## **NEWS RELEASE**



March 13,2025 ENEOS Xplora Inc. Doshisha University

## <u>A New Challenge in Solid Carbon Production from CO<sub>2</sub>!</u> ENEOS Xplora and Doshisha University Join Forces to Create a Sustainable Future



As global warming becomes increasingly severe, new technologies that utilize carbon dioxide (CO<sub>2</sub>) as a resource are urgently needed in Japan's quest to achieve carbon neutrality by 2050. We are excited to announce a joint research initiative between ENEOS Xplora Inc. (President: Toshiya Nakahara) and Doshisha University (President: Katsuhiro Kohara) focused on the "Practical Utilization of Solid Carbon Production from CO<sub>2</sub>" during the fiscal years 2025 to 2026.

Solid carbon, such as carbon black (Note 1), is a functional material with growing global demand. Currently, it is produced from fossil fuels like oil and coal, inherently releasing  $CO_2$  during manufacturing. This joint research aims to establish and commercialize technology that uses  $CO_2$ , a major greenhouse gas, as 100% of the raw material for solid carbon production. If successful, this could lead to "negative  $CO_2$  emissions," meaning the more solid carbon we produce, the more  $CO_2$  we reduce—highlighting the significant societal impact of this research.

The unique aspect of the research lies in its innovative process, which uses molten salts (Note 2) for efficient electrochemical conversion of CO<sub>2</sub>. This approach explores the possibility of generating high-performance solid carbon under specific conditions. Initially, we will conduct fundamental research using newly established experimental facilities at Doshisha University, with the potential to scale up the research in the future.

Through the research, ENEOS Xplora and Doshisha University are committed to pioneering a sustainable future together.

(Note 1) Carbon Black: An essential material used not only for reinforcing rubber products like tires but also for coloring applications such as printing inks and black plastics.

(Note 2) Molten Salts: Salts that are solid at room temperature but become liquid when heated, thereby enhancing chemical reaction efficiency and playing an important role in chemical processes.

## **ENEOS** Xplora Inc.

Public Relations Group General Administration Dept. 1-1-2 Otemachi Chiyoda-ku Tokyo 100-8163 TEL 03-6257-6000 https://www.eneos-xplora.com/english/





Photo of signing ceremony

From left to right: Jo, GM, Tomoeda, Senior Vice President of ENEOS Xplora, Goto, Vice President, Suzuki, Assistant Professor of Doshisha University



Solid carbon derived from CO2 produced through the experiment

## **ENEOS** Xplora Inc.

Public Relations Group General Administration Dept. 1-1-2 Otemachi Chiyoda-ku Tokyo 100-8163 TEL 03-6257-6000 https://www.eneos-xplora.com/english/

