



**JCCS**



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## AMESSAGE FROMTHE PRESIDENT

### From Japan to the World

### - Aiming for the Practical use of CCS technology in Japan

After its foundation in 2008, Japan CCS Co., Ltd. (hereinafter JCCS) conducted preliminary surveys throughout Japan under the direction of the Ministry of Economy, Trade and Industry (hereinafter METI) with the aim of establishing CCS technology in Japan, and in 2012, was commissioned to undertake the Tomakomai CCS Demonstration Project.

Subsequently, since April 2018, JCCS has been commissioned to conduct the “Tomakomai CCS Demonstration Project (FY2018)” as a governmental competitive budget project funded by the New Energy and Industrial Technology Development Organization (NEDO), reflecting a system change. In addition, since FY2014, JCCS has been commissioned to conduct the joint METI - Ministry of Environment project “Investigation of Potential Sites for CO<sub>2</sub> Storage, Offshore Japan”, and is conducting geological surveys aiming for the widespread deployment of CCS projects in Japan.



Carbon dioxide capture and storage (hereinafter CCS) is an innovative technology that enables a significant reduction of CO<sub>2</sub> emissions into the atmosphere. CCS is drawing worldwide attention as a key measure to limit global warming to well below 2°C above pre-industrial revolution levels. In addition, within the context of the UN's Sustainable Development Goals (SDGs), the benefit of CCS as a low emission technology for all low emissions technologies is increasingly manifested.

The objective of the Tomakomai project is to demonstrate a full-chain CCS system from capture to storage, targeting the storage of over 300,000 tonnes of CO<sub>2</sub> into the offshore sub-seabed of Tomakomai Part. This project will play an important role in addressing the issues aiming towards the practical use of CCS technology by around 2020.

Owing to the warm support and understanding of the local citizens, government and industries which include Tomakomai City, the Tomakomai Fishery Cooperative, Tomakomai Chamber of Commerce and Idemitsu Kosan which provides CO<sub>2</sub> containing gas to our facility, JCCS has been able to complete the design and construction of the facilities without any issues or accidents for a period of over 6 years. In November 2017, we achieved a cumulative injection of 100,000 tonnes, and in August 2018, we reached 200,000 tonnes of CO<sub>2</sub> injection. We are making steady progress towards 1 million tonnes per year, considered the practical level for annual CO<sub>2</sub> storage.

Amidst the global acceleration to take various actions under the Paris Climate Agreement, the Tomakomai project has received international attention as a noteworthy case of the central government, local community, and private sector working together in carrying out a CCS project. In Oct. 2016, the Carbon Sequestration Leadership Forum (CSLF) recognized the Tomakomai CCS Demonstration Project as a “Recognized Project” and JCCS was appointed as Regional Champion to take a leading role to accelerate CCS in the Asia-Pacific countries.

Taking advantage of the knowledge and experience we have accumulated of over 10 years since our foundation, we are committed to strengthening our efforts to exchange information and collaboration with international CCS organizations, with a view to contribute towards the development of CCS technology, which will play an important role in preserving the global environment for the next generation.

A handwritten signature in black ink that reads "Shoichi Ishii". The signature is written in a cursive, flowing style.

Shoichi Ishii  
President  
Japan CCS Co., Ltd.

## COMPANY PROFILE ■ □

Company Name:	Japan CCS Co., Ltd.
Address:	SAPIA TOWER 19F, 1-7-12, Marunouchi, Chiyoda-ku, Tokyo, 100-0005, JAPAN TEL: +81-3-6268-7380 FAX: +81-3-6268-7385
URL:	<a href="http://www.japanccs.com">http://www.japanccs.com</a>
Date of Incorporation:	May 26, 2008
Business Description:	<ul style="list-style-type: none"> <li>· Implementation of demonstration projects for Carbon-dioxide Capture and Storage (CCS) in Japan</li> <li>· Comprehensive investigations of CCS technologies and related subjects</li> </ul>
Capital:	242,500,000 yen
Capital Reserves:	242,500,000 yen

