

Cultivating Algae's Potential, for a Better Future

CEO
Amane Kimura

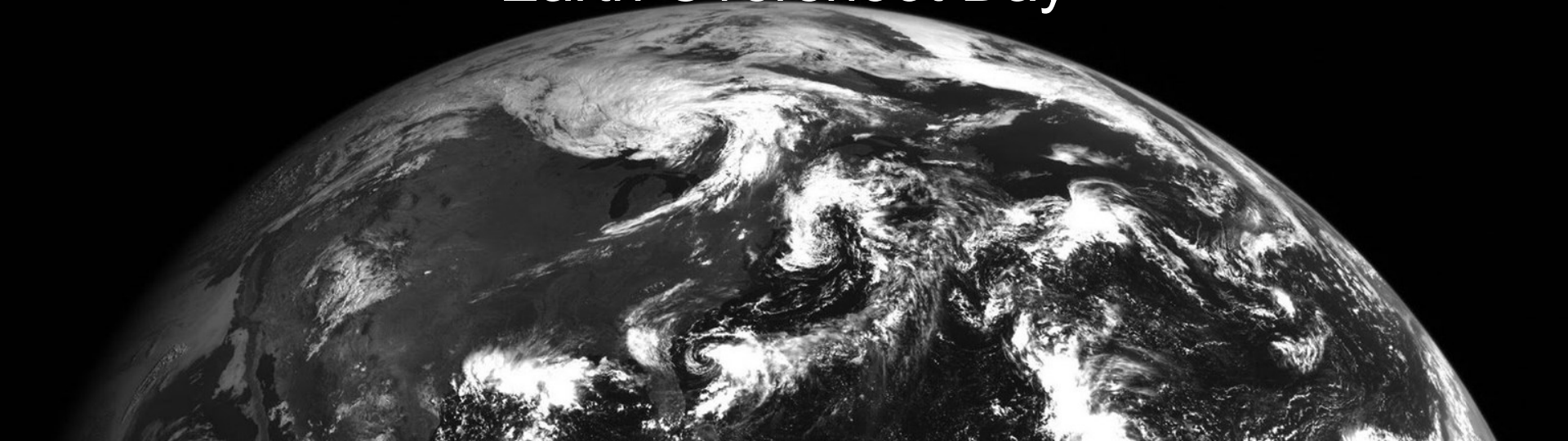
► Problem



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July 28th, 2022

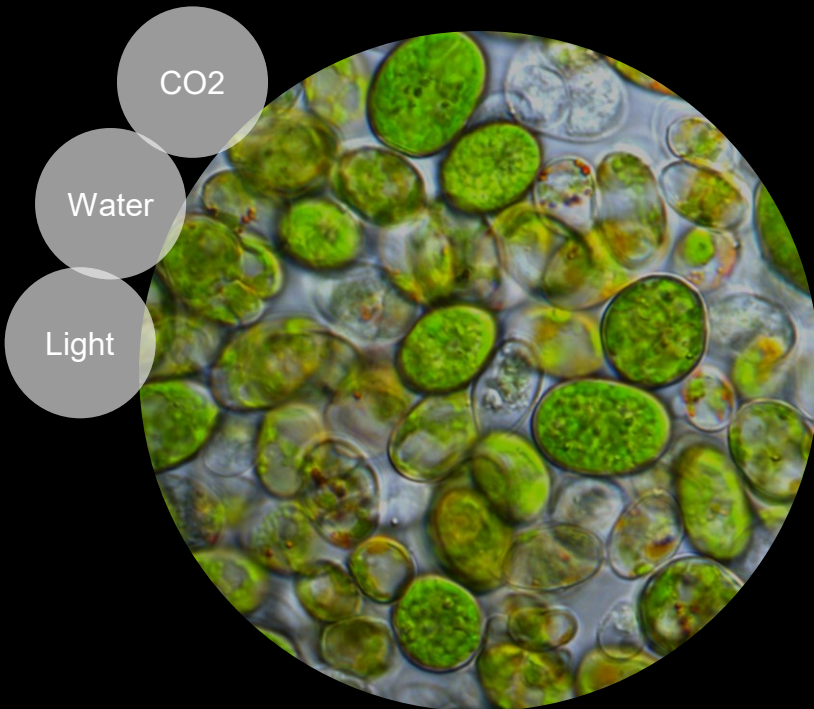
Earth Overshoot Day





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► Potential of microalgae



Red Biotechnology Market

Health Food Products / Personal Care Products

Utilize the functional ingredient derived from algae such as antioxidative potency of astaxanthin

US\$236Bn / CAGR 9.3% (2022-2029)*1



Green Biotechnology Market

Food / Feed Additive

Development of food ingredients such as alternative proteins derived from algae (plants) with Non-GMO breeding technology.

