Technology Collaboration Programme
by iea

Technology Collaboration Programme on
Advanced Motor Fuels



Paraffins for diesel blending

Paraffins are highly desirable components in diesel fuel due to their excellent combustion properties. While conventional diesel contains a mix of hydrocarbons, including less favorable naphthenics and aromatics, paraffinic diesel offers a cleaner profile. It typically features a very high cetane number and is free of sulfur, nitrogen, oxygen, and aromatics.

Paraffins can be produced from a variety of fossil and renewable feedstocks. Synthetic paraffinic fuels are created via gasification and Fischer-Tropsch (FT) synthesis, with commercial examples including Gas-to-Liquids (GTL) and Coal-to-Liquids (CTL) fuels. The biomass-based equivalent, Biomass-to-Liquids (BTL), is not yet commercially available. Another major production pathway is the hydrotreating of oils and fats, which yields a renewable paraffinic diesel known as Hydrotreated Vegetable Oil (HVO). Increasingly, HVO production utilizes waste and residue feedstocks like animal fats and non-food grade vegetable oils. Paraffins for diesel can also be made from crude tall oil, which is a residue of pulp production.

Advanced Motor Fuels, one of the International Energy Agency's (IEA) transportation related Technology Collaboration Programmes (TCP) has prepared many reports on paraffinic fuels, including Task 30, Task 31, Task 34-1, Task 37, Task 38, Task 45, Task 52, Task 64.

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AMF work on paraffins for diesel blendings

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Bio-safety Assessment: Animal Fat in Biodiesel, Greene and Dawson (Eds.) (2007)

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