PETRONAS, Enilive and Euglena reach Final Investment Decision to construct a biorefinery in Malaysia

Kuala Lumpur, Rome, and Tokyo 26 July 2024 – Petroliam Nasional Berhad (PETRONAS), Enilive S.p.A (a company directly controlled by Eni S.p.A.), and Euglena Co., Ltd. (Euglena) have reached the final investment decision (FID) to develop a biorefinery which will be located within PETRONAS' Pengerang Integrated Complex (PIC), Johor, Malaysia.

The three companies will establish a joint venture company in Malaysia to construct and operate the biorefinery, with PETRONAS Mobility Lestari Sdn Bhd (PMLSB), a subsidiary of PETRONAS, and Enilive as the largest shareholders.

Targeted to be operational by the second half of 2028, the biorefinery will have the capability to produce Sustainable Aviation Fuel (SAF) and other biofuels such as Renewable Diesel/ Hydrogenated Vegetable Oil (HVO) to cater to the growing demands of the global aviation and transportation industries by tapping each partner's expertise.

The construction of the biorefinery is expected to begin in the fourth quarter of this year, and upon completion, will have the capability to process about 650,000 tonnes per year of raw materials to produce SAF, HVO, and bio-naphtha.

The wastes and residue feedstocks for the biorefinery will comprise used vegetable oils, animal fats, waste from the processing of vegetable oils, and other biomass including microalgae oils which will be explored in the mid-term. Leveraging PETRONAS' PIC integrated facilities and utilities, the biorefinery will be strategically located close to feedstock supply sources while having easy access to major international shipping lanes, enhancing its ability to meet the needs of its customers worldwide.

The purpose-built new biorefinery is designed to have full flexibility both in terms of feedstocks processability, with state-of-the-art Ecofining™ (a technology developed by Eni in cooperation with Honeywell UOP) and pre-treating unit, and products, with a configuration capable of maximising the production of SAF for aircraft as well as HVO.

PETRONAS' Vice President, Refining, Trading and Marketing, Ahmad Adly Alias said, "As a progressive energy and solutions partner, this milestone will solidify our standing in the biofuels value chain beyond trading, paving the way for the establishment of a holistic bio-based ecosystem which offer a feasible and sustainable solution to reducing carbon footprint. By leveraging the strengths and expertise of our partners, we are well-positioned to support the advancements in the global bio-based economy while delivering affordable and accessible cleaner energy solutions to customers worldwide, particularly in the Asia Pacific region, in line with our Net Zero Carbon Emissions 2050 aspiration."

Enilive's Chief Executive Officer, Stefano Ballista commented, "Taking the final investment decision on the biorefinery project in Malaysia confirms Enilive commitment in creating value in the biofuel business. It is a milestone to reach our 2030 targets of biorefining capacity of more than 5 million tonnes/year and SAF optionality up to 2 million tonnes/year. Since 2014, we have been running biorefineries in Italy and more recently in the United States of America as well. With this new initiative and in cooperation with PETRONAS and Euglena, we will enter into the Asian market and have a distinctive global footprint."

Euglena Co., Ltd.'s Founder and President, Mitsuru Izumo said, "I truly believe it is the mission for a startup like Euglena to take the very first step with courage and challenge what no other company in Japan has ever tried. We built the first small-scale biofuel production facility in Japan with the aim to support Japan's advancement in biofuels. This project in Malaysia will enable us to pave the way to achieve carbon neutral society and aspiration in Japan. The project team of three partners will make their best efforts to construct and operate the biorefinery with their strength of expertise and talents. Euglena will expedite our microalgae research and development activities and supply algae oil to global market. Our biorefinery will successfully meet growing demand of biofuel for ASEAN countries where brighter future and cleaner environment are promised."

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About PETRONAS

PETRONAS is a dynamic global energy group with presence in over 100 countries. The Group produces and delivers energy and solutions that power society's progress in a responsible and sustainable manner.

PETRONAS seeks energy potential across the globe, optimising value through its integrated business model. Its Group portfolio includes cleaner conventional and renewable resources and a ready range of advanced products and adaptive solutions.

Sustainability is at the core of what the Group does, as it harnesses the good in energy to elevate and enrich lives. People are its strength and partners for growth, driving passion for innovation to progress towards the future of energy sustainability. Further details can be found at www.petronas.com.my

About Enilive

Enilive, the Eni's company dedicated to mobility products and services, is a world leader in the production of HVO biofuels from renewable raw materials (pursuant to the Renewable Energy Directive) at its biorefineries in Venice and Gela (Italy) and in the SBR biorefinery in the USA.

The biorefinery in Venice has been the first example in the world of the conversion of an oil refinery into a biorefinery for the production of hydrotreated biofuels from biogenic feedstocks. The conversion of the Venice (2014) and Gela (2019) plants into biorefineries has been enabled by Ecofining™ technology, developed by Eni in cooperation with Honeywell-UOP, that is used to transform raw materials of biological origin into biofuels.

Enilive plans to increase its biorefining capacity by more than 5 million tonnes/year by 2030, with more than 1 MTPA SAF optionality by 2026, and the potential to double by 2030. Further development projects are in the pipeline: in in Livorno (Italy), another Eni refinery is being transformed, and in South Korea where a new project is being assessed.

Enilive has a network of over 5,000 service stations across Europe, of which around 4,000 are located in Italy. The network caters to more than 1.5 million people in Europe, who rely Enilive Stations every day for refuelling, thanks to a wide range of services and products such as HVOlution diesel biofuel, bio-LPG, biomethane and electric charging. Enilive service stations also offer a wide range of services to people on the move.

Further details can be found at www.enilive.it

About Euglena

Euglena Co., Ltd. is a Japan-based biotechnology-driven and sustainability-oriented growth company, starting from the world's first success in outdoor mass cultivation of the edible microalgae *Euglena* in 2005.

With "Sustainability First" as its corporate philosophy and its advanced R&D capabilities for proposing sustainable solutions to social problems, the Company has operated the Healthcare Business for marketing functional foods/cosmetics to over 700,000 online customers in Japan, the Biofuel Business for producing biofuels, and the Other Business in such areas as fertilizer, bioinformatics, farming, social business, etc.

The Company with support from its customers and business partners in Japan has been delivering daily 10,000 sets of Euglena biscuits containing 59 kinds of nutrition to those Bangladesh children in great poverty in order to solve their malnutrition problem under "Genki Program", which Euglena recently celebrated 10th Anniversary in Bangladesh and Japan. The Company went public in 2012 and is currently listed on the Prime Market of the Tokyo Stock Exchange.

Further details can be found at www.euglena.co.jp/en/