US\$714Bn / CAGR 11.2% (Y2020-Y2027)*2



White Biotechnology Market

Bioenergy & Bioplastics

Utilization of algae functions to achieve the Zero Emission and Carbon Neutral.

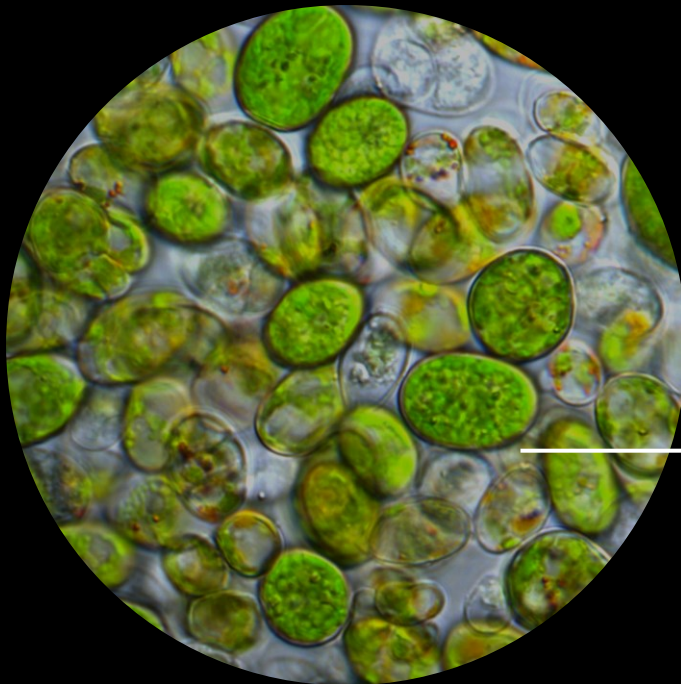
US\$377Bn / CAGR 8.0% (Y2020-Y2027)*3

► Bottleneck of Algae Industry

Immaturity In Strain Screening & Development



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Algae species
in industrial use

About **30**
species

Algae species in
nature

About **300,000**
species

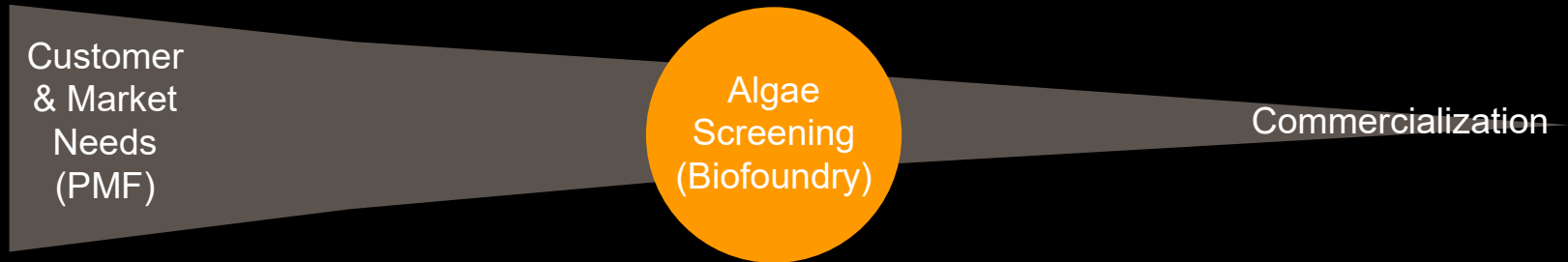
▶ Bottleneck of Algae Industry **Product-Out Model vs Market-In Model**



Conventional Algae Companies : “Product-Out” Model



How We Do Differently : “Market-In” Biofoundry Model



► Our Mission



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Cultivating Algae's Potential, for a Better Future.

We provide algae bio-foundry platform for industrial partners, leveraging our unique capabilities built upon 20+ years of scientific research at the University of Tokyo, to identify the best package of unique strains and optimized cultivation know-how.



