

Resource Circulation

R&D Project Title : Utilization of Waste Silicon for Carbon Upcycling Reactions

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Summary :

This project aims to reuse waste silicon as a reducing agent for upcycling reactions, including reductive conversion of CO_2 to fine chemicals, biomass upgrading, and waste plastic conversion to chemicals. These reductive reactions of carbon resources with silicon are thermodynamically favorable, therefore, these upcycling reactions should contribute to establish carbon neutral society. This project combines carbon material flow and inorganic (silicon) material flow, resulting efficient production of organic chemicals and fuels.

