Global Aviation Alternative Fuel Market Report Information by Fuel type (Biofuels (HEFA, HPO, FT, and SIP), CNG, LPG, & Others), by Process (Coal liquefaction, Gas liquefaction), by Application (Commercial, Military), and by Region - Forecast Till 2023

Market Scenario

Usage of alternative fuels is largely encouraged across the globe, due to their various advantages over conventional fuels. Aviation alternative fuels are ecologically sustainable and easy to maintain during usage. These fuels are better than petroleum based fuels, owing to the higher air quality post combustion in the combustion chamber in the engine. Advanced biofuels are strong competitors for replacing petroleum based aviation fuels in the near future, as these fuels are equally safe while offering better performance.

Increasing concerns about environmental protection, climate change, and global warming is driving the aviation alternative fuels market. A number of companies, organizations, and governments are investing in research & development, and commercialization of aviation alternative fuels. New technological interventions have significantly reduced the cost of manufacturing these fuels, resulting in economical substitutes for petroleum based fuels. Moreover, rapid growth in the aviation industry is likely to boost the demand for aviation alternative fuels during the forecast period. Increasing trade is also expected to propel the aviation alternative fuels market.

However, several challenges and concerns also exist for this market. Storing biodiesel for long durations is difficult; if stored for longer period of time at lower temperature, these fuels tend to oxidize resulting in solidification. These fuels have the potential to curb the rising pollution and carbon emissions; however, biofuels directly compete with agriculture and food production for resources, and hence, are an added strain on agriculture. In addition, the high quality standards for fuels and their safe transportation during flights is also expected to impact the demand for these fuels.

In fuel type segmentation, the aviation alternative fuels market can be divided into biofuels, CNG, LNG, and others. Furthermore, biofuels can be further subdivided into Hydrogenated Esters & Fatty Acids (HEFA), Hydrogenated Pyrolysis Oil (HPO), Fischer-Tropsch (FT) based on biomass, and renewable Synthesized Iso-paraffin fuels (SIP). Among these, the biofuels sub-segment is anticipated to expand significantly, as it is in a rapid development stage. Biofuels are primarily made from vegetable oils such as camellia and jatropha, sugar crops, cereals, and algae. Thus, at present, the inventory is abundant.

Using alternative fuels in vehicles cuts the emission of greenhouse gases, hence positively impacting air quality. At the same time, traditional fuels such as petrol and diesel are expensive and also a major cause of environmental threats. Vehicles using alternative fuels have various advantages over conventional fuel driven vehicles. Biodiesel is a renewable fuel and its physical properties are similar to petroleum diesel. Biodiesels provide a cleaner substitute and have less emission as compared to other conventional fuels. Ethanol is made from plant-based materials such as sugarcane and other agro-waste materials, and is combined with gasoline to be used in alternative fuel vehicles.

Increase in demand for pilot training and reconnaissance aircrafts in military applications are
going to be some of the key factors driving the growth of aviation fuel market in next few
years. Rise in efficiency of the jet engines due to new innovations, usage of flight simulators
for training and reduced economic prospects of the developed regions are some of the factors
hindering the growth of the aviation fuels market.

Reducing the carbon footprints is a vital task for the aviation industry. One of the ways of
going about it, is using alternatives such as biofuels, whose production cycle results in lesser
carbon emissions, as compared to the conventional fuels. The companies that could include
biofuels usage in their operations in future, hold opportunities for the growth of aviation fuel
additives.

**Global Aviation Alternative Fuel Market** is estimated to witness a CAGR of more than
10% during the forecast period.

**Global Aviation Alternative Fuel Market Segmentation**

The market for aviation alternative fuels can be segmented into Asia Pacific, Europe, North
America, Latin America, and Middle East & Africa. At present, regions such as North America
and Europe are the key markets for aviation alternative fuels. Existence of strict government
regulations, robust technological developments, awareness regarding environmental
protection, and big investments are some of the factors pushing the growth of aviation
alternative fuels in these regions. Asia Pacific is also estimated to be a significant market for
aviation alternative fuels; China and India, are expected to witness substantial increase in
number of passengers traveling by air transport per annum during the forecast period. The
market in Latin America, especially in Brazil, is also expected to expand considerably in the
near future.

**Key Players**

The key players in global aviation alternative fuel market Solazyme (U.S.), Honeywell UOP
(U.S.), Imperium Renewables Inc. (U.S.), Renewable Energy Group Inc. (U.S.), Aquaflow
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