

TOYO to participate in a joint study for the establishment of a commercial-scale SAF production technology and the creation of a supply chain

August 30,2021

Toyo Engineering Corporation

Toyo Engineering Corporation (TOYO, President and CEO Haruo Nagamatsu), as a member of a consortium of JERA Co., Inc., Mitsubishi Power, Ltd., and ITOCHU Corporation, jointly start to establish a commercial-scale production technology of SAF*1 and create a supply chain of SAF in Japan integrating technologies of gasification and FT synthesis*2.

The project envisages early supply of biomass-derived aviation fuel, which plays a major part in future SAF supply, to the domestic market by studying necessary conditions, measures and technical issues under the support of "Biojet Fuel Production Technology Development Project" of New Energy and Industrial Technology Development Organization (NEDO).

The entire project period is about 4 years from FY2021 to FY2024. The consortium will study how to materialize SAF production business and evaluate its business feasibility for approximately 2 years from FY2021. Based on the results, it will be decided to transfer to the implementation phase from FY2023.

The main roles of each consortium member for joint feasibility study are as below:

Toyo Engineering Corporation	Basic design of commercial-scale FT synthesis (including distillation) facility
JERA Co., Ltd.	Study of commercial-scale, applicable law and regulations, feedstock procurement, mixing method of neat SAF and petroleum-derived jet fuel, SAF market research, business feasibility
Mitsubishi Power, Ltd.	Basic design of commercial-scale gasification facility
ITOCHU Corporation	Research into supply logistics of SAF and by-product, and by-product markets

TOYO, JERA and Mitsubishi Power have already completed the demonstration of a continuous SAF production using the technologies of gasification and FT synthesis in the NEDO project*3 which was carried out from FY2017 to FY2021. The produced SAF was supplied to a commercial flight JL515 of Japan Airlines Co., Ltd. on June 17, 2021. Utilizing the knowledge accumulated in the demonstration project, we will promote this project toward the establishment of the entire supply chain including feedstock procurement, production technology and product supply.

TOYO with close cooperation with the consortium members, will contribute to study optimal commercial-scale SAF production facility by utilizing the technical capabilities accumulated in plant engineering, in order to promote the realization of a sustainable society through CO2 emissions reduction in the aviation industry.

*1) SAF: Sustainable Aviation Fuel

*2) Gasification and FT (Fischer-Tropsch Process) synthesis technology: The technology in which solid materials such as wood cellulose are reacted with water vapor and a small amount of oxygen in a gasifier to produce carbon monoxide and hydrogen (gasification), which are then synthesized into liquid hydrocarbons (fuel) in FT reactor and catalyst.

*3) NEDO's Development of Production Technologies for Biojet Fuels/demonstration-scale test of integrated SAF production process:

project summary: https://www.nedo.go.jp/english/activities/activities_ZZJP_100127.html

project period : FY2017~FY2021

<Contact>

Wataru IIDA /Haruka FUKUSHIMA, Corporate Communications Department

[Phone: +81-47-454-1113]