



JCCS



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## AMESSAGE FROM THEPRESIDENT

### From Japan to the world - with a view towards the practical use of CCS technology

The World Meteorological Organization announced in November 2020 that the average concentration of CO<sub>2</sub> in the atmosphere exceeded 410ppm in 2019, renewing the historical high. The threat of global warming is becoming increasingly serious in various parts of the earth, and the international call to strive for net zero emissions in 2050 is gaining momentum. The target of achieving a carbon neutral society in 2050 was declared in Japan as well, leading to the announcement in April 2021 that it would aim for a 46% reduction in greenhouse gas emissions (compared to 2013) by 2030.

In order to realize such a decarbonized society and achieve sustainable development goals (SDGs) such as “No Poverty”, “Affordable and Clean Energy”, and “Reduced Inequalities” at the same time, huge expectations have been placed not only on the advancement of energy conservation and expansion of renewables, but also the social implementation of CCS as a technology to capture and store CO<sub>2</sub> emitted by economic activities as well as CCU and carbon recycling as a means to utilize CO<sub>2</sub> as a resource.

In response to the national policy to promote CCS, Japan CCS Co., Ltd. (hereinafter JCCS) was established in 2008 through investment by the private sector. Since then, JCCS has been steadily conducting a CCS demonstration project in Tomakomai, Hokkaido as well as nationwide surveys of potential offshore CO<sub>2</sub> storage sites as projects commissioned by the Japanese government and public institutions with the understanding and cooperation of the local community. As a result, the Tomakomai Project safely achieved the target of 300,000 tonnes cumulative CO<sub>2</sub> injection in November 2019, confirming that CCS is a “safe and secure” system.

Additionally, a consortium comprising four companies including JCCS was jointly adopted by the New Energy and Industrial Technology Organization (NEDO) to conduct the “Demonstration of CO<sub>2</sub> Transportation” project. In this demonstration project, we will conduct research on transportation technology that will lead to long-distance/mass transportation and cost reduction of CO<sub>2</sub> at a scale of 1 million tonnes per year, thereby aiming to establish liquefied CO<sub>2</sub> ship transportation technology.

As the efforts to achieve the social implementation of CCUS in Japan gain speed, our activities are at a transition period in which we must pursue new developments. Aiming for the realization of carbon neutrality in 2050, we view as our mission the contribution towards the establishment of the social foundation for CCUS by 2030. To this end, harnessing the technology and know-how that we have nurtured on CCS, we will continue our efforts in order to assume our role in reaching out to the international community.

We will progress our demonstration and survey activities, placing the utmost priority on safety and security. We ask for your continued understanding and support.

June 2021

Toshiaki Nakajima

President  
Japan CCS Co., Ltd.

中島 俊朗



## COMPANY PROFILE ■ □

**Company Name:** Japan CCS Co., Ltd.  
**Address:** SAPIA TOWER 21F, 1-7-12, Marunouchi, Chiyoda-ku, Tokyo,  
 100-0005, JAPAN  
 TEL: +81-3-6268-7380 FAX: +81-3-6268-7385  
**URL:** <https://www.japanccs.com>  
**Date of Incorporation:** May 26, 2008  
**Business Description:** Implementation of investigations, research and development, feasibility studies and demonstration projects pertaining to carbon dioxide capture, utilization, transportation and storage technologies.  
**Capital:** 242,500,000 yen  
**Capital Reserves:** 242,500,000 yen

### Members of the Board:

President	<b>Toshiaki Nakajima</b>	Managing Executive Officer, In charge of Corporate Strategy, Corporate Communication Japan Petroleum Exploration Co., Ltd.
Managing Director	<b>Goro Himuro</b>	General Manager, Plant Engineering Dept., Japan CCS Co., Ltd.
Director	<b>Takashi Kawabata</b>	General Manager, Administration Dept., Japan CCS Co., Ltd.
Director	<b>Toshiyuki Hagiwara</b>	General Manager, Storage Engineering Dept., Japan CCS Co., Ltd.
Director	<b>Hidehiro Muramatsu</b>	Executive Officer, Vice Head of Environment & Energy Solution Sector, Sales Management, Branch & Representative Offices, Sustainability & PR, NIPPON STEEL ENGINEERING CO., LTD.
Director	<b>Hiromi Sugiyama</b>	Executive Officer, Vice President, Domestic Exploration & Production, General Manager, Exploration & Exploitation Unit, Domestic Exploration & Production Division, INPEX Corporation
Director	<b>Tomohide Miyata</b>	Senior Vice President, Managing Executive Officer-Hydrogen Business Promotion Dept., Fuel Cell Customer Support Office and Central Technical Research Laboratory, ENEOS Corporation
Director	<b>Tomomichi Seki</b>	Managing Executive Officer, Tokyo Electric Power Company Holdings, Inc.
Director	<b>Sadahiro Ohno</b>	Managing Executive Officer, Vice President of Power Generation and Sales Company, Deputy General Manager of Nuclear Power Division, Tohoku Electric Power Co., Inc.
Auditor	<b>Shinichi Mitsuda</b>	Specially Appointed Executive, Energy Resources & Environmental Business Division, Basic Chemicals Business Sector, Mitsubishi Gas Chemical Co., Inc.

