



CCUS
I N I T I A T I V E

Carbon Capture, Utilization & Storage in the Clean Energy Ministerial



CLEAN ENERGY
M I N I S T E R I A L

Advancing Clean Energy Together

CCUS
I N I T I A T I V E

INCREASED ATTENTION ON CCUS IN 2017: MINISTERIAL EVENTS



8th Clean Energy Ministerial (CEM8)
in Beijing in June 2017

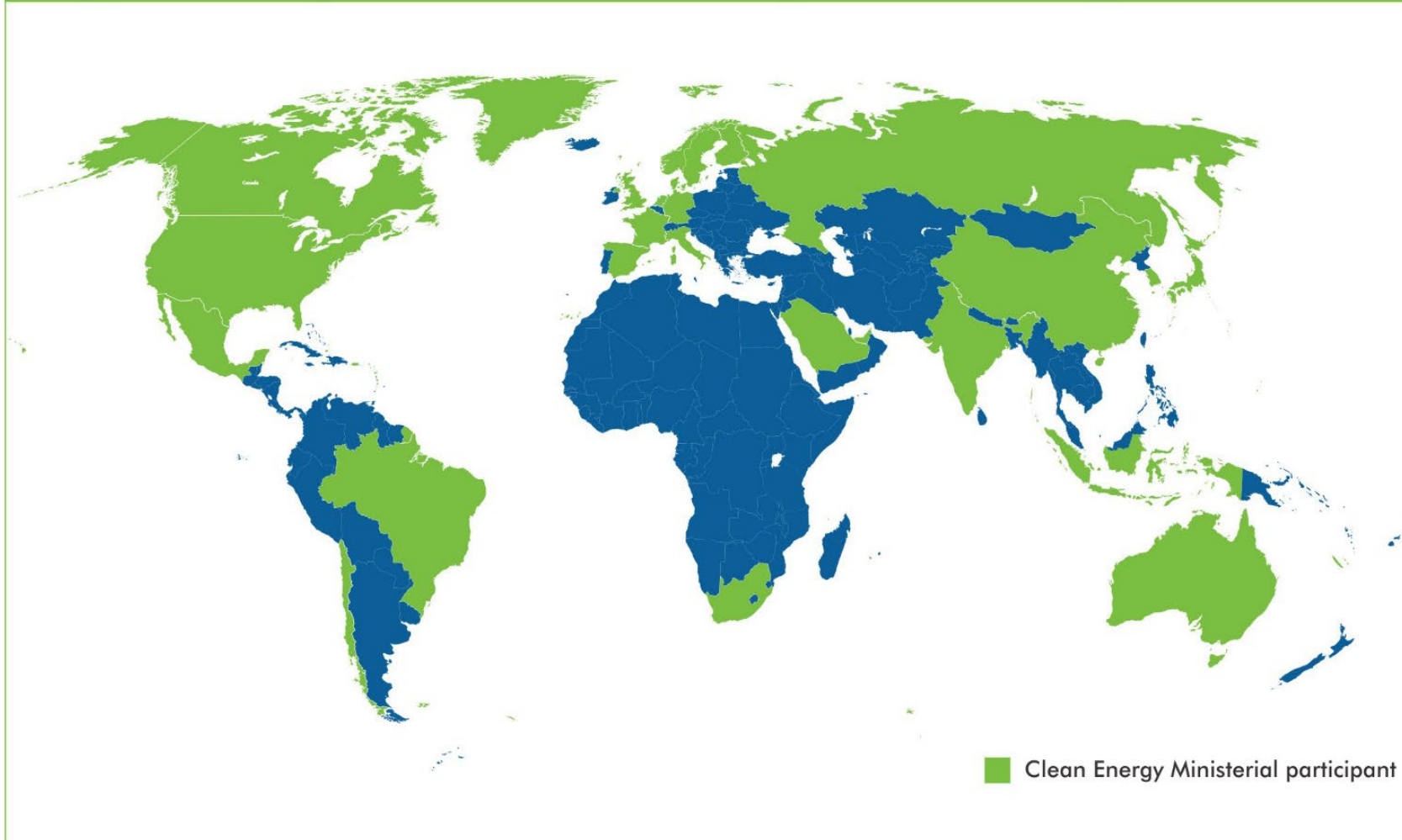
IEA CCUS Summit
in Paris in November 2017



