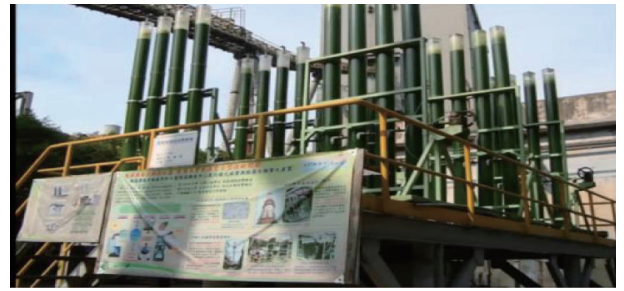


CO₂ Utilization Technologies



Cheng-Kung Univ.
20 t Raceway Pond for Microalgae Cultivation



Cheng-Kung Univ. & China Steel Co.
Tubular Photobioreactor for Microalgae Cultivation

Cheng-Kung Univ. & Greenyn Biotechnology Co.
300 t Open Pond for Microalgae Cultivation

Commercial CO₂ Utilization Plants

Ethylene Oxide



Oriental Union Chemical Co. 30,000 t/y



Ethylene Carbonate

Production: 60,000 t/y
Value: USD 90 millions



Chang Chun Petrochemical Co. 506,000 t/y



Acetic Acid

Production: 690,000 t/y
Value: USD 350 millions

Methanol



CO₂



CHIMEI ASAHI Co. 75,000 t/y



Poly-Carbonate

Production: 150,000 t/y
Value: USD 290 millions



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Advanced Combustion Systems

280 kW Flexi-fuel



Oxy-Fuel Combustion Furnace



200 kW Flexi-fuel



100 kW Gaseous-fuel



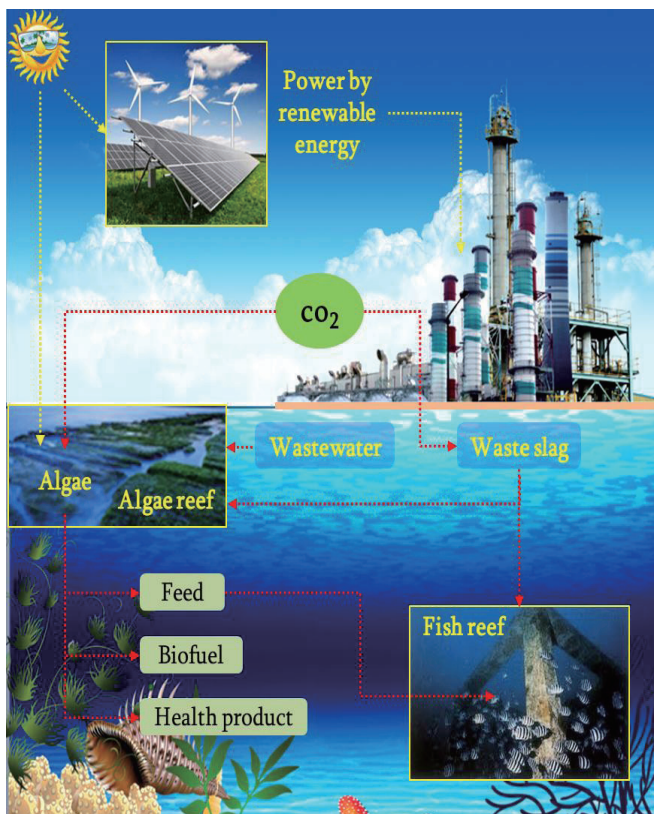
100 kW Gasification Process



30 kW Chemical Looping Combustion

Marine Farm System

CRCCFC's Marine Farm System integrates a series of green technologies to establish an industry of carbon reduction, wastes utilization, high-value algal products, and eco-friendly environment.



Key technologies

- CO₂ capture from power, petrochemical and integrated Steel Mills using steel making slag.
- Construction and ocean deployment of artificial reef using carbonated slag.
- Cultivation of algae and promotion of marine life for:
 1. Aquaculture
 2. High-value chemicals
 3. Bio-fuel
- Wastewater as nutrient for algae cultivation
- Renewable energy for system operation