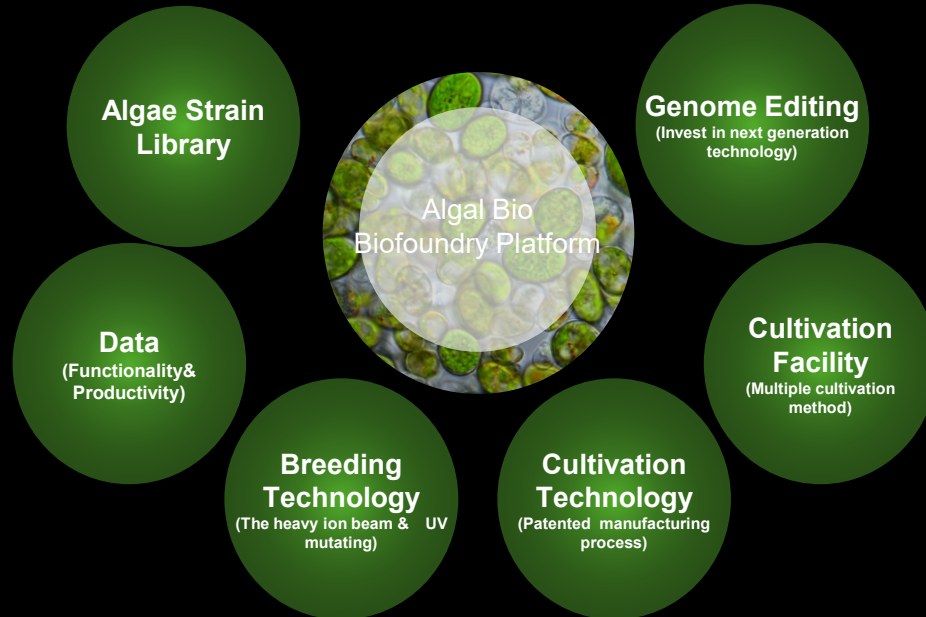


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► Our Solutions : “Algae Biofoundry Platform”

“Algae Biofoundry Platform”

provides one-stop R&D platform (solution) for clients to commercialize micro-algae



► Why Algal Bio Can Do Differently

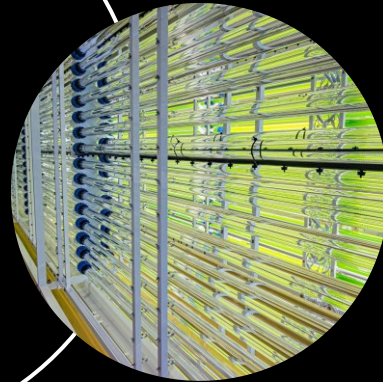


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Our library
of unique strains
(Data Set)



Our breeding,
screening and mass
cultivation expertise.
(IPs)



Pilot scale
production
(facility)

