

Seven Companies Announce to Conduct Engineering Design Work for Japanese Advanced CCS
(Carbon Capture and Storage) Project

ITOCHU Corporation (headquartered in Minato-ku, Tokyo; Keita Ishii, President & COO; hereinafter "ITOCHU"), Nippon Steel Corporation (headquartered in Chiyoda-ku, Tokyo; Tadashi Imai, President & COO; hereinafter "Nippon Steel"), Taiheiyo Cement Corporation (headquartered in Bunkyo-ku, Tokyo; Yoshifumi Taura, President and Representative Director; hereinafter "Taiheiyo Cement"), Mitsubishi Heavy Industries, Ltd. (headquartered in Chiyoda-ku, Tokyo; Seiji Izumisawa, President and CEO; hereinafter "MHI"), INPEX CORPORATION (headquartered in Minato-ku, Tokyo; Takayuki Ueda, President & CEO; hereinafter "INPEX"), Taisei Corporation (headquartered in Shinjuku-ku, Tokyo; Yoshiro Aikawa, President and CEO; hereinafter "Taisei"), and ITOCHU Oil Exploration Co., Ltd. (headquartered in Minato-ku, Tokyo; Takayuki Tsutsumi, President & CEO; hereinafter "CIECO") announced today that the Tohoku Region West Coast CCS initiative (hereinafter "the Initiative") that the seven companies jointly proposed, has been selected by the Japan Organization for Metals and Energy Security (hereinafter "JOGMEC") to conduct "Engineering Design Work for Japanese Advanced CCS Projects" (hereinafter "Work"), a public offered project. *1








CCS is positioned as a means for decarbonization that should be fully harnessed, particularly in hard-to-abate industries*2, to achieve two targets set by the Japanese government: carbon neutrality in 2050 and a 46% reduction in greenhouse gas emissions (from FY2013 level) in FY2030. To expedite social implementation of CCS, JOGMEC issued a public call for advanced CCS projects in 2023 with the goal of achieving the successful underground storage of domestically-emitted carbon dioxide (CO₂) by FY2030. And the Initiative was selected as one of the first advanced CCS projects in Japan to be eligible for governmental support.

The Initiative involves the concept of using ships to transport CO₂ separated and captured at the Nippon Steel's Kyushu Works Oita Area and the Kawasaki Plant of DC CO., Ltd., a Taiheiyo Cement Group company, to candidate storage sites. In FY2023, a feasibility study was conducted relating to the CO₂ separation, capture, transportation and storage, which included identifying technical issues in the overall project as well as studies on economic viability and public acceptance. *3

The Work selected this time includes Front End Engineering Design (FEED) work relating to the separation, capture, ship transportation and storage of CO₂ and appraisal drilling, as the next phase of the project. *4 Based on the results of the feasibility study mentioned above, basic engineering design work will be carried out from the perspectives of both technical and economic viability for each element of the value chain with the goal of starting operations by FY2030.

The seven companies will continue to cooperate with each other to contribute to the realization of a sustainable society by aiming for the early social implementation of CCS in Japan.

< Roles of Each Company in the Work >

JOGMEC							
Outsourcing contract for "Engineering Design Work for Advanced CCS Projects"							
Role of each company	Nippon Steel 	Taiheiyo Cement 	MHI 	ITOCHU (Managing company) 	INPEX 	Taisei 	CIECO 
	Engineering design work for the separation, capture, and liquefaction of CO ₂ emitted from the Kyushu Works Oita Area and shipping facilities	Engineering design work for the separation, capture (refinement), and liquefaction of CO ₂ emitted from Kawasaki Plant of DC CO., Ltd. and shipping facilities	Study of and engineering design work for the ship transportation of liquefied CO ₂ and receiving and storage facilities./Study of and engineering design work for the separation, capture, and liquefaction of CO ₂ emitted from candidate storage sites and shipping facilities	Overall coordination, arrangements and negotiations for project promotion, economic evaluations, arrangement and management of CO ₂ emission sources, local response for candidate storage sites, and coordination and management of progress of engineering design work for liquefied CO ₂ receiving facilities	Coordination of CO ₂ injection and underground storage (including study and engineering design work for subsea pipelines from liquefied CO ₂ receiving facilities) and CO ₂ monitoring planning	Engineering design work for CO ₂ injection and underground storage and receiving and storage facilities (port facilities)	Evaluations of overall project technology, costs, and economics, coordination and management of progress of engineering design work for liquefied CO ₂ receiving facilities, and CO ₂ injection and underground storage

<Schedule for the Initiative>

Fiscal year		2023	2024	2025	2026	2027	2028	2029	2030	
		Feasibility study	Appraisal drilling, basic design work, etc.			Engineering, procurement and construction				
Area	Separation and capture	Design	▶							
		Facilities construction work					▶			
	Transportation	Design	▶							
		Facilities construction work					▶			
		Procurement of ships and other transportation means					▶			
	Storage	Environmental impact assessment, appraisal drilling		▶						
		Design	▶							
		Drilling					▶			
		Facilities construction work					▶			
	Relationships with local communities of sites appropriate for CO ₂ storage, and others	Study of economics, development of business models	▶							
Local coordination		▶								
Development of commercial schemes				▶						

Commencement of storage

*1 Details of the announcements made by the Ministry of Economy, Trade and Industry and JOGMEC on June 28, 2024

- ✓ Advanced Efforts for Commercialization of CCS: JOGMEC selects projects as Japanese Advanced CCS Projects for FY2024 (announced by the Ministry of Economy, Trade and Industry) (Available only in Japanese)

<https://www.meti.go.jp/press/2024/06/20240628011/20240628011.html>

- ✓ Advanced Efforts for Commercialization of CCS: JOGMEC selects Nine projects as Japanese Advanced CCS Projects (announced by JOGMEC)

https://www.jogmec.go.jp/english/news/release/news_10_00072.html

*2 Refers to the industries such as the materials industries in which it is considered difficult to achieve decarbonization merely by electrification, the introduction of hydrogen, or other means.

*3 Seven Companies Announce to Conduct a Joint Study on Japanese Advanced CCS (Carbon Capture and Storage) Project

<https://www.itochu.co.jp/en/news/press/2023/230802.html>

*4 Overview of Request for Proposal on “Engineering Design for Japanese Advanced CCS Projects” in FY2024. (March 8, 2024) (Available only in Japanese)

https://www.jogmec.go.jp/news/bid/bid_10_00836.html