



February 2024

Japan Energy Newsletter

**Japan Electric Power
Information Center, U.S.A.**

1 Ministry of Land, Infrastructure, Transport and Tourism Promotes the Introduction of Sustainable Aviation Fuel at Local Airports in Japan¹

On January 31, 2024, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) announced that it will plan to launch a demonstration project in Fiscal Year 2024 to promote the introduction of Sustainable Aviation Fuel (SAF) at local airports in Japan in order to work towards decarbonizing the aviation sector. This announcement was made during the meeting on January 31, by the “Public-Private Council for the Introduction and Promotion of SAF (SAF Public-Private Council),” in which the Agency for Natural Resources and Energy (part of the Ministry of Economy, Trade and Industry, (METI)) and the MLIT serve as the Secretariat.

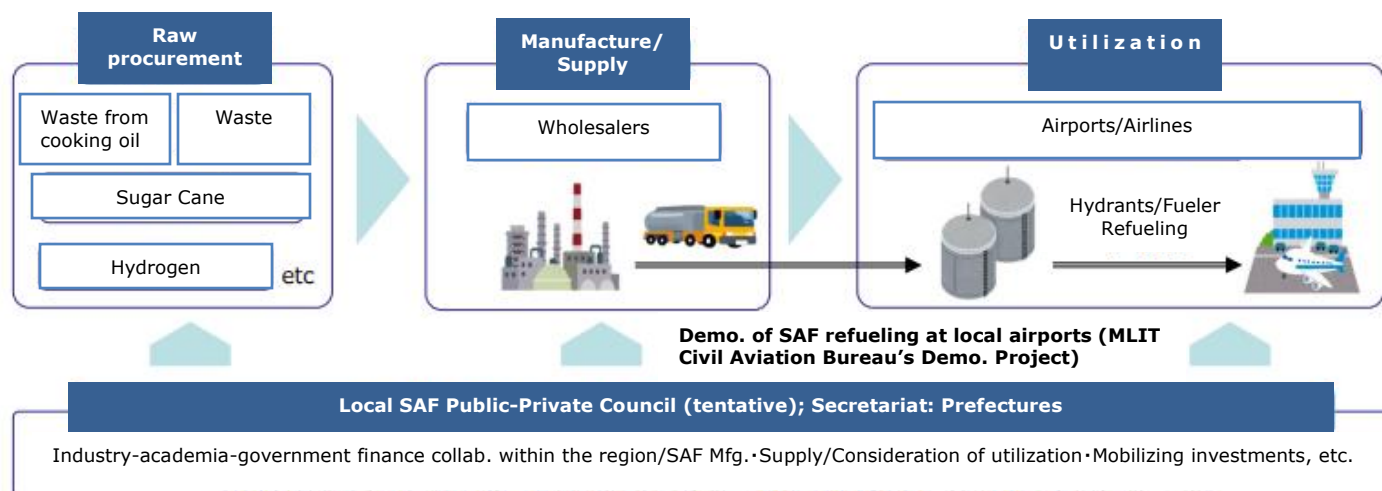
The project will mainly demonstrate the processes of transporting imported SAF and refueling aircrafts with the fuel. The Japanese government is predicting that 10% of aviation fuel consumption will be replaced with SAF by 2030², aiming to support the introduction of SAF through production and consumption at the local level. The purpose of this project is to examine the institutional and regulatory issues in the supply process, from SAF transportation to aircraft refueling, and to promote environmental improvements at local airports, in order to build a supply chain.

This demonstration project is targeting regional airports, excluding the four major airports of Haneda, Narita, Kansai, and Chubu. The government agency will begin accepting applications in April 2024, and will select finalists to be implemented at several local airports. The eligible entities are prefecture-based committees that will consider the introduction of SAF through local production, for local consumption. The application requirements include creating a concept plan for the development of the entire SAF value chain, ranging from raw materials procurement to manufacturing, supply, and utilization, all within the same region surrounding the airport. The MLIT’s Civil Aviation Bureau, in collaboration with the Ministry of Economy, Trade and Industry (METI) and other Ministries, will assist in building an infrastructure network that will stabilize the SAF supply at internationally competitive prices.