► Our Uniqueness



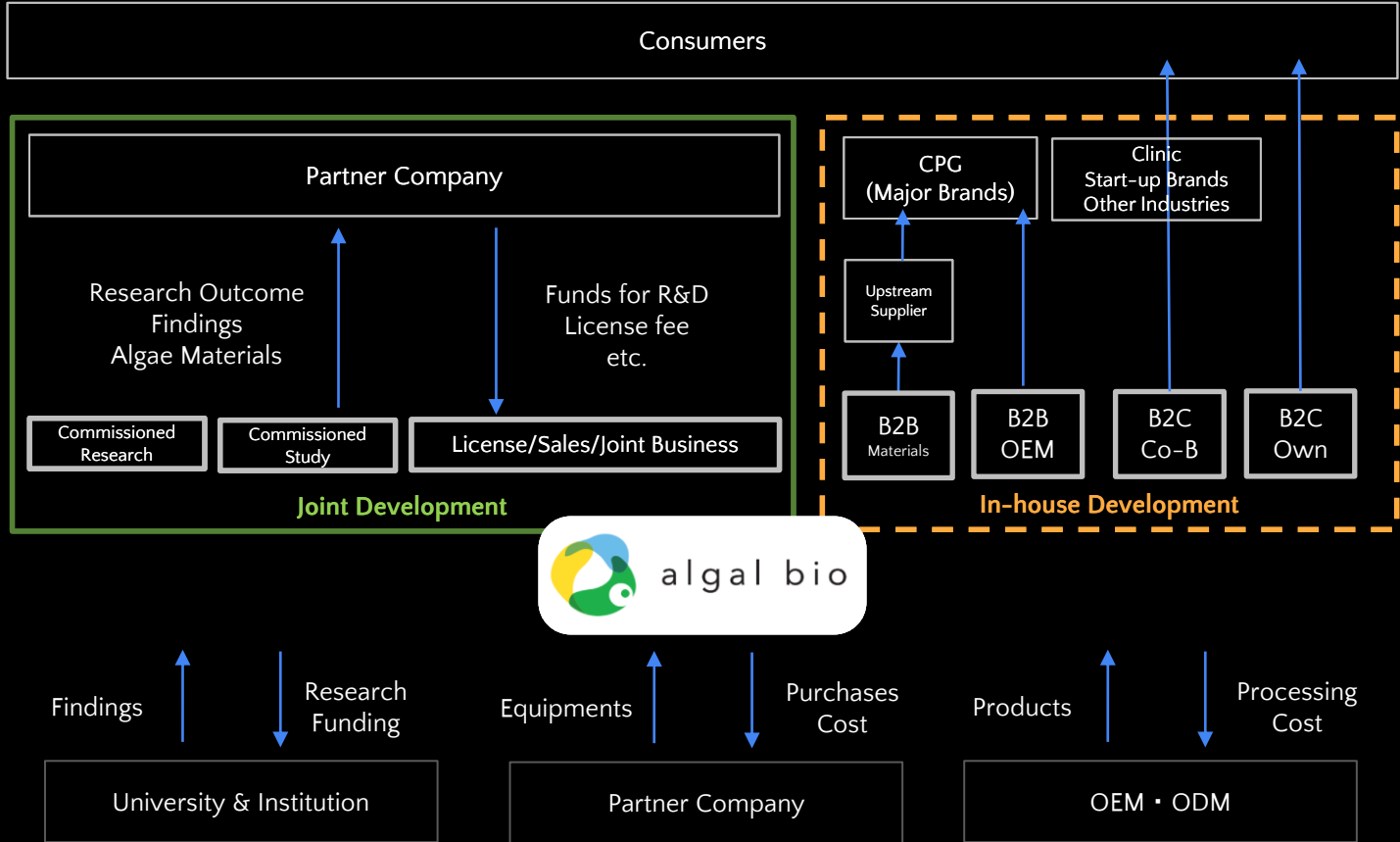
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► Our Business Model



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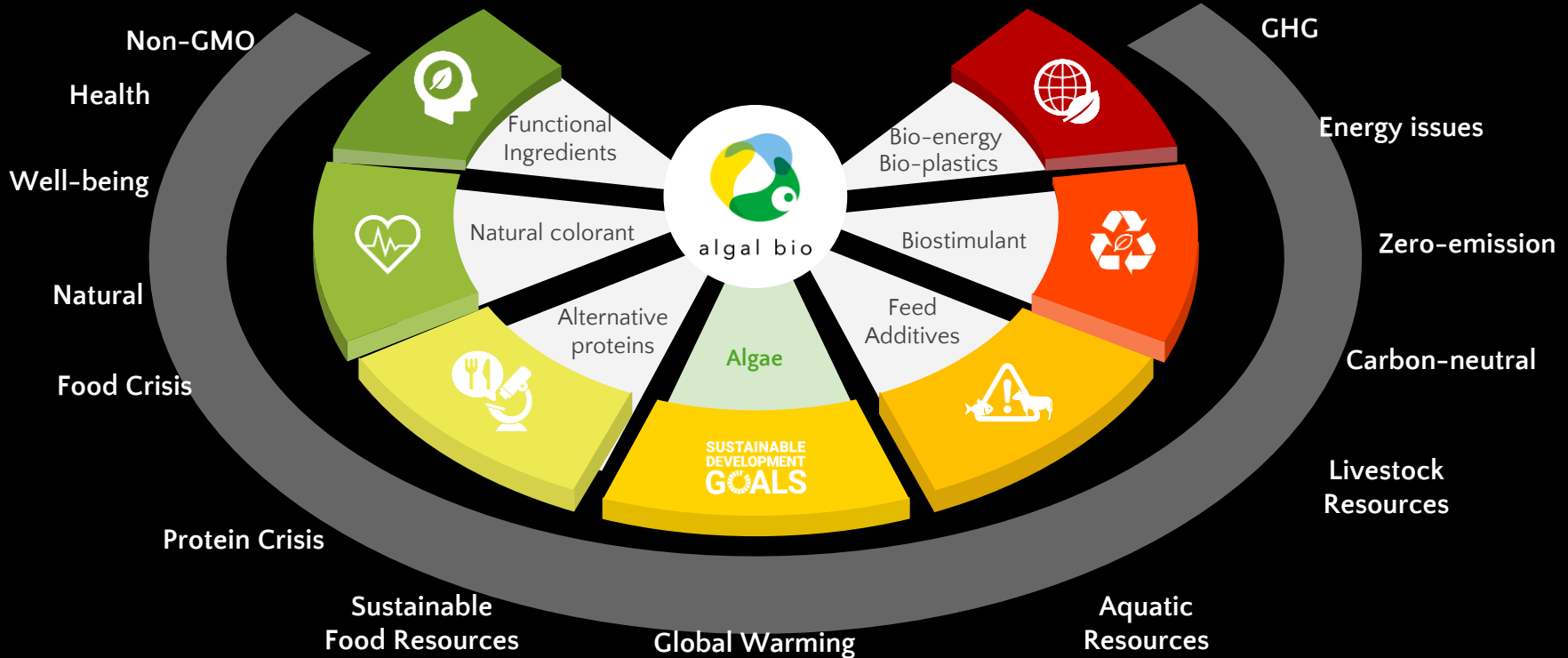
► Our Vision