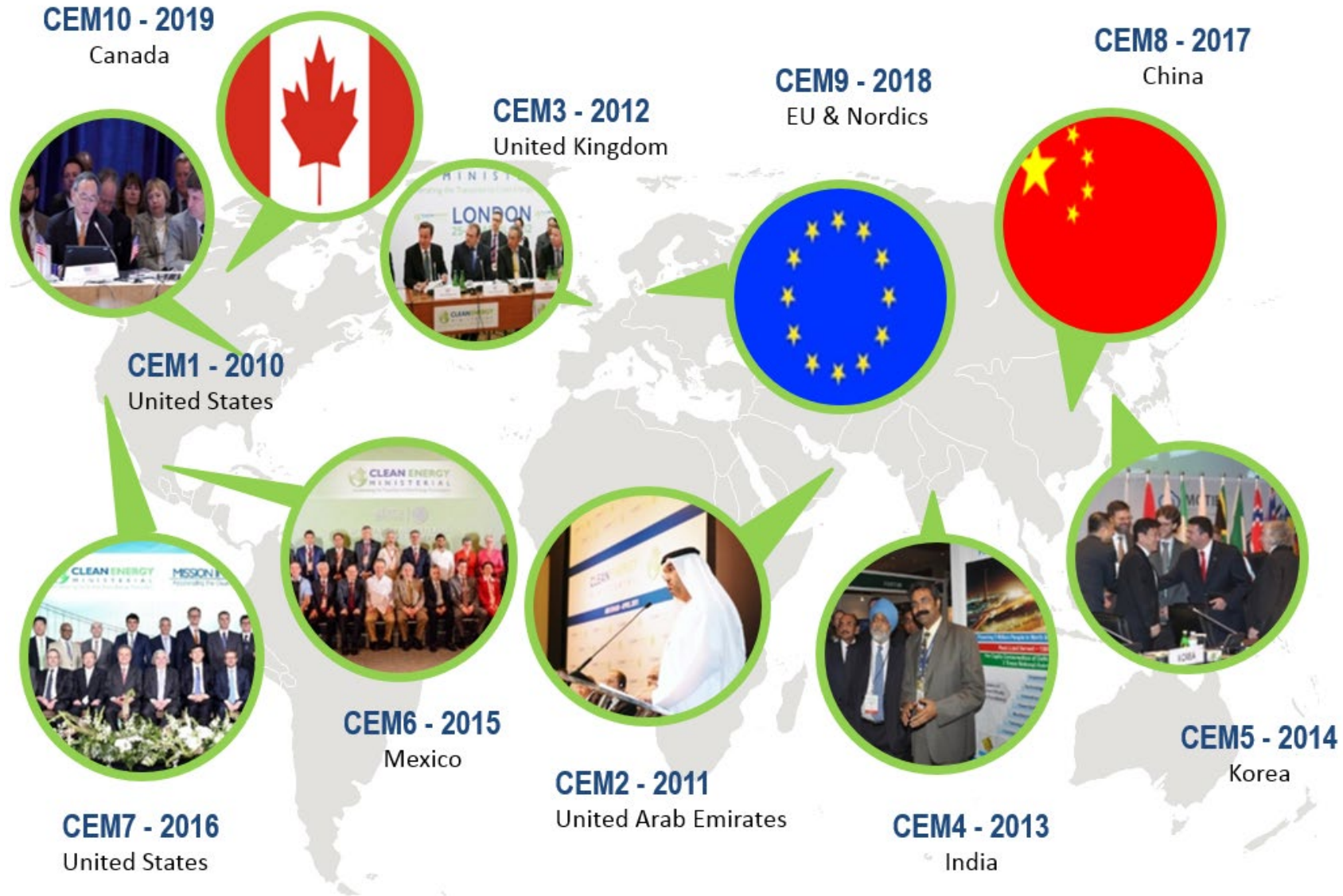
7th CSLF Ministerial Meeting
in December 2017

CLEAN ENERGY MINISTERIAL: 25 COUNTRIES AND EU COMMISSION

Participating countries account for 75% of global greenhouse gas emissions and 90% of global clean energy investment



ANNUAL MINISTERIAL MEETINGS



CEM: A COALITION OF THE WILLING



Distributed and shared leadership



Voluntary and collaborative



No negotiated communiques



Collaboration with multilateral institutions and private sector



9TH CLEAN ENERGY MINISTERIAL (CEM9) COPENHAGEN | MAY 2018

PUBLIC-PRIVATE ROUNDTABLE:

