

Industrial production of sustainable aviation fuels
Long term research & development strategy
Fuel logistics
Market uptake
Sustainability

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Advanced Sustainable Biofuels for Aviation

INDUSTRIAL PRODUCTION OF SUSTAINABLE AVIATION FUEL

BIO4A is a project funded by Horizon 2020, the EU Framework Programme for Research and Innovation. Started in 2018, BIO4A will demonstrate that sustainable aviation fuel (SAF) industrial production capacity already exists in Europe. Depending on the policy framework and the market conditions in place, BIO4A aims to increase the production capacity of bio-based hydrocarbon in EU up to 300-350 kt/y of sustainable aviation fuels, which will provide a viable large-scale industrial approach using sustainable lipids as a feedstock. The industrial site for the production of sustainable aviation fuels will be TOTAL's La Mède biorefinery in France, which is capable of producing HEFA sustainable aviation fuel component. At La Mède, a commercial technology is under installation for the first time at industrial scale. The production target of BIO4A is 5,000 tons of HEFA.

MARKET UPTAKE

In BIO4A, each step of a typical value chain for sustainable aviation fuel will be assessed for its market performance. This will be accompanied by the analysis of a series of business cases that will be used to design a series of effective market strategies. The market scaling strategy will be built on a comprehensive market, regulatory and policy analysis, as well as on real trading experiences, paving the way to a full market uptake.

Source: Konabish - Greg Bishop



LONG-TERM R&D STRATEGY: SUSTAINABLE LIPIDS FOR THE SAF INDUSTRY



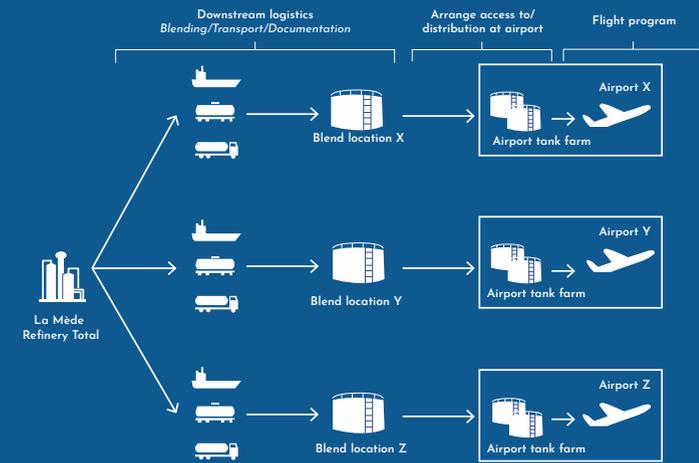
BIO4A will develop a dedicated R&D work on soil and sustainable crops such as Camelina, a drought-resistant oil crop. By adopting a combination of biochar and other soil amendments, the research aims at developing a cost-effective long-term strategy to:

1. increase soil fertility and resilience to climate change in Southern EU/MED Countries
2. store fixed carbon into the soil; and
3. producing a low-ILUC biofuel from Camelina.

The approach tested in BIO4A has the potential to be replicated in several EU Mediterranean areas, where the amount of marginal land is estimated at 8.5 Mha.

FUEL LOGISTICS

Set up BIO4A Flight Programme and Supply Chain



The activities of BIO4A will cover each step of the value chain, from the sourcing of sustainable feedstocks, through to conversion into ASTM-certified sustainable aviation fuel (SAF), to its blending up to 50% and distribution to end-users in several airports across Europe. The fuel will be provided through standard airport infrastructures, in a non-segregated way, and then used in commercial passenger flights by several European airlines.

SUSTAINABILITY

In BIO4A all the technological, socio-economic and environmental aspects of the entire value chain will be evaluated (including the supply of sustainable biomass feedstock) against a set of key performance indicators. The performance of the BIO4A process will be compared with other available, competing technologies as well as with new pathways that are currently under development. The environmental sustainability assessment of the integrated and optimized process will measure the potential contributions of BIO4A to renewable energy and GHG emission reduction targets currently set at EU level.

