

September 7, 2023  
Sumitomo Corporation  
Toho Gas Co., Ltd.  
Kawasaki Kisen Kaisha, Ltd.  
Woodside Energy Ltd

MOU for Feasibility Study to Establish a Japan-Australia CCS Value Chain

Sumitomo Corporation (Sumitomo), Toho Gas Co., Ltd. (Toho Gas), Kawasaki Kisen Kaisha, Ltd. (“K” LINE) and Woodside Energy Ltd (Woodside) have signed a non-binding memorandum of understanding (MOU) to jointly conduct a feasibility study to establish a CCS (\*1) value chain between Australia and Japan.

This study is to investigate the feasibility of establishing an entire CCS value chain among the four companies, whereby CO<sub>2</sub> emissions from various industries and companies in the Chubu region, Japan, are hoped to be captured/accumulated, and liquefied by using such technology as CO<sub>2</sub> separation and capture using unutilized LNG Cryogenic Energy" (\*2) being developed by Toho Gas and transported to Australia by a low-temperature, low-pressure liquefied CO<sub>2</sub> carrier for injection/storage at Australian storage site. Through this study, we will estimate the amount of CO<sub>2</sub> to be captured, examine the optimal CO<sub>2</sub> capture, accumulation and transportation methods, estimate the amount of CO<sub>2</sub> that can be stored at storage sites in Australia, evaluate the necessary storage technologies and monitoring systems. In addition to the technical requirements, we will assess the relevant regulatory frameworks and the costs in each segment of the CCS value chain. The four companies aim to work together to assess the commercial viability of the CCS business.

The Japanese government has set a goal of reducing overall greenhouse gas (GHG) emissions to Net Zero by 2050 and implemented a policy to develop a business environment to initiate CCS projects by 2030 in its "Basic Policy for the Realization of GX" (\*3). CCS is expected to play a very important role in achieving GHG emission reduction targets as one of the primary decarbonization solutions.

Sumitomo Corporation, Toho Gas, “K” LINE, and Woodside plan to exchange information, knowledge, and experiences through the progression of this CCS initiative.

<Each company’s comment on this initiative>

■Sumitomo Corporation

Sumitomo Corporation has highlighted mitigation of climate change as one of its key areas of focus and has committed to being carbon neutral by 2050. Sumitomo Corporation recognizes that CCUS (\*4) is a key technology to combat climate change, and in January 2023 established a dedicated

global CCUS team within the Energy Innovation Initiative. This new team will capitalize on existing resources to establish new business along the whole CCUS value chain, including CO<sub>2</sub> separation and capture, transport and storage and utilization of the captured carbon.

#### ■ Toho Gas

Toho Gas Group is now accelerating efforts to reduce carbon emissions and even support decarbonization of its customers based on the 'Toho Gas Group 2050 Carbon Neutrality Initiative', centered on the use of three energy sources of gas, hydrogen and electricity. In the field of CCUS, Toho Gas Group is focusing on the development of technologies, including CO<sub>2</sub> separation, and capture, and will contribute to the realization of a sustainable society by implementing CCUS in society across the full value chain, including CO<sub>2</sub> separation/capture at the customer's site, utilization and storage.

#### ■ “K” LINE

“K” LINE group is promoting a variety of initiatives to support the low-decarbonization of its own operations and the low-decarbonization of society in accordance with its long-term environmental policy, "Environmental Vision 2050". In the field of CCS, we are planning to start the world's first full-scale carbon capture and storage (CCS) transport from next year. We will apply the knowledge gained through the operation of these vessels, which will be launched sequentially in Japan and overseas, to future business development, including this project, with the aim of realizing a sustainable society and enhancing corporate value.

#### ■ Woodside Energy

Woodside Energy is an Australian energy company that is progressing CCS initiatives

\*1 CCS: Carbon Capture, and Storage.

\*2 CO<sub>2</sub> separation and capture technology using unutilized LNG cryogenic energy

Technology to separate/capture CO<sub>2</sub> contained in factory exhaust gas by chemical absorption method using a small amount of energy by using unutilized LNG cryogenic energy. This technology was adopted by the New Energy and Industrial Technology Development Organization (NEDO) as a "Green Innovation Fund Project / Development of Technology for CO<sub>2</sub> Separation, Capture, etc."

\*3 "Basic Policy for the Realization of GX" (Released as of Feb 10<sup>th</sup>, 2023 by METI (Ministry of Economy, Trade and Industry, JAPAN))

\*4 CCUS: Carbon Capture, Utilization and Storage.