INNOVATIVE SOLUTIONS TO MANAGING ENERGY USE AND EMISSIONS FROM INDUSTRY



- Recognized the important role of industrial sector in meeting energy and climate goals
- All-inclusive technology approach
- Value of public-private partnerships
- Support for launch of two new CEM initiatives: CCUS and Nuclear Innovation: Clean Energy Future (NICE)

9TH CLEAN ENERGY MINISTERIAL (CEM9) COPENHAGEN | MAY 2018

OFFICIAL LAUNCH OF NEW CCUS INITIATIVE



- Official CEM CCUS Side Event
- Energy ministers, industry executives and IEA Executive Director
- Discussed the role of governments, industry and the financial community in accelerating CCUS deployment.

KEY OBJECTIVES OF CEM CCUS INITIATIVE

1. Expand the spectrum of clean energy technologies actively considered under CEM to include CCUS
2. Create a sustained platform for the private sector, governments, and the investment community to engage and accelerate CCUS deployment
3. Facilitate identification of both near and longer-term investment opportunities to improve the business case for CCUS
4. Disseminate emerging CCUS policy, regulatory, and investment best practices as part of integrated clean energy systems

INITIATIVE MEMBER GOVERNMENTS



Saudi Arabia



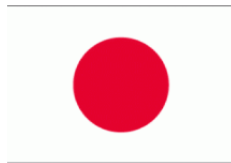
United States



South Africa



Norway



Japan



United Kingdom



United Arab Emirates



China

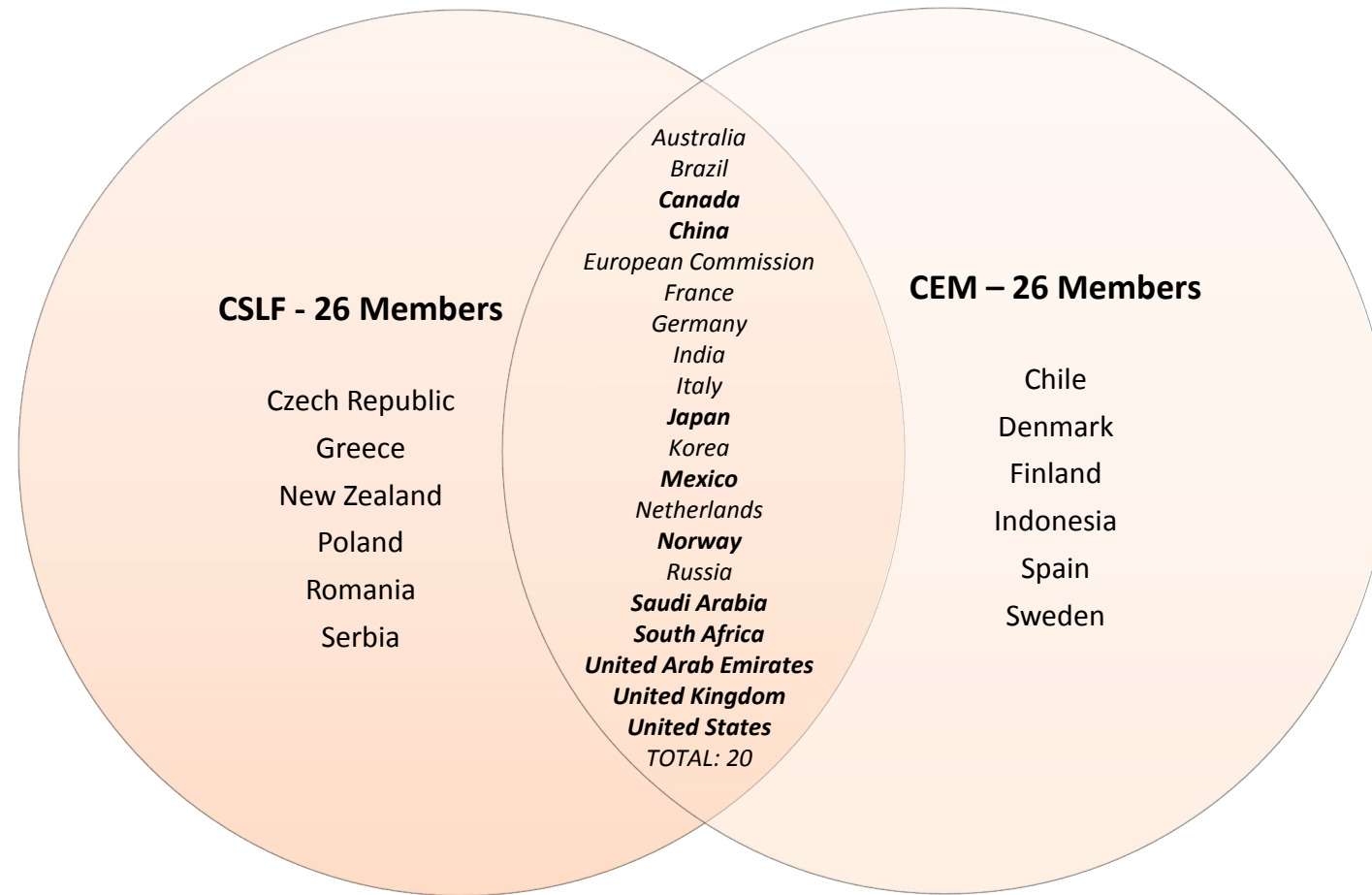


Canada



Mexico

CEM LEVERAGES CSLF



CCUS INITIATIVE: MEMBERS AND LINKAGES

- Lead countries: Norway, Saudi Arabia, and the United States
- Participating CEM members: Canada, China, Japan, Mexico, South Africa, United Arab Emirates, and United Kingdom
- Industry, including the oil and gas community
- Financial institutions, including multilateral development banks (MDBs)
- Organizations: Carbon Sequestration Leadership Forum (CSLF), International Energy Agency (IEA), IEA Greenhouse Gas R&D Programme (IEAGHG), Mission Innovation (MI), Global CCS Institute (GCCSI), and Oil and Gas Climate Initiative (OGCI)
- Other CEM initiatives: 21st Century Power Partnership, Power System Flexibility, Investment and Finance Initiative, Long-term scenario campaign, Clean Energy Solutions Center, etc.

KEY ACTIONS

