Resource Circulation

R&D Project Title: Development of innovative CO_2 conversion materials using the chemical loop method

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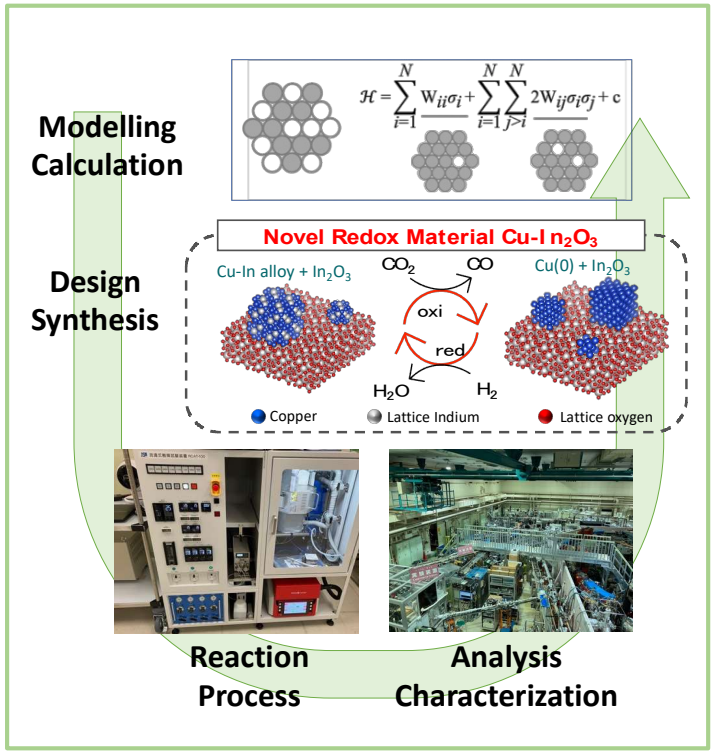
Summary :

We will continue to research and develop the recycling of carbon dioxide through a chemical-looping process, which is efficient at relatively low temperatures. The chemical-loop process is an innovative method for selectively synthesising the target product and facilitating the separation of the product, by dividing the reduction by hydrogen and the oxidation by carbon dioxide for a high-performance oxide material (carrier material) that can be redoxed, thereby escaping the constraints of equilibrium conversion rates. Next-generation computing is used to design materials for this purpose, synthesise and react with predicted compositions, develop better materials through *operando*-driven analysis, and finish them into a useful process for the world.

Contribute to our country's carbon neutrality in 2050 by efficiently reacting hydrogen from renewable energy sources with recovered carbon dioxide and providing an efficient hydrocarbon synthesis process for industries that are difficult to electrify.



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