Press Release

**SCG Signs MoU with NSE and TNS to Study Carbon Capture and Utilization Technology from Cement Plants in Thailand and Southeast Asia; Aims to Achieve Net Zero Cement & Concrete by 2050**

Surachai Nimlaor, Chief Innovation & Technology Officer of SCG Cement Co., Ltd., and Wichet Chuchaeu, Chief Operating Officer of The Siam Cement (Kaeng Khoi) Co., Ltd., signed a memorandum of understanding on "Basic study to demonstrate the carbon capture and utilization from cement plants exhaust gas in Thailand and Southeast Asia, with the aim of promoting Japanese CCUS technology" with Takashi Suzuki, BoD Environment Energy Sector - Nippon Steel Engineering Co., Ltd. (NSE), and Masaya Watanabe, CEO - Thai Nippon Steel Engineering and Construction Corporation, Ltd. (TNS). The partnership was partially funded by the Japanese government's New Energy and Industrial Technology Development Organization (NEDO). This partnership has been led by Chana Poomee, Vice President – Cement and Green Solution Business, SCG Cement-Building Materials Business, and Yukito Ishiwa, Representative Director and President – NSE Group. The goal is to achieve Net Zero Cement & Concrete in 2050.

The cement industry in Thailand produces more than 30 million tons of greenhouse gas emissions annually. To counteract this effect, the cement manufacturing industry has prioritized and accelerated efforts to lower carbon dioxide levels (CO2). One of the operational plans is to study and implement Carbon Capture and Utilization (CCU), a technology that is well-established and suited for capturing exhaust gases with relatively low pressure and low carbon dioxide concentrations in large quantities, such as gases generated from all sorts of combustion, including emissions from cement plants.

In this partnership, SCG and NSE will jointly study the feasibility of an in-house developed chemical absorbent carbon dioxide capture system called "ESCAP™" [1] to capture carbon dioxide from exhaust gases emitted from SCG's cement plants in Saraburi Province. SCG and NSE will further develop projects[2] and business models for utilizing carbon dioxide by converting it into methane, with the oxygen produced during process being recycled in cement plants. In addition, a portion of the heat generated in this process will be recycled in the ESCAP™ system for maximum energy efficiency. The aim is to raise the standard of cement production in consideration of the earth and the environment. Initially, SCG plans to set up a demonstration plant developed in partnership with the NSE in 2024, in which feasibility findings of the technology will be used to design and eventually install in the commercial plant. The aim is to create an efficient and appropriate system for cement production plants, which is one of SCG's pledges to achieve the goal of "Net Zero Cement & Concrete by 2050," in line with the ESG 4 Plus guidelines: "1. Aim for Net Zero, 2. Go Green, 3. Lean Approach to Reduce Inequality, 4. Collaboration plus trust through transparency in all operations."

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More information

[1] The ESCAP™ feature is the most energy-efficient carbon dioxide capture system compared to other technologies on the market, with a higher advantage in terms of running expenses. This aspect will enhance the project's feasibility. Additionally, the generated CO2 is pure enough to be utilized in a range of industries, allowing the creation of numerous business models. There are currently two existing plants in Japan that utilize this technology: 120 tons/day and 143 tons/day, respectively. The first plant has been in operation since 2014.

[2] The New Energy and Industrial Technology Development Organization (NEDO) has selected this project as part of the international demonstration project on Japan's energy efficiency in 2022 in the second series to carry out a basic feasibility study (Basic Study).

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