### Members of the Board:

President	Shoichi Ishii	Advisor, Japan Petroleum Exploration Co., Ltd.
Managing Director	Hideki Imai	President of Plant Division, Japan CCS Co., Ltd.
Director	Susumu Shiomi	General Manager, Administration Dept., Japan CCS Co., Ltd.
Director	Yutaka Tanaka	Director (Technology and Planning Dept.), Deputy General Manager of Plant Division, Japan CCS Co., Ltd.
Director	Kojiro Higuchi	Director & Managing Executive Officer, Deputy President of Power Generation and Sales Company, Deputy General Manager of Nuclear Power Division, Tohoku Electric Power Co., Inc.
Director	Hideo Kojima	Corporate Officer, Vice President of TEPCO Research Institute, Tokyo Electric Power Company Holdings, Inc.
Director	Hidehiro Muramatsu	Executive Officer, Business Solution Center, NIPPON STEEL & SUMIKIN ENGINEERING CO., LTD.
Director	Jinichi Igarashi	Senior Vice President, JXTG Nippon Oil & Energy Corporation
Director	Koichi Ogino	Executive Officer Vice President, Domestic Exploration & Production General Manager, Production Unit East Japan Regional Office Domestic Exploration & Production Division, INPEX Corporation
Auditor	Shinichi Mitsuda	Executive Advisor, 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 & Sumikin Engineering Co., Ltd. CHIYODA CORPORATION  
 TOYO ENGINEERING CORPORATION JGC Corporation  
 INPEX CORPORATION Japan Petroleum Exploration Co., Ltd.  
 Mitsui Oil Exploration Co., Ltd. Idemitsu Kosan Co., Ltd. COSMO OIL CO., LTD.  
 JXTG Nippon Oil & Energy Corporation SHOWA SHELL SEKIYU K. K.  
 ITOCHU Corporation Sumitomo Corporation Marubeni Corporation  
 Mitsubishi Corporation JFE Steel Corporation  
 NIPPON STEEL & SUMITOMO METAL CORPORATION Osaka Gas Co., Ltd.  
 Tokyo Gas Co., Ltd. MITSUBISHI GAS CHEMICAL COMPANY, INC.  
 Mitsubishi Materials Corporation Marubeni-Itochu Steel Inc. Tenaris NKK Tubes

35 companies

(as of January 1, 2019)



