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Cosmo Energy Holdings Co., Ltd.
Toshiba Energy Systems & Solutions Corporation

Cosmo Energy Holdings and Toshiba Energy Systems & Solutions to Initiate a Joint Study Toward the Realization of CCU that Utilizes CO₂ Electrolysis

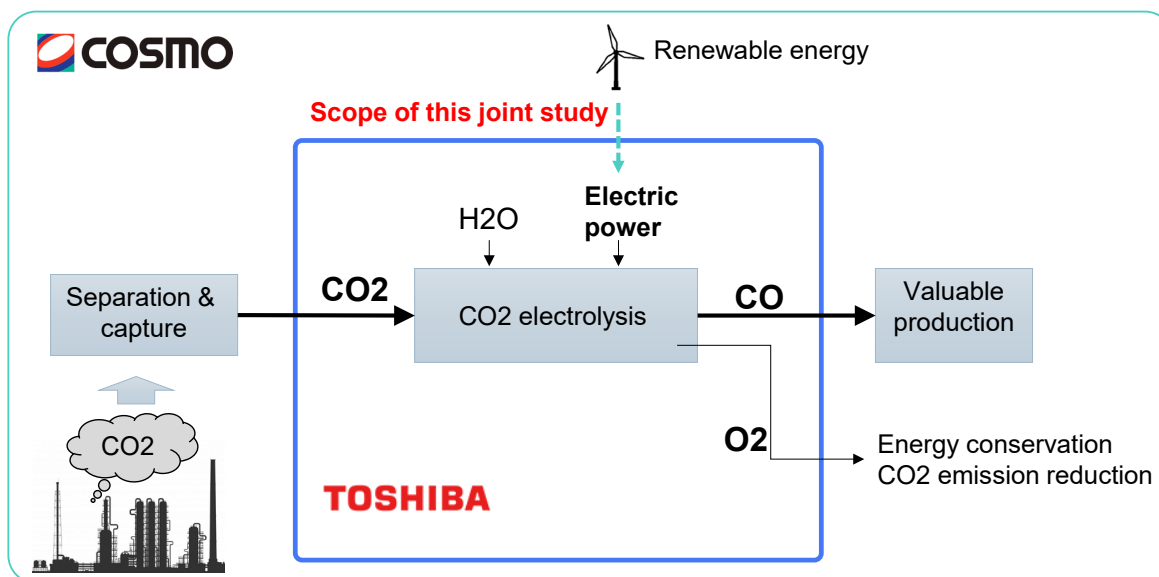
Cosmo Energy Holdings Co., Ltd. (Representative Director, Group CEO: Shigeru Yamada) and Toshiba Energy Systems & Solutions Corporation (President and CEO: Tadasu Yotsuyanagi, hereafter "Toshiba ESS") today concluded a basic agreement concerning a joint study toward the realization of carbon capture and utilization (CCU) that converts CO₂ into a valuable resource by utilizing CO₂ electrolysis.

In this joint study, Toshiba ESS will provide a CO₂ electrolysis technology that electrolyzes CO₂ to produce carbon monoxide (CO) at a high conversion rate. CO is attracting attention as a useful substance for the realization of CCU as it can serve as a raw material for alcohols such as methanol and ethanol, which are key substances that can be used in chemical products and energy applications, as well as synthetic fuels and the like, by making it react with hydrogen.

The Cosmo Energy Group aims to utilize Toshiba ESS's CO₂ electrolysis technology to produce a valuable derived from CO₂ emitted from its refineries and other facilities. In terms of the electricity used in electrolysis of CO₂ generated from refineries as so on, the Group will consider using electricity derived from renewable energy supplied by one of its own group companies.

Through this joint study, both Cosmo Energy Holdings and Toshiba ESS aim to realize CCU utilizing CO₂ electrolysis technology at refineries and other facilities operated by the Cosmo Energy Group. In addition, the two companies will also consider using oxygen produced as a byproduct of CO₂ electrolysis to contribute to energy conservation and reduction of CO₂ emissions at refineries.

Joint study conceptual diagram



The Cosmo Energy Group announced its 2050 Carbon Net Zero Declaration and is accelerating decarbonization-related initiatives under its Vision 2030 and Seventh Consolidated Medium-Term Management Plan Oil & New ~Next Stage~. This project is one of a number of concrete measures that the Group is taking to "strengthen competitiveness of the Oil Business and pursue low carbonization" as set forth in Vision 2030. It is being carried out with the goal of solving societal challenges and achieving sustainable corporate development toward the realization of the Group's management vision of achieving "harmony and symbiosis between our planet, man and society."

Toshiba Group's "Environmental Future Vision 2050" sets the goal of contributing to the realization of a sustainable society through environmental management that creates enriched value and ensures harmony with the earth. This project will serve as part of the Group's "response to climate change" and "response to the circular economy," and is an initiative involving the capture and utilization of CO₂ emitted from power plants and facilities. Based on this vision, Toshiba ESS will contribute to the realization of a sustainable society by providing environmentally friendly products and services, reducing the environmental impact and risks associated with its business activities, and undertaking environmental activities that are rooted in local communities and society.

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