Resource Circulation

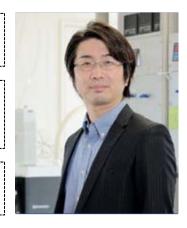
R&D Project Title: Pioneering an Innovative Catalytic Process for Mass Production of Valuable Resources from CO₂ Cultivation

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Summary:

Objective: Develop an innovative carbon cultivation-type catalytic conversion process to efficiently and massively produce valuable carbon resources (fuel CH₄, syngas, hydrocarbons, carbon-based functional materials) from greenhouse gases (GHG) such as CO₂, and promote its social implementation.

Challenges to Address:

- Establish a catalytic process for carbon recycling and decarbonization through carbon cultivation from CO₂.
- Implement e-Reaction (electrically excited) systems in each catalytic conversion stage of the above process.

Scenario for Contribution to Carbon Neutrality:

This research aims to contribute to carbon neutrality at the social implementation level by achieving the following goals: (1) Convert low to high concentration CO_2 exhaust gas directly into large quantities of CH_4 and syngas without separation and concentration. (2) Mass-produce (capture) solid carbon from CO_2 gas and utilize it as functional carbon materials.

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