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1

CONCEPTS FOR BIOFUELS IN AVIATION

1 *Air traffic has to considerably reduce its CO_2 footprint in the future.*

SUSTAINABLE

Ecology/Economy:
To ensure the environmental compatibility of biofuels, the German Federal Government has enacted the Biofuels Sustainability Act. According to the Act, biofuels will only be considered produced sustainably if, in comparison to fossil fuels, there are greenhouse gas savings of at least 35 percent. This minimum requirement will increase to 50 percent in 2017 and for new systems to 60 percent in 2018. The project helps in achieving the objective.

Since 2012, airlines that want to take off and land in the EU have to present certificates for their air pollution. One option to reduce the carbon dioxide emission of aviation is to use bio-jetfuels. European standards for the quality assurance of biofuels in aviation do not yet exist. Building upon the American guidelines for fossil aviation fuels, a standard for aviation fuel was developed that allows for a biofuel share of up to 50 percent. Sponsored by the German Federal Ministry of Economics and Technology, this is where the group project QuaNaBioL comes into play: framework conditions for quality standards, sustainability criteria of bio-jetfuels as well as creating incentives for their application.

With the QuaNaBioL project ("Quality Assurance and Sustainability in the Provision of Biofuels for Aviation"), Fraunhofer UMSICHT wants to create the prerequisites for the German aviation industry, with the help of which biofuels with exactly defined properties can be used in the near future. Despite fulfilling the political mandates, the aviation industry is to neither lose profitability nor competitiveness. After a project duration of two years, the results flow into an integrated concept for action for all actors of the value-added chain "Bio-Jetfuels" to this way later implement all relevant parameters in an operational quality management system and in relevant business processes.

POTENTIAL RAW MATERIALS FOR BIO-JETFUELS

An important issue will be the taking inventory of potential raw materials and the inspection as well as assessment of the various conversion processes. Based on the standardization project, in a first analysis step the currently relevant process routes of bio-jetfuels from the provision of the raw materials to the refueling of the aircraft were investigated. Beyond that, structures and means of transportation for conventional kerosene as well as storage facilities were reviewed based on oil companies selected as examples. As the immediate next steps, the process routes as well as the quality assurance concept and the development of potential production structures for bio-jetfuels will be revised. This serves for the preparation of the concluding risk and systems analysis.

CONTACT

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