- Engage in dialogue with the Financial sector to discuss opportunities for CCUS investment
- Provide expert assistance and sharing of best practices to support in-country work
 - CEM Clean Energy Solutions Center “Ask an Expert” service
 - CEM and Clean Energy Solutions Center websites
- Establish an industry advisory body to provide a regular dialogue with key energy ministers on CCUS progress and priorities
- Conduct workshops with industry and policymakers to identify promising CCUS opportunities
- Support feasibility studies and assessments
- Webinar series

1ST CEM CCUS INITIATIVE WEBINAR: FRAMEWORK FOR CCUS IN THE CLEAN ENERGY MINISTERIAL



Khalid Abuleif
Chief Negotiator for
Climate Agreements

**Ministry of Energy,
Industry, and Mineral
Resources,
Saudi Arabia**



Jarad Daniels
Director, Office of
Strategic Planning,
Analysis and
Engagement,
Office of Fossil Energy

**Department of Energy,
United States**

OUTREACH
Clicked Link: 326
Registered: 191
Attended: 95

2ND CEM CCUS INITIATIVE WEBINAR: CCUS IN MEXICO FOR A LOW-CARBON ECONOMY



Leonardo Beltrán

Deputy Secretary for
Planning and Energy
Transition,

Secretariat of Energy
(SENER),
Mexico



Diego Arjona

Executive
Director of the
Mexican CCUS
Center and
Director General
of the National
Institute for
Electricity and
Clean Energy
(INEEL)



Guillermo Hernández

Energy Specialist

World Bank



Peter Warren

Senior Policy Advisor and
Senior Climate Finance
Investment Lead

Business, Energy & Industrial
Strategy, United Kingdom

OUTREACH
Clicked Link: 660
Registered: 312
Attended: 186

CEM CCUS WEBSITE: PROPOSED AREAS OF FOCUS

The image shows a screenshot of the Clean Energy Solutions Center website. The header includes the logo and tagline: "CLEAN ENERGY SOLUTIONS CENTER ASSISTING COUNTRIES WITH CLEAN ENERGY POLICY". A search bar and social media icons are also present. The navigation menu includes: Home, Ask an Expert, Training, Policy Briefs, Resource Library, Partners, News, and About. The "Resource Library" menu is expanded, showing categories: Clean Transport, Energy Access, Energy Efficiency, Energy-Water-Food Nexus, Finance, Grid Integration, Renewable Energy (highlighted), and Search All Resources. Below the menu, a list of proposed areas of focus for CEM CCUS is displayed.

