



Cultivating Algae's Potential, for a Better Future.

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Development of Technologies for Carbon Recycling and Technologies for CO₂ Utilization at the R&D and Demonstration Base/Research & Development of CO₂ Fixation by Microalgae and High-Value Ingredients Production

content

<Summary> To develop microalgae breeding technologies and mass cultivation system to produce high-value ingredients (EPA, fucoxanthin,etc.) and bioplastics derived from microalgae biomass utilizing CO₂ emission.

<Project Period> 2022/4 ~ 2025/3

<Contractors> Algal Bio Co., Ltd. and The Kansai Electric Power Co., Inc.

Microalgae cultivation using CO₂ emitted

CO₂ from Industries

Natural resource-independent chemicals

EPA * For environmental protection, environment and health issues
Fucoxanthin * For cosmetics and health issues
CO₂ Resource Utilization

Efficient use of microalgae biomass

Microalgae cultivation

Natural resource-independent chemicals

EPA * For environmental protection, environment and health issues
Fucoxanthin * For cosmetics and health issues
CO₂ Resource Utilization

Alternatives to petroleum-derived plastics

Bioplastics

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Contents

The aim of this study is to achieve industrialization of carbon recycling technology through the following R&Ds:

R&D 1: To breed microalgae strain with improved CO₂ fixation using random mutagenesis and genome editing.

R&D 2: To develop high-density microalgae mass cultivation system.

R&D 3: To develop bioplastics derived from algal biomass.

R&D 4: To construct an integrated production system from microalgae to high-value ingredients production.

