic feedstock, favourable government policies and blending mandates, advancements in biomass conversion technologies, increasing focus on reducing greenhouse gas emissions and rising investments in sustainable and low-carbon fuel alternatives.

The second generation biofuels global market is segmented by process into biochemical process and thermochemical process. The biochemical process market will be the largest segment of the second generation biofuels market segmented by process, accounting for 52% or \$16,221 million of the total in 2029. The second generation biofuels market will be supported by advancements in enzymatic hydrolysis and fermentation technologies, increased efficiency in converting lignocellulosic biomass to biofuels, strong research and development initiatives, growing preference for low-temperature and environmentally friendly conversion methods and supportive funding for bio-refinery infrastructure.

The second generation biofuels market is segmented by feedstock into simple lignocellulose, complex lignocellulose, syngas, algae and other feedstocks. The complex lignocellulose market will be the largest segment of the second generation biofuels market segmented by feedstock, accounting for 39% or \$12,093 million of the total in 2029. The second generation biofuels market will be supported by supported by the high energy potential of woody biomass and



forestry residues, advancements in pretreatment and delignification technologies, growing focus on utilizing underused biomass resources, supportive research for overcoming structural recalcitrance and increasing demand for long-term sustainable biofuel production.

The second generation biofuels global market is segmented by application into transportation, power generation and other applications. The transportation market will be the largest segment of the second generation biofuels market segmented by application, accounting for 92% or \$28,665 million of the total in 2029. The second generation biofuels market will be supported by the growing demand for low-carbon alternatives to fossil fuels, stringent emission reduction regulations in the automotive and aviation sectors, increasing adoption of biofuel blending mandates, advancements in fuel compatibility with existing engines and rising global initiatives to decarbonize the mobility sector.

What is the expected CAGR for the Second Generation Biofuels Global Market leading up to 2029?

The expected CAGR for the second generation biofuels market leading up to 2029 is 11%.

What Will Be The Growth Driving Factors In The Global Second Generation Biofuels Global Market In The Forecast Period?

The rapid [growth of the global second generation biofuels market](#) leading up to 2029 will be driven by the following key factors that are expected to reshape energy systems, transportation fuels, agricultural and forestry supply chains, rural economic development, and environmental policy frameworks worldwide.

Increased Investment in Renewable Energy - The increased investment in renewable energy will become a key driver of growth in the second generation biofuels global market by 2029. Such investment accelerates the development of advanced technologies that convert non-food biomass into sustainable fuels, helping to reduce reliance on fossil fuels. It also enables the expansion of biorefineries and the infrastructure necessary for large-scale commercial production. As a result, the increased investment in renewable energy is anticipated to contributing to a 1.5% annual growth in the market.

Rising Crude Oil Prices - The rising crude oil prices will emerge as a major factor driving the expansion of the market by 2029. As conventional fossil fuels become more expensive, alternative fuels like second-generation biofuels become more economically appealing. This shift in cost dynamics boosts investment in biofuel technologies and infrastructure, enhancing their competitiveness and accelerating their adoption in the global energy landscape. Consequently, the rising crude oil prices is projected to contributing to a 1.0% annual growth in the market.

Increased Demand for Sustainable Aviation Fuels - The increased demand for sustainable aviation fuels will serve as a key growth catalyst for the market by 2029. As a result, new market opportunities emerge, creating strong incentives for the production of second-generation biofuels, which play a vital role in helping the aviation sector move toward carbon neutrality. Therefore, this increased demand for sustainable aviation fuels is projected to supporting to a

0.8% annual growth in the market.

Government Support for Green Technologies - The government support for green technologies will become a significant driver contributing to the growth of the market by 2029. Initiatives such as subsidies, tax incentives, and research funding significantly reduce production costs and accelerate the advancement of biofuel technologies. These policy measures encourage innovation, support the scaling of production, and enhance the competitiveness of advanced biofuels compared to fossil fuels, ultimately contributing to a more sustainable and low-carbon energy future. Consequently, the government support for green technologies is projected to contributing to a 0.5% annual growth in the market.

Access the detailed Second Generation Biofuels Market report here:

<https://www.thebusinessresearchcompany.com/report/second-generation-biofuels-global-market-report>

What Are The Key Growth Opportunities In The Second Generation Biofuels Global Market in 2029?

The most significant growth opportunities are anticipated in the cellulosic advanced second generation biofuels market, the biochemical route second-generation biofuels market, the lignocellulosic second-generation biofuels market, and the transportation-grade advanced biofuels market. Collectively, these segments are projected to contribute over \$31 billion in market value by 2029, driven by increasing global decarbonization goals, rising adoption of renewable fuel blending mandates, technological improvements in biomass conversion efficiency, and expanding production capacities supported by government incentives. This growth reflects the accelerating shift toward low-carbon, sustainable fuel alternatives capable of reducing reliance on fossil fuels, improving lifecycle emissions performance, and supporting energy transition strategies across transportation and industrial sectors.

The transportation-grade advanced biofuels market is projected to by \$11,668 million, the biochemical route second-generation biofuels market by \$8,361 million, the cellulosic advanced second generation biofuels market grow by \$5,955 million, the lignocellulosic second-generation biofuels market by \$4,941 million over the next five years from 2024 to 2029.

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