

Launching the project to produce and supply renewable jet and diesel fuels in Japan by 2020

euglena Co.,Ltd. (“euglena Co”, headquartered in Minato-ku, Tokyo ; Mitsuru Izumo, President) is pleased to announce that euglena Co is planning to produce and supply renewable jet and diesel fuels in Japan for practical use (i.e. commercial flights/public road transportation) by 2020, with support from the City of Yokohama, Chiyoda Corporation (“Chiyoda”), Itochu Enex Co.,Ltd. (“Itochu Enex”), Isuzu Motors Limited (“Isuzu”) and All Nippon Airways Co.,Ltd. (“ANA”). Building Japan’s first demonstration plant for production of renewable jet and diesel fuels in Yokohama, planned to be operational in 2018, is the first step toward commercial production.



Recently in Japan, there have been several developments leading to the realization and expansion of the use of biofuels such as renewable jet fuel as we move toward 2020. The July 2015 establishment of the “Committee for the Study of a Process Leading to Introduction of Renewable Jet Fuel for the 2020 Summer Olympic Games and Paralympic Games in Tokyo”, by the Ministry of Economy, Trade and Industry and Ministry of Land, Infrastructure, Transport and Tourism was an important step.

We have already studied renewable jet fuel production from the microalgae “*Euglena*” since May 2010 and have conducted a joint research project with Isuzu on next-generation (i.e. drop-in, hydrocarbon) renewable diesel fuel production from “*Euglena*” that began in June 2014. In June 2015, we signed a Technology License Agreement with Chevron Lummus Global ⁽¹⁾ and Applied Research Associates⁽²⁾ for the use of their Biofuels ISOCONVERSION Process⁽³⁾, which enables us to build a demonstration plant to produce ASTM⁽³⁾-compliant renewable jet fuel and next-generation renewable diesel fuel. Through this demonstration, we will produce and supply renewable jet and diesel fuels in Japan for practical use leading up to 2020, with support from the City of Yokohama, Chiyoda, Itochu Enex, Isuzu and ANA.

The demonstration plant is planned to be built on the premises of the Keihin Plant of Asahi Glass Company, Limited, which are located in the Yokohama seaside area. We expect to begin construction in the summer of 2016 and for construction to be complete by the end of 2017. We plan to start biorefinery operations in the first half of 2018. Based on the knowledge, experience, and data generated by the operation of the demonstration plant, our goal is the transition to a new program to construct a full scale commercial plant in the 2020s.

The plan details are as follows.

<Overview>

We aim to start operation of Japan's first demonstration plant in the first half of 2018, produce ASTM-compliant renewable jet fuel and next-generation renewable diesel fuel from domestically-produced/-procured feedstock, and supply the products to domestic users for practical use (i.e. commercial flights/public road transportation) as we move toward 2020.

<Roles >

euglena Co	Production of the microalgae " <i>Euglena</i> " as renewable jet and diesel fuel feedstock, investment in and operation of the demonstration plant, production and supply of renewable jet and diesel fuels for practical use
City of Yokohama (local government):	Support for construction and operation of the demonstration plant in Yokohama
Chiyoda (EPC company) : Itochu Enex (energy trading company):	Engineering, procurement and construction of the demonstration plant Supply of renewable jet and diesel fuel feedstock other than the microalgae " <i>Euglena</i> ", research on supply/demand and distribution of products
Isuzu (diesel engine maker):	Evaluation and utilization of next-generation renewable diesel fuels
ANA (airline company):	Proposal on operations (such as refueling) in airports from the airline viewpoint

<Demonstration plant details>

Location:	1-1, Suehirocho, Tsurumi-ku Yokohama-shi, Kanagawa, Japan (the KEIHIN plant of Asahi Glass Company, Limited)
Site area:	approximately 9,000m ²
Start of construction:	summer 2016
Completion of construction:	winter 2017
Start of operation:	first half of 2018
Feedstock:	domestically-produced/-procured feedstock, such as microalgae " <i>Euglena</i> " and inedible plant oil
Product:	ASTM-compliant renewable jet fuel, next-generation renewable diesel fuel, renewable naphtha
Production capacity / volume:	5 barrels per day / 125 kiloliters per year

<Plant appearance (for illustrative purposes only)>



Notes:

- (1) Chevron Lummus Global LLC : A joint venture between Chevron USA, Inc. and CB&I Technology Ventures. Former is a major oil company in the U.S., the latter is a wholly owned subsidiary of CB&I
- (2) Applied Research Associates (ARA) : R&D and engineering company in the United States which has the technologies and patents for refining renewable fats, oils, and greases into a crude oil through its supercritical, hydrothermal process
- (3) ASTM (American Society for Testing and Materials) international standards (D1655, D7655) define the technical specification for aviation fuels (including renewable jet fuel), and are widely adopted by many global airline companies.

About euglena Co.,Ltd.

euglena Co.,Ltd., listed on the first section of Tokyo Stock Exchange (Ticker: 2931), is the first biotechnology venture company in the world that succeeded in outdoor mass cultivation of microalgae “Euglena” in 2005. We currently operate a Healthcare Business for marketing “Euglena” functional foods/cosmetics and an Energy & Environment Business promoting R&D for biofuel production. The financial results for the fiscal year ending September 2015 were JPY5,924 million sales, JPY726 million ordinary income and JPY469 million net income.