Algal Bio signed a joint research agreement with BLCP Power for the demonstration of CO_2 fixation technology by microalgae.

Establishing de facto standards
through enhancing the commercial use of microalgae CCUS and microalgae biomass.

TOKYO (March 5, 2025) - Algal Bio, which develops new products and solutions derived from microalgae with a commitment to “Cultivating Algae's Potential for a Better Future”, and BLCP Power Limited, a leading independent power producer (IPP) located in Thailand, signed a joint research agreement to demonstrate the use of microalgae for CO2 fixation and to prove the commercial viability of microalgae biomass on the premises of BLCP’s power plant.

The signing ceremony took place on March 4th at the Thailand-Japan Sustainable Business Forum 2025, hosted by JETRO Bangkok, which provided full support from the first introduction of the two companies to this agreement. This agreement marks a significant milestone in advancing carbon capture and utilization technology in Thailand and ASEAN, with support from the Japanese Ministry of Economy, Trade and Industry (METI) under the 'FY2023 Subsidy for Global South Future-oriented Co-creation Project'.

Working together to commercialize a microalgae-based CCUS solution in Thailand.

Thailand has committed to reducing its greenhouse gas emissions by 30% from the projected business-as-usual (BAU) levels by 2030. As part of the country's 2018-2038 National Strategy, the government has prioritized the adoption of a Bio-Circular-Green (BCG) Economy Model, encouraging companies to implement sustainable solutions.

BLCP Power is actively working to achieve these goals by implementing multiple decarbonization initiatives, including CO_2 fixation using microalgae. The joint research project with Algal Bio aligns with Thailand's sustainability strategy by utilizing biotechnology to create a recycling-oriented supply chain. Through this collaboration, BLCP Power aims to efficiently capture CO_2 emissions directly from processes and leverage Thailand's tropical climate for optimized algae cultivation.

The project will not only focus on CO_2 fixation but also on developing viable commercial applications for microalgae biomass. Algal Bio and BLCP Power are conducting feasibility studies to assess market opportunities and demonstrate product applications, including algae-derived supplements, cosmetics, livestock feed, fertilizers, and other bioproducts. By transforming industrial emissions into high-value products, this initiative seeks to create a scalable model for sustainable industrial symbiosis.

Through this joint research effort, Algal Bio and BLCP Power intend to establish a precedent for the adoption of algae-based CCUS in Thailand and across ASEAN. The project is expected to contribute to the wider acceptance of carbon capture technologies and support the transition toward carbon neutrality.

Signing ceremony held in Bangkok, Thailand on March 4, 2025
From left, Yuthana Charoenwong, Managing Director of BLCP Power,
and Masafusa Oe, COO of Algal Bio

Joint Research Project Schematic Diagram

About BLCP Power Limited

BLCP Power Limited is a 50:50 joint venture between Banpu Group (Banpu Coal Power Limited and Banpu Power Public Company Limited) and Electricity Generating Public Company Limited (EGCO Group). As a leading IPP, BLCP Power operates a 1,434 MW coal-fired power plant located in Map Ta Phut Industrial Estate, Rayong Province, Thailand. The company is committed to advancing sustainability and reducing carbon emissions through innovation and strategic partnerships.

About Algal Bio

Algal Bio is an R&D-oriented venture company with the mission of "contributing to the future of people and the planet through algae research and development." We are dedicated to unleashing the potential of microalgae.

We are building the most advanced algae bio-foundry platform in the world. Our platform is based on the results of more than 20 years of algae research at the University of Tokyo. This platform is the definitive solution for all your microalgae needs. It consists of a proprietary microalgae library that accumulates culture data on 1,260 strains of 100 species, as well as breeding and selection technologies for each algae, know-how for optimizing culture conditions, and a pilot plant for scale-up studies. Our library will provide you with the best possible microalgae for your needs in the shortest possible time. From the search for the most suitable microalgae for a specific need to its commercialization, we can help you realize your goals quickly and effectively.

By leveraging our algae bio-foundry platform, we collaborate with a diverse range of companies to bring new algae-derived products and solutions to market. These innovations address critical global challenges, including human health, sustainable food supply, and climate change.

For more info: https://algalbio.co.jp/en/

Our Algae Bio-foundry Platform

Future Outlook

Our business model is unique in the world when it comes to our knowledge and technology in selecting microalgae species, breeding, and designing culture production methods that are tailored to the environment, CO_2 absorption targets, and intended use of the target product. In Japan, we have been working on the " CO_2 Fixation by Microalgae Project" in collaboration with KEPCO -THE KANSAI ELECTRIC POWER CO., INC., and this project has been selected for the NEDO-commissioned project "Development of Technologies for Carbon Recycling and Next-Generation Thermal Power Generation / Development of Technologies for CO_2. Utilization at the R&D and Demonstration Base" in 2022. By promoting the commercialization of microalgae-based CCUS, we will elevate it to an internationally recognized de facto standard and contribute to the realization of carbon neutrality in Japan and other countries around the world.

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