## COMPANY PROFILE ■ ■

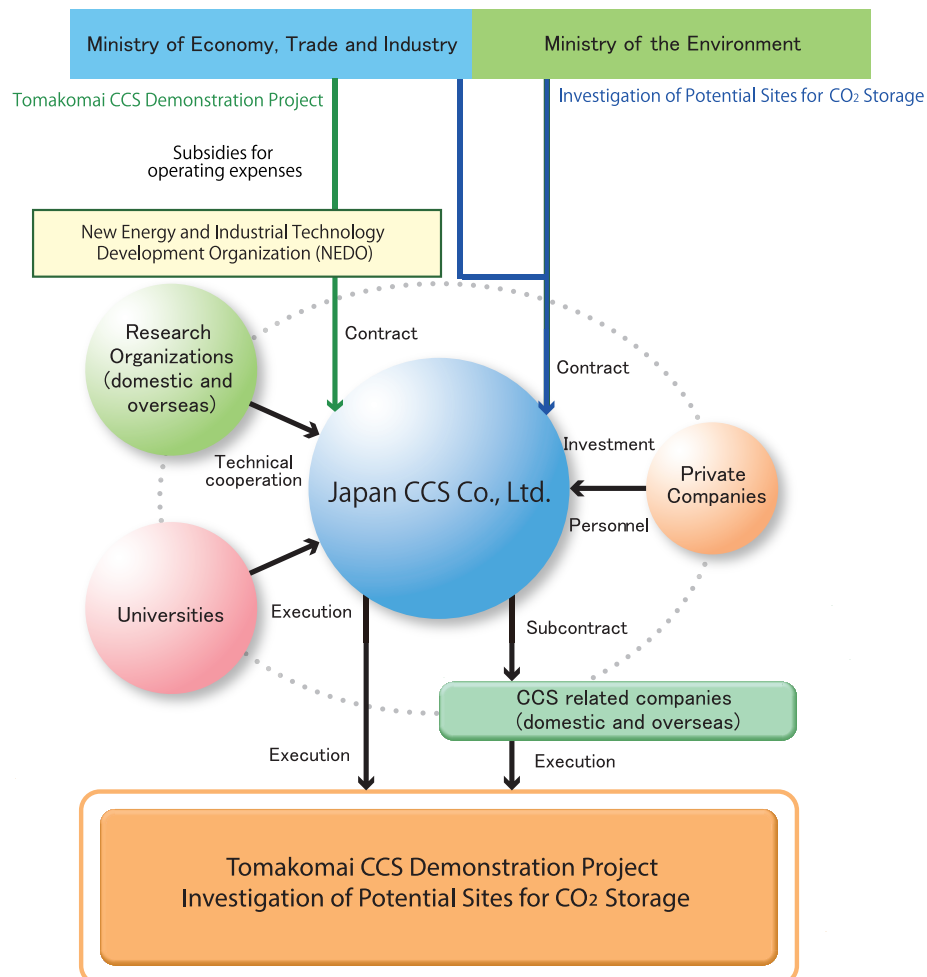
### ■ FOUNDATION

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 CCS technology in Japan
2. Integrate opinions of private sector for early establishment of laws, regulations and technical standards applicable to CCS in Japan
3. Conduct promotional activities for CCS deployment in Japan
4. Cooperate with foreign organizations for CCS deployment overseas
5. Collect and exchange the latest information on CCS with overseas research organizations

### ■ PROJECT FRAMEWORK



## Our Business

### ■ Tomakomai CCS Demonstration Project

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

#### Project Description

A large-scale CCS project is being undertaken by the Ministry of Economy, Trade and Industry of Japan (METI) in Tomakomai, Hokkaido Prefecture, Japan. The objective is to demonstrate the viability of a full CCS system, from CO<sub>2</sub> capture to injection and storage.

#### Chronology of Tomakomai CCS Demonstration Project

2009 - 2011	<p>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.</p> <p>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.</p>
Feb 2012	<p>METI submitted a public tender for the JFY2012 Tomakomai CCS Demonstration Project, which was commissioned to Japan CCS Co., Ltd.</p>
April 2012	<p>Implementation of the Tomakomai CCS Demonstration Project started.</p>
2012 - 2015	<p>Construction of onshore facilities, drilling of injection wells, baseline monitoring, and studies of regulations and standards for safety were completed.</p>
April 2016	<p>Injection of CO<sub>2</sub> started.</p>
April 2018	<p>Implementation of the Tomakomai CCS Demonstration Project was commissioned to Japan CCS Co., Ltd. by NEDO with the subsidies for the operating expenses by METI.</p>

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

- Commissioned 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 "Investigation of Potential Sites for CO<sub>2</sub> Storage, Offshore Japan" encompasses activities such as the acquisition of geophysical data and the analysis of geological structure. 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 select prospective sites for CO<sub>2</sub> storage by around FY2020.


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


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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 Target is to find multiple sites capable of storing 100 million tonnes per site by 2020.

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日本CCS調査株式会社  
Japan CCS Co., Ltd.

 〒100-0005 東京都千代田区丸ノ内一丁目7番12号 サピアタワー19F  
TEL. 03-6268-7380 FAX. 03-6268-7385

 SAPIA TOWER 19F, 1-7-12, Marunouchi, Chiyoda-ku, Tokyo, 100-0005, JAPAN  
TEL. +81-3-6268-7380 FAX. +81-3-6268-7385