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"Algae Bio-Foundry Platform"

Be the world's No. 1 clean (algae) technology company



► Our Proposal



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Health Consciousness

Development of evidenced based algae-derived functional ingredients .



Food Crisis

Development of food ingredients such as alternative proteins derived from algae (plants) with Non-GMO breeding technology.



Global Warming



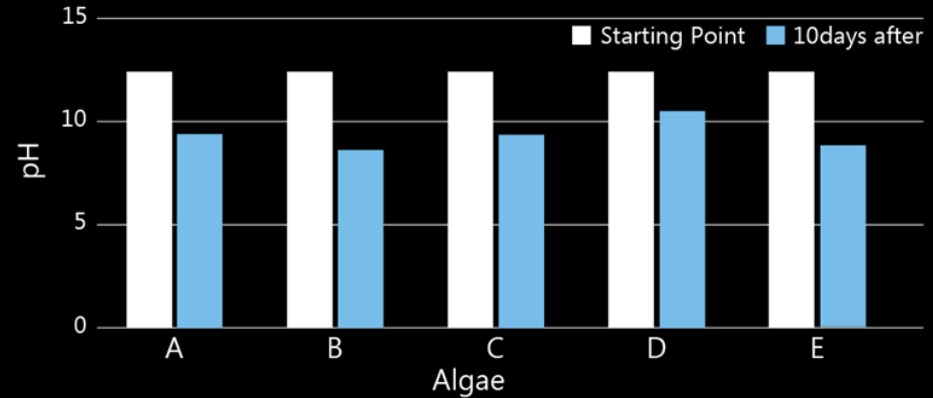
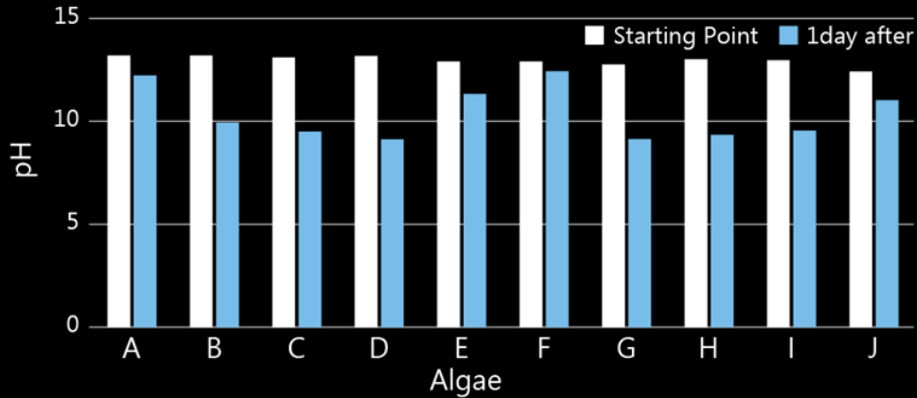
- 1.CO2 utilization with closed bioreactors (algae cultivation).
- 2.Wastewater management with algae.
- 3.Development of biomaterials and fuels.

