

## THE FUTURE OF JET FUEL AS AN IMPORTANT REFINERY PRODUCT

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JET fuel is a globally available and uniformly standardized product of oil refineries. In 2019, it accounted for 13.2 vol.% of motor fuel or 8.1 vol.% of crude oil consumption [1]. It is characterized by an increasing market demand of 3.7% per annum [2] and a very good refinery margin. At present, there is virtually no alternative to aircraft turbines similar to electric motors or fuel cells in case of cars, which means there is no threat to JET fuel in the long term. Although the basic characteristics of JET fuel will not change significantly, it will be reformulated with an increasing addition of sustainable aviation fuels (SAF) – for example, the EU has adopted a mandate of 5 vol.% by 2030 and 63% by 2050 [3], [4]. Major aircraft turbine and aircraft manufacturers are currently pilot testing the use of various blends of SAF with mineral kerosene as well as pure SAF [5], [6], [7], [8]. Various feedstocks (oil crops, algae, lignocellulose, sugar and starch, waste plastics, and scrapped tires), platforms (vegetable virgin and used oils, pyrolysis oil, bio-alcohols, synthesis gas, synthetic i-alkanes, and bio-alkenes), and matured, modified, and new state-of-the-art technologies (pyrolysis, hydrogenation, synthesis gas production, Fischer-Tropsch synthesis, oligomerization, and modified MTG process) are now targeted for production of JET fuel. The EU, EIA, IATA, and other organization started important initiatives in this direction. UCT Prague is also involved in this development.

### References:

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