¹ <https://www.mlit.go.jp/koku/content/001721430.pdf>

² https://www.meti.go.jp/shingikai/enecho/shigen_nenryo/nenryo_seisaku/pdf/013_01_00.pdf

General Overview of the SAF Supply Chain



Source: METI

Domestic SAF production made from the waste from cooking oil is expected to begin entering the commercialization stage in 2025. As a result, there is an urgent need to work toward obtaining the certifications issued by the International Civil Aviation Organization (ICAO) in order to be internationally recognized as a SAF that is effective in reducing CO₂ emissions.³ Additionally, due to the increasing need for the use of SAF on aircraft, the SAF Public-Private Council is working with airline companies, oil distributors, and other stakeholders to address the challenges and issues, and to create and maintain an environment for expanding the use of domestically produced SAF.

As mentioned above, the Agency for Natural Resources of the METI and the MLIT are serving as the Secretariat of the SAF Public-Private Council. The members of the council from the private sector include oil companies, major general trading companies, two major airline companies, airport operators, and related industry organizations. On the government side, the members include the Agency for Natural Resources of the METI, the MLIT, the Ministry of Agriculture, Forestry and Fisheries (MAFF), the Ministry of the Environment (MOE). The New Energy and Industrial Technology Development Organization (NEDO) is also participating as an observer.

³ https://www.meti.go.jp/shingikai/energy_environment/saf/pdf/004_04_00.pdf

2 The Central Research Institute of the Electric Power Industry Announces the Joint Development of Fast Reactor Fuel Research with the U.S.

On January 23, 2024, the Central Research Institute of the Electric Power Industry (CRIEPI), the Japan Atomic Energy Agency (JAEA), Mitsubishi Heavy Industries (MHI) and Mitsubishi FBR Systems (MFBR) announced that they have agreed to a joint research agreement with the U.S. Department of Energy's Argonne National Laboratory (ANL). Under the agreement, the partners will conduct joint R&D on metal fuels for fast reactors and fuel reprocessing technologies. Moreover, the four parties will receive the knowledge/insights from tests using ANL's experimental fast reactor, EBR-2 (Experimental Breeder Reactor-2).

On December 23, 2022, the Japanese government approved a revised draft of the strategic roadmap for fast reactor development at the Nuclear Energy-related Ministerial Meeting.⁴ Under the strategic roadmap, the government should begin the development of a conceptual design for a fast reactor demonstration reactor in FY2024. The plan is to gain knowledge and insights through R&D results, as well as international cooperation, and to conduct a concrete study of fuel technology based on this knowledge, with a target date of around FY2026.

In March 2023, the Agency for Natural Resources of the METI put out a call for proposals for the specifications of the reactor concept, and for the selection of the core companies to work on the conceptual design of fast reactors. On July 12, 2023, they adopted the "sodium-cooled tank fast reactors" concept proposed by MFBR, and selected MHI as the project leader.

Fast reactors, along with high-temperature gas reactors, are targets for the government's GX Economic Transition Bond investment promotion measures (in the nuclear field) for demonstration reactor development. There are plans for 46 billion yen to be invested over three years from FY2023, including 7.6 billion yen in FY2023 alone.

Below are the future development plans and the timeline for execution:⁵

- FY2024-2028: Conduct conceptual design and R&D of demonstration reactors
- ~2028: Make a decision on the transition to basic design and permitting procedures for demonstration reactors

⁴ The Nuclear Energy-related Ministerial Council is led by the Chief Cabinet Secretary, and is composed of the following additional members: 1) the Minister of Foreign Affairs; 2) the Minister of Education, Culture, Sports, Science and Technology; 3) the Minister of Economy, Trade and Industry; 4) the Minister of the Environment; 5) the Cabinet Office Minister for Special Missions (science and technology policy); and 6) the Cabinet Office Minister for Special Missions (nuclear disaster prevention).

⁵

https://www.meti.go.jp/shingikai/enecho/denryoku_gas/genshiryoku/kakushinro_wg/pdf/007_01_00.pdf

The cooperation with the ANL will provide technical information based on their insights regarding metal fuel production, irradiation, and severe accident testing, using ANL's experimental fast reactor EBR-2 (Experimental Breeder Reactor-2), as well as their knowledge about reprocessing spent metallic fuels at the Fuel Cycle Facility (FCF).

DISCLAIMER

This publication was prepared by the Japan Electric Power Information Center, USA (JEPIC-USA), based on publicly available information. While we presume this information to be accurate and reliable, we provide no guarantee as to the accuracy of the data or information contained herein. JEPIC-USA shall therefore assume no legal responsibility for any trouble, loss, or damages resulting from any actions taken based on the content of this publication.

All rights reserved.

©2024 Japan Electric Power Information Center, USA