### Shareholders:

Hokkaido Electric Power Co., Inc. Tohoku Electric Power Co., Inc. Tokyo Electric Power Company Holdings, Inc.  
 Chubu Electric Power Co., Inc. Hokuriku Electric Power Co., Inc. The Kansai Electric Power Co., Inc.  
 The Chugoku Electric Power Co., Inc. Shikoku Electric Power Co., Inc. Kyushu Electric Power Co., Inc.  
 The Okinawa Electric Power Co., Ltd. Electric Power Development Co. Ltd. JFE Engineering Corporation  
 NIPPON STEEL ENGINEERING CO., LTD. CHIYODA CORPORATION TOYO ENGINEERING CORPORATION  
 JGC Holdings Corporation INPEX CORPORATION Japan Petroleum Exploration Co., Ltd.  
 Mitsui Oil Exploration Co., Ltd. Idemitsu Kosan Co., Ltd. COSMO OIL CO., LTD. Eneos Corporation  
 ITOCHU Corporation Sumitomo Corporation Marubeni Corporation Mitsubishi Corporation  
 JFE Steel Corporation NIPPON STEEL CORPORATION Osaka Gas Co., Ltd.  
 Tokyo Gas Co., Ltd. MITSUBISHI GAS CHEMICAL COMPANY, INC.  
 Mitsubishi Materials Corporation Marubeni-Itochu Steel Inc. Tenaris NKK Tubes

34 companies  
 (as of June 25, 2021)



# COMPANY PROFILE ■ ■

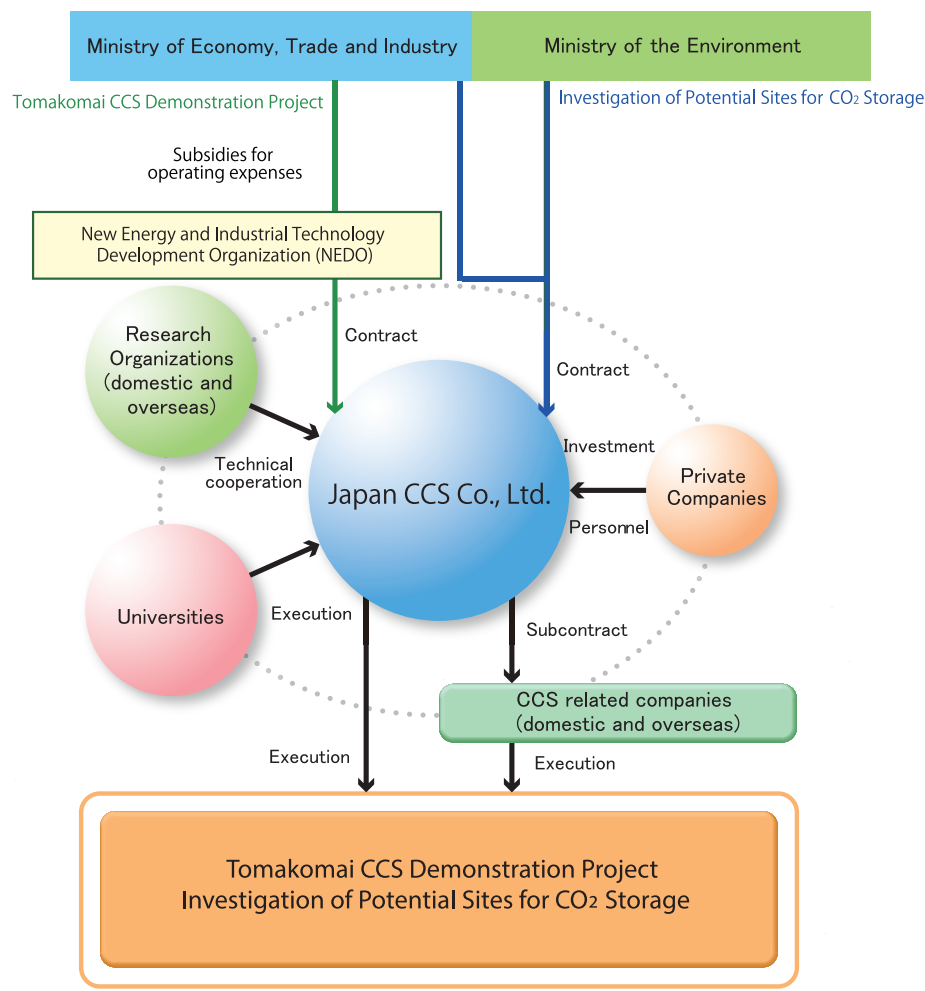
## ■ FOUNDATION

Japan CCS Co., Ltd. (JCCS) was founded in May 2008 when a group of major companies with expertise in CCS-related fields, including electric power, petroleum, oil development, and plant engineering, joined forces to answer the Japanese government's call for development of CCS technology as a countermeasure against global warming. JCCS is a special purpose company founded and dedicated explicitly to develop integrated CCS technology.