► Usefulness of algae seen in the data.



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High pH wastewater purification Test

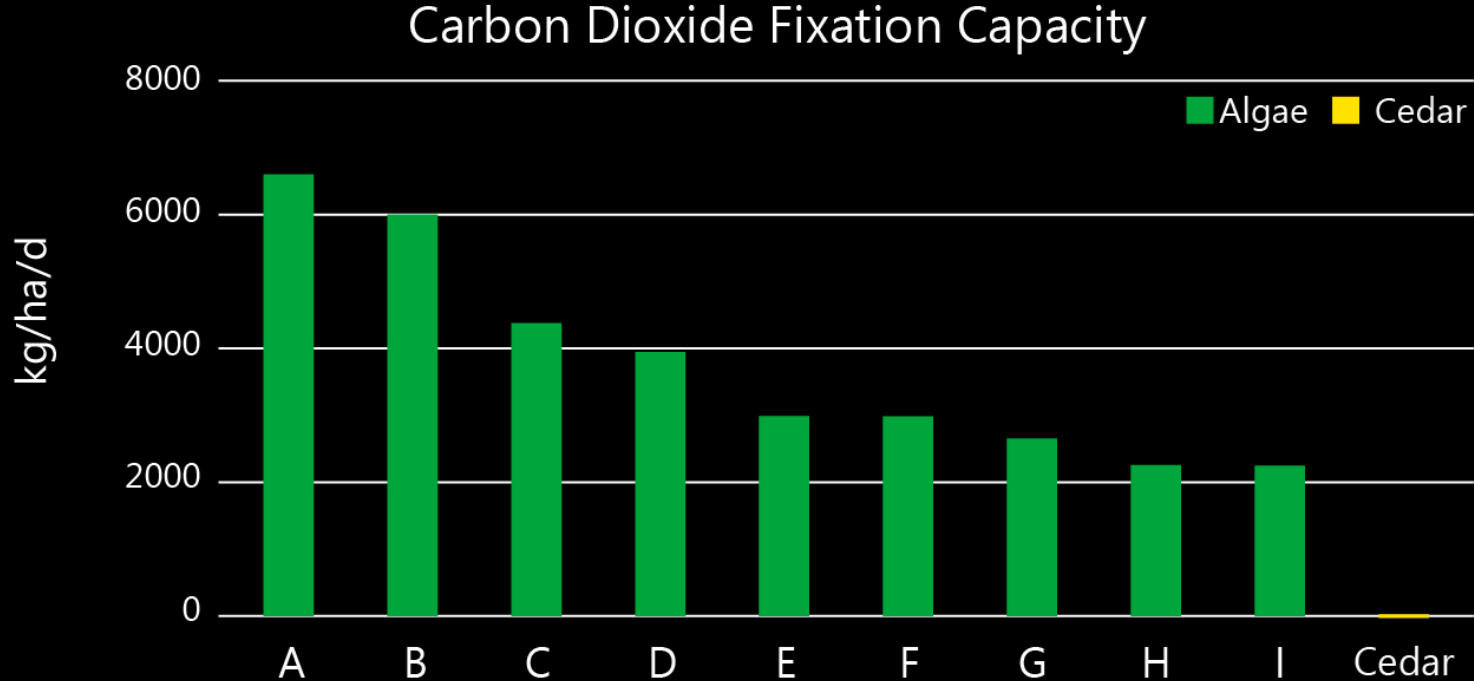


Some algae species can lower pH to 9 in one day by cultivating algae in high pH effluents. Ten days of cultivation can reduce pH even more.

► Usefulness of algae seen in the data.



