

**MEMORANDUM OF COOPERATION
BETWEEN
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND
THE MINISTRY OF ECONOMY, TRADE, AND INDUSTRY OF JAPAN
CONCERNING
COLLABORATION IN THE FIELD OF CARBON CAPTURE, UTILIZATION AND STORAGE**

The Department of Energy of the United States of America and the Ministry of Economy, Trade, and Industry of Japan, hereinafter referred to as the “Participants”:

RECOGNIZING the role that development and deployment of clean and efficient energy technologies with carbon capture, utilization and storage (CCUS) can play in the development of a low carbon economy to combat climate change and ensure security of energy supplies;

NOTING, in particular, that advanced and highly efficient clean coal technologies together with CCUS and utilization of carbon dioxide, help to reduce greenhouse gas emissions, enhance energy security, and promote economic growth, and recognizing the importance of technology demonstrations in this regard;

DESIRING through this Memorandum of Cooperation (MOC) to collaborate in the area of CCUS; and

DESIRING through this Memorandum of Cooperation between the Department of Energy of the United States of America and the Ministry of Economy, Trade, and Industry of Japan concerning Collaboration in the Field of Carbon Capture and Storage signed on April 27, 2015 (“2015 MOC”) with this MOC,

Have reached the following mutual understanding:

Section 1 SCOPE

Collaboration under this MOC may include, but is not limited to, the following fields:

1. Sequestration options for carbon dioxide from fossil fuel-based systems, including capture and storage or utilization;
2. Seismic monitoring and risk assessment;
3. Exploration technology and methodology (for example: seismic, logging, reservoir characterization);
4. Development and production technology (for example: enhanced oil production);
5. Carbon dioxide transportation;
6. Prospective CCUS projects in the U.S. and in a third country as the Participants may jointly decide; and
7. Other fields as the Participants may jointly decide in writing.

Section 2 FORMS OF COLLABORATIVE ACTIVITIES

Collaboration in accordance with this MOC may include, but is not limited to, the following forms:

1. Exchange of all forms of unclassified scientific and technical information and results of research and development;
2. Organization of seminars, workshops, and other meetings on specific topics;
3. Exchange of samples, materials, instruments, and components for testing, in accordance with appropriate written arrangements between both entities involved in the exchange;
4. Visits by specialist teams of individuals from an entity located in the country of one Participant to facilities located in the country of the other Participant, in accordance with appropriate written arrangements between both entities;

5. Exchange of all forms of information which may include business environment (e.g. related regulations and funding sources) as necessary to pursue prospective CCUS projects under Section 1.6 of this MOC ; and
6. Other specific forms of cooperation as may be added by written arrangement of the Participants.

Section 3 MANAGEMENT

1. To supervise the cooperation under this MOC, each Participant should designate a Lead Coordinator. Each Participant should also designate a Technical Coordinator and a Project Coordinator to assist its Lead Coordinator in carrying out activities under this MOC. In addition, each Participant should designate a representative responsible for its collaboration in each of the fields listed in Section 1 of this MOC.
2. The Lead Coordinators should meet each year, or as otherwise jointly decided. At those meetings, the Lead Coordinators should evaluate the status of cooperation under this MOC. This evaluation should include a review of the past year's activities and accomplishments and of the activities planned for the coming year. In addition, the Lead Coordinators should consider and act on any major new proposals for collaboration. Technical and Project Coordinators may, at the discretion of the Lead Coordinators, participate in these annual meetings.
3. In particular, Project coordinators should hold a meeting in a timely manner with representative public and/or business sectors as necessary to pursue prospective CCUS projects under Section 1.6. If Participants in this meeting anticipate sharing business-confidential information they should consult with each other and make appropriate written arrangements for the protection of such business-confidential information.

Section 4 INTELLECTUAL PROPERTY; BUSINESS-CONFIDENTIAL INFORMATION

The Participants do not anticipate the generation of intellectual property arising from activities under this MOC, or the exchange of business-confidential information. If the Participants decide that a particular activity may lead to the creation of intellectual property

or the exchange of business-confidential information, they should consult with each other and make appropriate written arrangements for the protection and allocation of such intellectual property and the protection of such business-confidential information.

Section 5

FUNDING

1. Unless jointly decided otherwise in writing, any costs arising from the conduct of activities under this MOC are the responsibility of the Participant that incurs such costs.
2. Collaboration under this MOC is subject to the availability of appropriated funds, personnel, and other resources.

Section 6

GENERAL CONSIDERATIONS

1. Each Participant should conduct the cooperation contemplated by this MOC in accordance with the applicable laws and regulations to which it is subject.
2. This MOC is not legally binding upon either Participant.
3. Upon signature by the Participants, this MOC replaces the 2015 MOC.

Section 7

COMMENCEMENT, MODIFICATION, AND DISCONTINUATION

1. Collaboration under this MOC may commence upon signature by both Participants.
2. This MOC may be modified from time to time by both Participants in accordance with appropriate written arrangements.
3. The Participants may discontinue their collaboration under this MOC at any time in writing by their mutual decision. A Participant that wishes to discontinue its participation in this MOC should endeavor to provide at least 90 days prior written notice to the other Participant.

Signed at Tokyo, in duplicate, in the English language.

FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF
AMERICA:



Date: ~~October~~ 17, 2017

FOR THE MINISTRY OF ECONOMY,
TRADE, AND INDUSTRY OF
JAPAN:



Date:

13/10/2017