



29 January, 2021

To All Concerned

JGC HOLDINGS CORPORATION
Revo International Inc.
Japan Petroleum Exploration Company
Cosmo Oil Co., Ltd.

Acceleration towards Commercialization of the Sustainable Aviation Fuel Production from Used Cooking Oil

– Cosmo Oil Co., Ltd. to Participate in Consideration of Commercialization –

Since January 2020, JGC Holdings Corporation [hereinafter, JHD] (Representative Director, Chairman and CEO: Masayuki Sato, Head Office: Nishi-ku, Yokohama, Kanagawa Prefecture), Revo International Inc. [hereinafter, Revo International] (President: Tetsuya Koshikawa, Head Office: Fushimi-ku, Kyoto City, Kyoto Prefecture, and Japan Petroleum Exploration Co., Ltd. [hereinafter, JAPEX] (President and Representative Director CEO: Masahiro Fujita, Head Office: Chiyoda-ku, Tokyo) have been undertaking studies [hereinafter, Commercialization of the Project] concerning the establishment of a commercial domestic supply chain for the production of next-generation aviation fuel [SAF (Sustainable Aviation Fuel)].

On this occasion, Cosmo Oil Co., Ltd. [hereinafter, Cosmo Oil] (President, Representative Director : Shunichi Tanaka, Head Office: Minato-ku, Tokyo) have joined the studies eyeing commercialization of this venture. Through the participation of Cosmo Oil with their extensive experience and knowhow in the production, storage and provision of aviation fuel, the plan to establish SAF production facilities by 2025 and proceed with the commercialization phase will receive a substantial boost.

1. Project Background

In a bid to respond to the increasingly urgent demand for the reduction of greenhouse gas (GHG) emissions, the International Civil Aviation Organization (ICAO) decided in 2016 “to limit total CO2 emissions in the aviation industry” to 2020 levels, and with this aim it called for a CO2 emissions credit scheme for any increases above 2019 levels※ and has also introduced CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation) which calls for the development and stable supply of SAF produced from sources such as urban waste treatment, plant and animal oils, fuel from used cooking oil and biomass or off-gas from steel making plants or oil refineries.

In response, the use of SAF is already moving forward, especially in the US and Europe, while in Japan air carriers have begun obtaining SAF from overseas sources and the increasing use of SAF on the part of the aviation industry is seen as definite. On the other hand, with regard to the domestic production of SAF in Japan there are concerns about the production cost and the stability of supply and there is an urgent need to build up economical SAF production together with a stable supply chain.

※Changing the base year from 2020, “Amount in excess of the average CO2 emissions in the period 2019 and 2020” to “Amount in excess of the figure for 2019”.

2. Status of the Commercialization Study

In light of the above, the four companies, JHD, Revo International, JAPEX and Cosmo Oil are working toward the creation of conditions that will lead to the establishment of production facilities and a supply chain centered around emphasis on details including plans for obtaining the used cooking oil which serves as the raw material, the introduction of production processes successfully used in Europe and the US, gathering cost estimates for necessary production facilities, and a scheme for the transportation and sale of the product. The end users, the airline companies and related government agencies are engaged in promoting further cooperation. These business discussions are aimed at developing plans for the operation of SAF manufacturing plants and the commercialization of the use of the product by around 2025.

Looking to the future, the concept is to have SAF production facilities in various areas around the country in order to minimize costs and contribute to the growth of the domestic SAF market and envisage the creation of facilities and processes to produce SAF within existing refineries with the first step being a model facility that will demonstrate the viability of a domestic scheme.

The fuel used by aircraft has extremely high quality requirements and, as a refiner and a fuel marketer, Cosmo Oil with its knowledge and experience in the many steps involved in its use, from production to transportation and refueling, is a vital partner in the creation of an SAF supply chain and Cosmo Oil's participation in the scheme represents an important step forward in its realization. The four companies are seeking to contribute to the reduction of GHG emissions and the building of a sustainable society through widening the scope of this project.

Reference: Image of the Collaborative Effort



【Company Details (For Reference)】

JGC Holdings Corporation

As one ‘Materiality’ to be aimed for by the group, JHD seeks to bring about an “Environmentally friendly society” by exerting efforts towards the commercialization of a variety of activities including the construction of LNG (Liquified Natural Gas) plants with low environmental burden, biomass power generation, photovoltaic power plants and other forms of sustainable energy as well as replacements for micro-plastics and the manufacture of silicon substrates for thermal conduction used for HV/EV, hydrogen energy (CO₂-free ammonia), the chemical recycling of waste plastic and other businesses. In addition, JGC Japan Corporation, which operates the domestic EPC business of the JGC Group, possesses extensive experience in building many plants and facilities in the energy, general industrial and other fields in Japan.

In the subject collaboration, JGC aims to contribute to the optimization of the overall value chain as well as the planning and construction of efficient and economical production facilities by utilizing its engineering technologies and project management capabilities cultivated through JGC’s many years of experience.

Home Page: <https://www.jgc.com/en/>

Revo International Inc.

Revo International has built a unique track record as a business pioneer including the formation of a transaction network for used cooking oil nationwide, the production and sales of biodiesel fuels in Japan and other countries over many years using its proprietary manufacturing process together with the establishment of integrated operations covering raw materials procurement, technology development, production and sales, and cooperation in formulating Japan’s first quality standards.

The company intends to further expand the transaction network for used cooking oil and to ramp up the procurement of new raw material fats. In the subject collaboration, the company hopes to encourage domestic demand, broaden the use of cyclical biomass resources, and to build local cyclical ecosystems.

Home Page: <https://www.e-revo.jp/english/>

Japan Petroleum Exploration Co., Ltd. (JAPEX)

JAPEX deals with oil and natural gas E&P (Exploration, Development & Production) in Japan and other countries and has built unique solutions related to oil and natural gas products and their supply, including the operation of Japan’s first liquefied natural gas (LNG) production plant and the realization of LNG tank containers for railways, as well as the supply and sales of crude oil, oil products and natural gas. It also promotes initiatives that contribute to reduced carbon levels and decarbonization by developing sustainable energy production and the development of CCS (Carbon Dioxide Capture and Storage) and CCUS technologies.

In the subject study, it intends to contribute to business realization and value chain construction by leveraging past participation in the “Initiatives for Next Generation Aviation Fuels (INAF)” that brought together public and private entities from Japan and other countries in 2014–15, and its experience and knowledge of the supply and sales of crude oil, natural gas and oil products, and facility operations.

Home Page: <https://www.japex.co.jp/english/>

Cosmo Oil Co., Ltd.

Based on our mission of a safe and stable supply of energy, which is indispensable to our daily life, the Cosmo Energy Group to which Cosmo Oil belongs has grown by having petroleum and petrochemical as its core business, and is now growing renewable energy business from the perspective of long-term changes in the business environment.

Setting out our group Management Vision as “Harmony and Symbiosis with the Global Environment”, Cosmo Energy aims to be the most environmentally friendly oil/energy corporate group. And based on our 6th Consolidated Medium-Term Management Plan “Oil & New” we utilize our strengths, to develop our SS (Service Station) network for the next-generation mobility society, to promote eco-friendly electricity sales, and to expand production of clean energy, mainly around wind power generation. Through these businesses including that represented by this venture, we aim to contribute to solve the social issues and help build a sustainable society.

Home Page: <https://www.cosmo-oil.co.jp/eng/index.html>