Home Ask an Expert Training Policy Briefs Resource Library Partners News About

Resource Library » Renewable Energy

- Clean Transport
- Energy Access
- Energy Efficiency
- Energy-Water-Food Nexus
- Finance
- Grid Integration
- Renewable Energy**
- Search All Resources

Carbon Capture, Utilization, and Storage

- Policies
- Road maps
- Financing
- Feasibility and Case Studies
- Infrastructure
- Regulations
- Stakeholder Engagement
- Standards, Best Practices, and Guidelines

MOVING FORWARD...

CURRENT CSLF ORGANIZATION

- CSLF Charter signed by all 26 members, commenced in 2003 and renewed indefinitely in 2011
- The Terms of Reference and Procedures (TOR) provide the overall framework to implement the Charter
- Charter may be modified in writing at any time by unanimous consent of all Members.
- The CSLF Policy Group governs the overall framework and policies of the CSLF.
- The CSLF Technical Group reviews the progress of collaborative projects and makes recommendations to the Policy Group on any needed actions.
- The CSLF Secretariat organizes CSLF meetings, coordinates communications among CSLF members, and acts as a clearinghouse of information.

KEY POINTS FROM THE CSLF CHARTER

- CSLF operates in a transparent manner and meetings are open to stakeholders who register for the meeting.
- The Policy Group should meet at least once a year, at times and places to be determined by its appointed representatives. All decisions of the Group will be made by consensus of the Members.
- The Technical Group reports to the Policy Group. The Technical Group meets as often as necessary to review the progress of collaborative projects, identify promising directions for the research, and make recommendations to the Policy Group on needed actions.
- The U.S. Department of Energy acts as the CSLF Secretariat unless otherwise decided by consensus of the Members.
- Unless otherwise determined by the Members, any costs arising from the activities contemplated by this Charter are to be borne by the Member that incurs them.

KEY POINTS FROM THE CSLF TERMS OF REFERENCE

- Ministerial meetings will normally be held approximately every other year. Ministerial meetings will review the overall progress of CSLF collaboration, findings, and accomplishments on major carbon capture and storage issues and provide overall direction on priorities for future work.
- The Technical Group will meet as often as necessary and at least once each year at a considered time interval prior to the meeting of the Policy Group.
- The Policy Group and the Technical Group will each have a Chair and up to three Vice Chairs. The Chairs of the Policy and Technical Groups will be elected every three years.

ITEMS TO DISCUSS TODAY

Future of the CSLF, including:

- CSLF Technical Group efforts
- CSLF Policy Group efforts
- Future CSLF Meetings and Frequency
- CSLF Ministerial Meetings
- CSLF Leadership

BACKUP AND OVERFLOW...

8TH CLEAN ENERGY MINISTERIAL (CEM8) BEIJING | JUNE 2017



- CEM8 side event with energy ministers and IEA Executive Director
- Discussed factors that attract CCUS investments and highlighted importance to accelerate further CCUS investments
- Discussed the need to place CCUS firmly in the context of broader clean energy strategies
- U.S. Secretary Perry recommended development of new CEM initiatives on CCUS and civil nuclear energy

IEA CCUS SUMMIT

PARIS | NOVEMBER 2017

- Hosted by IEA and co-chaired by IEA Executive Director Fatih Birol and U.S. Secretary Perry
- Engaged energy ministers and chief executives of major energy companies
- Pushed for collaboration and accelerated investment in CCUS
- Industry representatives included CEOs and senior executives from ExxonMobil, Royal Dutch Shell, BP, Statoil, Chevron, Total Glencore, Suncor Energy, GE Power, Dow Chemical, Mitsubishi Heavy Industries, and Port of Rotterdam



CARBON SEQUESTRATION LEADERSHIP FORUM MINISTERIAL MEETING ABU DHABI | DECEMBER 2017

- Hosted by Minister Suhail Al Mazrouei, Minister of Energy and Industry (UAE)
- Meeting focused on advancing the business case for CCUS
- Ministerial Communique key points:
 - Support inclusion of CCUS as part of suite of clean energy technologies
 - Leverage success of operational CCUS projects and emphasize the need for greater project development
 - Encourage development of regional strategies to support CCUS deployment
 - Explore utilization options beyond CO₂-EOR
 - Support collaborative research and development on innovative CCUS technologies
 - Expand stakeholder engagement and strengthen links with other clean energy efforts
 - Increase global shared learnings on CCUS through best practices and lessons learned
 - Continue engagement with the public on CCUS

