Certification of CORSIA eligible fuels

Experience and expectations of a CORSIA-approved Sustainable Certification Scheme

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Background

The Japanese Ministry of Land, Infrastructure, Transport and Tourism (MLIT) has set a goal of replacing 10% of domestic aviation fuel sales with sustainable aviation fuel (SAF) by 2030. Stimulated by government subsidies, Japanese fuel producers, blenders, traders, and airlines are planning actively to establish domestic SAF production facilities.

Cosmo Oil has partnered with Mitsui & Co. and LanzaJet to produce approximately 150,000 Kilolitres (kl) of SAF annually at its Sakaide Distribution Terminal by 2029. In parallel, Cosmo Oil has completed the construction of a SAF production facility at its Sakai Refinery, which is set to produce 30,000 kl annually by 2030. The SAF, derived from used cooking oil, is already certified as CORSIA eligible fuel (CEF). The facility is expected to begin full production in April 2025.

ENEOS, Idemitsu Kosan, and Taiyo Oil are also planning to establish SAF production facilities in Wakayama, Yamaguchi, and Okinawa, respectively. The planned capacities of these facilities are 400,000 kl/year, 250,000 kl/year, and 200,000 kl/year, respectively.

Major Japanese traders, such as Itochu and Marubeni, have also become active in the field of SAF. Itochu, in cooperation with Neste (a neat SAF supplier) and GS Caltex (a blender), has supplied the first CEF batch to Narita International Airport for use by Japan's two major passenger airlines, All Nippon Airways (ANA) and Japan Airlines (JAL).

Meanwhile, Marubeni, in collaboration with the Korean oil refining company HD Hyundai Oilbank, has conducted Japan's first supply of co-processed SAF, which was delivered to ANA.

Last but not least, Japanese airlines, as the key stakeholders in SAF supply and consumption, are engaging actively in SAF initiatives. They are partnering with fuel producers, blenders, and traders, signing SAF supply agreements with refiners and traders, conducting SAF pilot projects, and launching book-and-claim programs to further stimulate SAF production and distribution.

All these initiatives are establishing rapidly a robust SAF supply chain within and to Japan.

The vast majority of Japanese SAF is expected to be derived from used cooking oil. The flagship initiative for this effort is the 'Fry to Fly Project,' which unites numerous Japanese cities, municipalities, and stakeholders from both the public and private sectors. The project aims to collect the hundreds of thousands of tons of used cooking oil generated by Japanese households, public facilities, and businesses and convert it into SAF. The cities of Yokohama and Suita, and Ota Ward, have already begun collecting used cooking oil for SAF production.

In Japan, approximately 2.5 million tons of edible oil are distributed annually. Of this, about 380,000 tons become reusable waste cooking oil, with nearly half repurposed as livestock feed and over 30% exported overseas. These figures highlight the significant potential for expanding SAF production from used cooking oil in Japan.

ClassNK's role

Ever since airlines began reporting their emissions in accordance with ICAO-CORSIA, ClassNK has been the sole approved CORSIA verification body in Japan[1]. As such, ClassNK is a key stakeholder in efforts to reduce aviation sector emissions, aligning with its century-old mission to protect human life, property, and the environment. Therefore, expanding into CEF certification and verification was a natural progression for ClassNK.

To achieve this, ClassNK launched its ClassNK Sustainability Certification Scheme (ClassNK SCS) in 2024[2]. In October 2024, the ICAO council approved ClassNK SCS as meeting the requirements outlined in the ICAO document *CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes*[3]. As a result, ClassNK SCS became eligible to certify economic operators in the CEF supply chain for compliance with CORSIA's sustainability criteria for CEF.

Harnessing its connections with key players across the CEF supply chain in Japan, ClassNK SCS is currently working with major Japanese oil producers, blenders, traders, airlines, and domestic universities to achieve the first ClassNK SCS-certified CEF by the end of 2024 or early 2025. In 2025, additional projects with these stakeholders are planned to further increase the volume of CEF certified under the ClassNK SCS program.

At the same time, ClassNK SCS is reaching out actively to potential certification bodies to encourage their accreditation under ClassNK SCS and support the expansion of CEF certification. The organization is already in the process of accrediting such certification bodies in Japan and Southeast Asia. Ultimately, ClassNK SCS aims to drive the growth of CEF production and trade across East and Southeast Asia.

These projects in Japan and East/Southeast Asia will focus on producing CEF from raw materials such as used cooking oil. ClassNK SCS is proud to promote the recycling of used cooking oil.

Since receiving approval in October of last year, ClassNK SCS has received numerous inquiries from fuel producers and SAF raw material manufacturers. The organization is eager to begin certifying and supervising projects in the near future.

1 Listed as "Nippon Kaiji Kyokai" in the ICAO document "CORSIA Central Registry (CCR): Information and Data for Transparency", Part I (List of Verification Bodies Accredited in States): https://www.icao.int/environmental-protection/CORSIA/Documents/CORSIA_docs/CCR%20Info%20Data%20Transparency_PartI_12ed_web.pdf

2 https://www.classnk.or.jp/hp/en/authentication/scs/

3 https://www.icao.int/environmental-protection/CORSIA/Documents/CORSIA_Eligible_Fuels/ICAO%20document%2004%20-%20Approved%20SCSs%20-%20October%202024.pdf