

December 21, 2022

Tokuyama Corporation

Tokuyama Concludes a Joint Research Memorandum with ITOCHU ENEX for Effectively Utilizing Biomass Combustion Ash and Implementation of CCS*¹

Tokuyama Corporation (hereinafter referred to as “the Company” or “Tokuyama”) hereby announces that it has entered into an agreement with ITOCHU ENEX CO., LTD. (hereinafter referred to as “ITOCHU ENEX”) to jointly conduct research into effectively utilizing the biomass combustion ash “fly ash” discharged from biomass-fired power plants.

Discharged from the increasing number of biomass-fired power plants built in recent years in light of efforts to escape the use of fossil fuels, fly ash is limited to reuse in cement because it contains potassium and other substances, which has made its disposal an issue. Since 2020, Tokuyama has engaged in technological development to effectively utilize fly ash that contains solidified CO₂.

This joint research effort aims to achieve and spread the effective use of biomass-sourced fly ash and Carbon dioxide Capture and Storage (CCS) for CO₂. Specifically, the research will seek to utilize fly ash, to which CO₂ has been adsorbed using a technology currently being developed by the Company, as a feedstock for a construction material, Recycle Beads*² sold by ITOCHU Group and by absorbing CO₂ during the Recycle Beads manufacturing process.

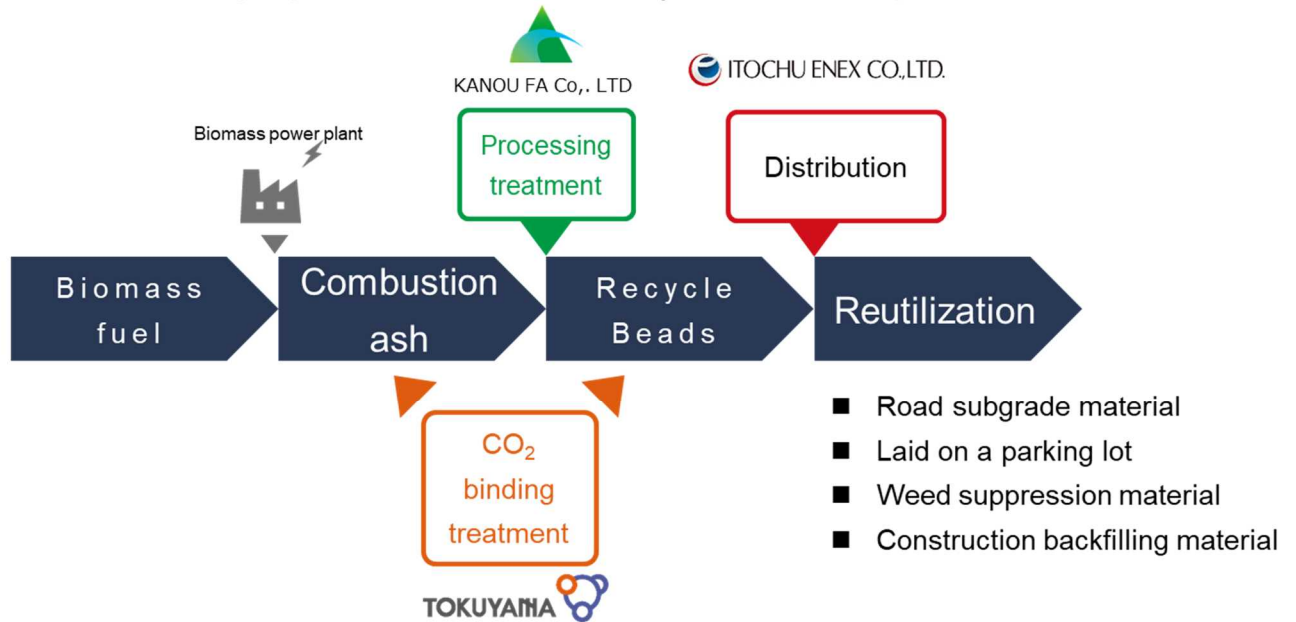
The initial study by the two companies clarified that it is possible to bind CO₂ particles to the calcium oxide (CaO) contained in fly ash and Recycle Beads and to fix more CO₂ than the amount emitted during the manufacturing of Recycle Beads.

The research will be continued aiming to bind and fix as much CO₂ as possible at a low cost and to develop construction materials with an amount of CO₂ equivalent to 10% or more of the total volume of the product bound to it. Moreover, the two companies will contribute to the establishment of a carbon-free recycling-based society through these initiatives.

1. CCS (Carbon dioxide Capture and Storage)

■ Value chain for recycling ash

Note: 49% owned by ITOCHU ENEX CO., LTD.



2. Recycle Beads are subgrade material and weed suppression material products manufactured by KANOU FA CO., LTD., a company 49% owned by ITOCHU ENEX CO., LTD.



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