## ■ KEY BUSINESS OBJECTIVES

- 1. Accomplish comprehensive investigations and demonstrations of Carbon dioxide Capture, Utilization, Transportation and Storage projects in Japan
- 2. Investigate potential CO<sub>2</sub> storage site in Japan
- 3. Integrate opinions of private sector for early establishment of laws, regulations and technical standards applicable to CCUS in Japan
- 4. Conduct promotional activities for CCUS deployment in Japan
- 5. Cooperate with foreign organizations for CCUS deployment overseas
- 6. Collect and exchange the latest information on CCUS with overseas research organizations

## ■ PROJECT FRAMEWORK



## Our Projects

### ■ Tomakomai CCS Demonstration Project

- Commissioned to JCCS by the New Energy and Industrial Technology Development Organization (NEDO) with subsidies for the operating expenses by the Ministry of Economy, Trade and Industry (METI) -

#### Project Description

A large-scale CCS demonstration project being undertaken in Tomakomai, Hokkaido Prefecture, Japan, to demonstrate the viability of a full-chain CCS system, from CO<sub>2</sub> capture to injection and storage. The CO<sub>2</sub> source is offgas supplied from a hydrogen production unit in an adjacent refinery, from which CO<sub>2</sub> of over 99% purity is captured and injected in offshore reservoirs in the Tomakomai port area.

#### Chronology of Tomakomai CCS Demonstration Project

2009 - 2011	Marine 3D seismic surveys were conducted in the Tomakomai area in 2009 and 2010, and two survey wells were drilled in 2011 to ascertain the feasibility for CO <sub>2</sub> storage. As a result of a detailed evaluation and analysis of the geological data acquired, it was confirmed that the geological structure of the area was suitable for subsurface CO <sub>2</sub> storage, and a demonstration project could be executed safely.
Feb 2012	METI submitted a public tender for the FY2012 Tomakomai CCS Demonstration Project, which was commissioned to Japan CCS Co., Ltd.
April 2012	Implementation of the Tomakomai CCS Demonstration Project started.
2012 - 2015	Construction of onshore facilities, drilling of injection wells, baseline monitoring, and studies of regulations and standards for safety were completed.
April 2016	Injection of CO <sub>2</sub> started.
April 2018	Implementation of the Tomakomai CCS Demonstration Project was commissioned to Japan CCS Co., Ltd. by NEDO with subsidies for the operating expenses by METI.
Nov 2019	Cumulative CO <sub>2</sub> injection reached the target of 300,000 tonnes. Accordingly, injection has suspended, whereas monitoring operations* will be continued.  * Monitoring will be conducted in order to grasp the behavior (movement, distribution) of the injected CO <sub>2</sub> , and micro-seismicity and natural earthquakes will be observed on a 24-hour basis, and marine environmental surveys will be carried out to verify that there is no CO <sub>2</sub> leakage.

## ■ Investigation of Potential Sites for CO<sub>2</sub> Storage, Offshore Japan

- Commissioned to JCCS by Ministry of Environment and Ministry of Economy, Trade and Industry -

### Project Description

In FY2014, JCCS was commissioned to conduct the "Investigation of Potential Sites for CO<sub>2</sub> Storage, Offshore Japan", a joint project by METI and the Ministry of the Environment (MOE), and has subsequently continued the implementation of this project.

The project comprises activities such as the acquisition of geophysical data and the analysis of geological structure offshore Japan. Taking into consideration the candidates survey sites for CO<sub>2</sub> storage selected by the FY2013 METI Committee on the Expenses for Commissioning the Survey of the Measures for Environmental Problems in Small and Medium-sized Enterprises (Nationwide Basic Survey on CO<sub>2</sub> Reservoirs) and the Committee for Assessing the Suitability for CO<sub>2</sub> Storage in the Vicinity of Japan in the FY2013 MOE Project for Commissioning the Feasibility Survey of Joint Crediting Mechanism Utilizing CCS by Shuttle Ships, the project aims to identify prospective sites for CO<sub>2</sub> storage offshore Japan.

### Chronology of Investigation of Potential Sites for CO<sub>2</sub> Storage, Offshore Japan

2005 - 2008

Preliminary estimate by METI assessed the CO<sub>2</sub> storage capacity of offshore waters of Japan to be 146 million tonnes.

April 2012


Selection of potential investigation sites by MOE and METI.


2014 - present

MOE-METI Joint Project  
Objective is to find multiple sites capable of storing at least 100 million tonnes per site



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