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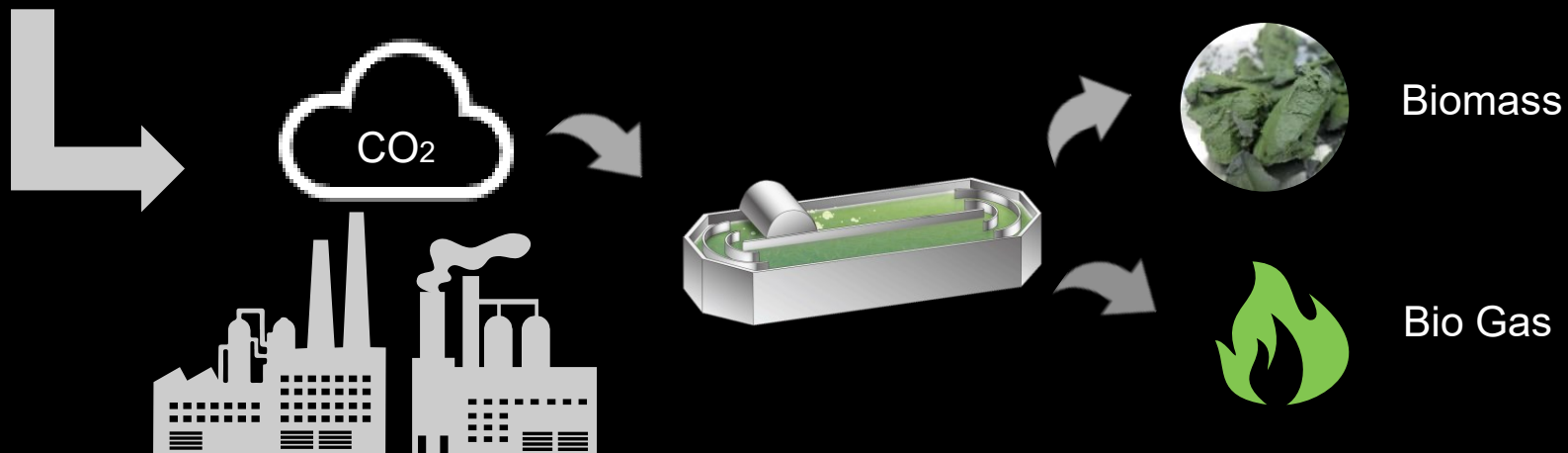


Algae species with high carbon dioxide fixation ability hold more than 100 times more carbon dioxide than Japanese cedar.

▶ How to achieve carbon neutrality with microalgae?



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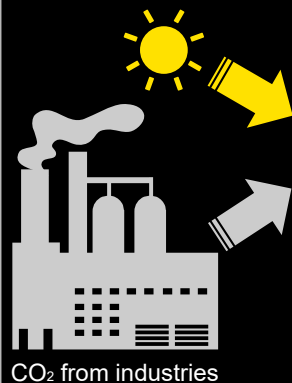


▶ Ongoing Project with KEPCO (NEDO)

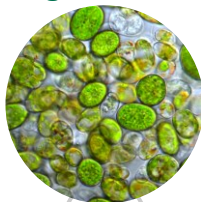


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Microalgae cultivation using CO₂ emitted by a thermal power plant



Microalgae cultivation



Random mutagenesis/
genome editing



High-density
cultivation

purification

harvest

processing

Efficient use of microalgae biomass

Natural resource-independent chemicals



EPA*

For arteriosclerosis and hyperlipidemia
treatments and health foods



Fucoxanthin

For cosmetics and
health foods

※EPA:eicosapentaenoic acid

Used as a raw material for bioplastics



Aiming for long-term CO₂ fixation



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関西電力
power with heart



FINANCIAL TIMES



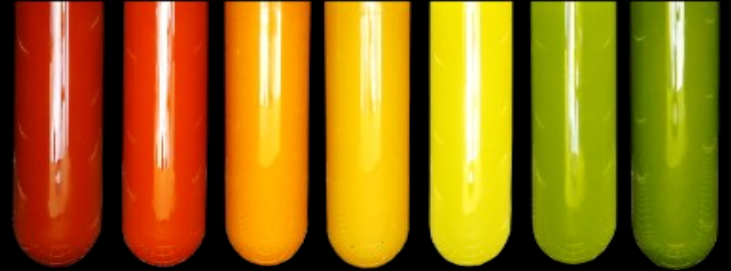
► Contact Us



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Be a Partner, Be a Solution

Let's make a move with us. Let us be your solution for the benefit of not only your company, but ultimately for our planet by cultivating algae's potential, for a better future



Contact Info :

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