

Global Renewable Diesel Market: Analysis By Production, By Consumption, By Feedstock (Tallow, UCO, Corn Oil, Fish Oil, and Other), By Region Size and Trends with Impact of COVID-19 and Forecast up to 2027

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Abstracts

The global renewable diesel market by production has reached 2.61 billion gallons in 2021. The market is expected to reach 7.45 billion gallons per year by 2027. The global consumption of renewable diesel has increased to 2.70 billion gallons in 2021 and is expected to reach 6.89 billion gallons by 2027. Renewable diesel is a hydrocarbon that is chemically equivalent to petroleum diesel and can be used as a drop-in biofuel and can be transported in petroleum pipelines and sold at retail stations with or without blending with petroleum diesel.

The mounting environment-friendliness, renewability, and biodegradability of renewable diesel would be the main factor driving the growth of the market in the coming years. Also, the renewable diesel industry is set to grow with fuel refiners looking for alternative growth paths in a low-carbon world. Renewable diesel production is expected to grow at a CAGR of 19.09% during the forecast period of 2022-2027. Whereas, consumption is expected to grow at a CAGR of 16.95% during the projected years.

Market Segmentation Analysis:

By Production: The report provides insight into the renewable diesel market's production based on the regions namely Europe, North America, and Asia Pacific. Europe held the highest share of more than 45% in the market in 2021, followed by the North America and Asia Pacific region. Europe has historically been the largest market for the product due to early acceptance of the product in the region as well as

government emphasis on replacing carbon-emitting sources with bio-based sources. One of the major reasons for the growth of renewable diesel production was the adoption of the Renewable Energy Directive (RED) II.

In 2021, the US was the sole producer of renewable diesel in the North American region. Renewable diesel capacities are going through a phase of rapid expansion in the US, led by global refiners retrofitting existing fossil fuel refineries to process renewable feedstock.

Asia-Pacific's decarbonization efforts are likely to determine the scale of adoption of renewable diesel. Emerging interest in sustainable energy resources would emphasize the adoption of renewable products, which is expected to increase the demand for renewable diesel and thereby contribute to its capacity growth in Asia.

By Consumption: The report provides a glimpse of the consumption of renewable diesel around the world. North America, Europe, and the Asia Pacific are the three geographic regions that contribute to the global market for renewable diesel based on consumption.

Based on consumption, the European market has been segmented into the following regions: Germany, Italy, France, Spain, the UK, and the Rest of Europe (ROE). By using a minimum of 14% of renewable energy in road and rail transport by 2030, renewable diesel is expected to be used as an alternative for refineries to meet Europe's renewable energy directive-II (RED-II) goals, leading to market growth.

In North America, Canada's Clean Fuel Standard is expected to boost renewable diesel use in the coming years. The program aims to achieve 30 million tons of annual reductions in greenhouse gas (GHG) emissions by 2030. The Asia Pacific renewable diesel market can be segmented into the following regions based on consumption: China and Indonesia. It is anticipated that Indonesia would be the main consumer of renewable diesel by the end of 2027, with the highest CAGR.

By Feedstock: The US renewable diesel market production is further bifurcated based on the feedstock: Tallow, UCO (Used Cooking Oil), Corn Oil, Fish Oil, and Others. In 2021, the tallow held the major share in the US renewable diesel market owing to its properties like the high centralized generation in slaughter/processing facilities and comparatively low prices. Corn oil is expected to grow at the highest rate in the forthcoming years. The low carbon feedstock market is experiencing surging demand and higher prices.

Market Dynamics:

Growth Drivers: The global renewable diesel market has been growing over the past few years due to the factors such as growing motor vehicle production, rising carbon emission, depletion of fossil fuels, growing aviation industry, policy support for renewable diesel, increasing investment in renewable diesel, etc. The increasing threat of fossil fuel depletion and the need to include renewable sources of energy in the energy mix for sustainable growth is anticipated to drive the demand for renewable diesel. Also, renewable diesel costs more to produce than conventional fossil diesel, and therefore policy support is necessary to make renewable diesel production commercially viable. The most important US policy instruments for renewable diesel producers are the Renewable Fuel Standard, the biomass-based diesel blenders tax credit, and state level incentives for decarbonizing transportation fuel such as the California Low Carbon Fuel Standard and the Oregon Clean Fuels Program.

Challenges: However, the market has been confronted with some challenges specifically, insufficient availability of feedstocks, problems associated with the quality control of renewable diesel, difficulty in finding the right place to produce renewable diesel, availability of substitutes, etc.

Trends: The market is projected to grow at a fast pace during the forecast period, due to various latest trends such as increasing energy consumption, a structural shift to renewable diesel, more economic in nature, increasing acceptance of eco-friendly fuel, etc. Biodiesel and renewable diesel are set to become increasingly important in decarbonizing the diesel transportation sector as intensifying focus on climate change and legislations toward greenhouse gas (GHG) reduction bring new growth drivers to the transportation and biofuel markets.

Impact Analysis of COVID-19 and Way Forward:

The global renewable diesel market has experienced positive growth during the pandemic. In 2020, fuel use declines in heavy-duty commercial vehicles were less severe, offsetting declines in light-duty passenger use of diesel and providing relative stability to the distillate market as compared to the light-duty fuels market which was fully impacted by lockdown measures. In 2021, renewable diesel demand further increased as the road transport sector rebounded. In the post-COVID era, factors such as government support for the consumption of renewable diesel by providing subsidies and growing demand for eco-friendly fuels that reduce greenhouse gas emissions are anticipated to drive market growth.

Competitive Landscape:

The global renewable diesel market is moderately consolidated. The key players in the global renewable diesel market are:

Neste

PBF Energy Inc.

Chevron Corporation (Renewable Energy Group)

Valero Energy Corporation

GEVO, Inc.

Phillips 66

Aemetis, Inc.

Marathon Petroleum Corporation

Shell plc

Global Clean Energy Holdings, Inc.

Ryze Renewables

World Energy

Renewable diesel production capacity is currently increasing rapidly, not just in the US but around the world. In 2022, Diamond Green Diesel LLC has a production capacity of 982 million gallons per year whereas, the renewable energy group has a production capacity of 100 million gallons per year. In the US renewable diesel market, Neste held the highest market share, followed by DGD.

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