

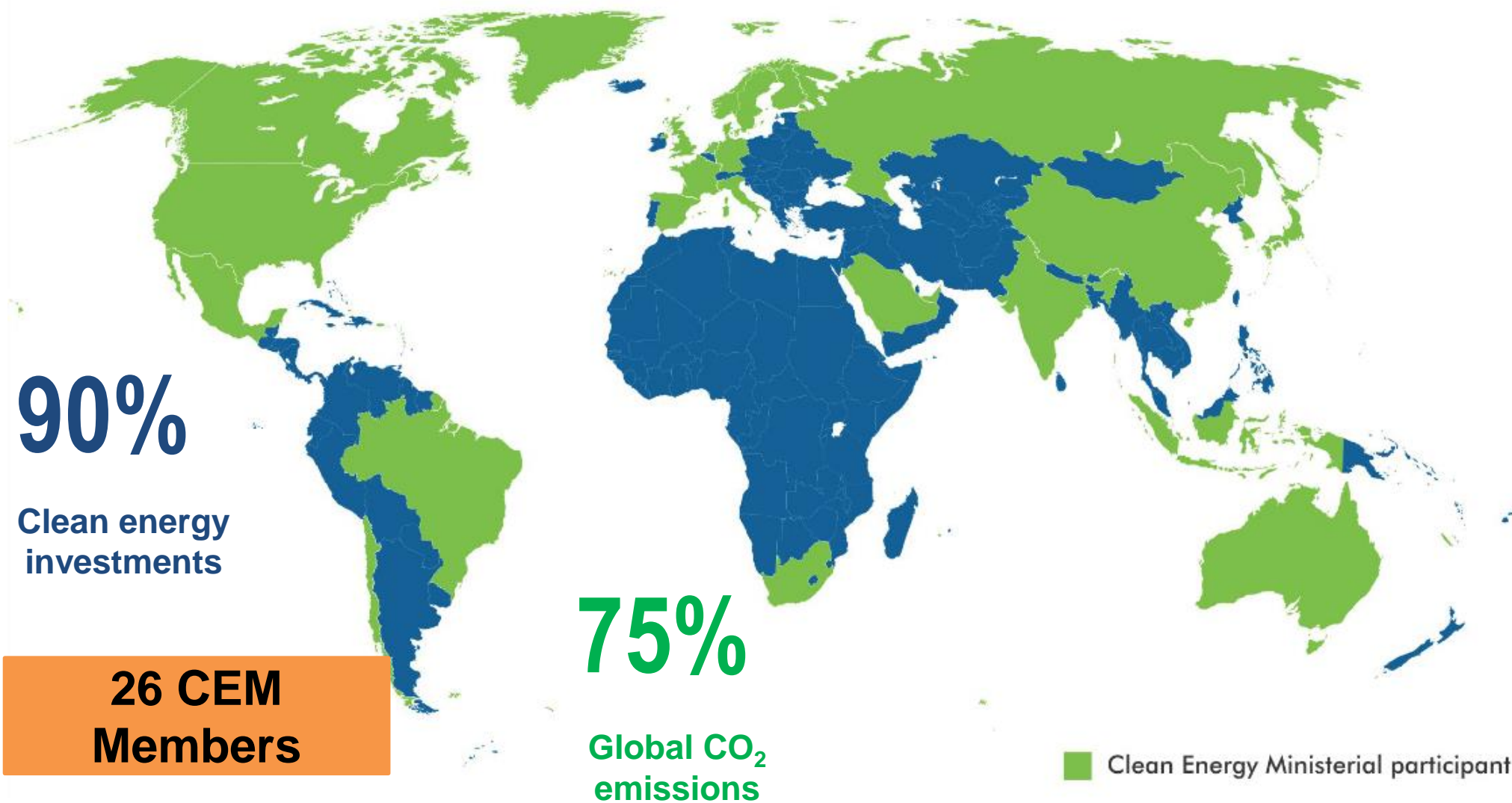


Accelerating CCUS Together: Financing a key Piece of the Clean Energy Puzzle

Juho Lipponen
Co-ordinator, CEM CCUS Initiative

*Baltic Carbon Forum 2019
23 October 2019*

The Clean Energy Ministerial is a global process



Ministerial meetings coupled with year-round technical work



CEM9 - 2018
EU and 4 Nordics



CEM10 - 2019
Canada



CEM11 - 2020
Chile

Year round technical work

Global analysis

In-country work



In-country technical workshops



Industry and government dialogues



High-level policy discussions

CEM: A Coalition of the Willing



Distributed and
shared leadership



Voluntary and
collaborative



No negotiated
communiqués



Collaboration with
multilateral
institutions and
private sector



CCUS Initiative: Member Governments and Key Links



Saudi Arabia



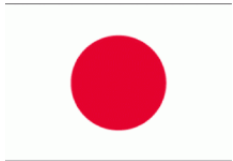
United States



South Africa



Norway



Japan



AN INITIATIVE OF THE CLEAN ENERGY MINISTERIAL



United Kingdom



United Arab Emirates



Mexico



China



Canada



Netherlands

Lead countries: Norway, Saudi Arabia, the United States and United Kingdom

Participating CEM members: Canada, China, Japan, Mexico, Netherlands, South Africa and United Arab Emirates (in addition, the European Commission is an observer)

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 relevant CEM Initiatives: 21st Century Power Partnership, Power System Flexibility, Investment and Finance Initiative, Long-term scenario campaign, Clean Energy Solutions Center

Accelerating CCUS Together by:

1. Actively **including** CCUS within CEM
2. Bringing **together** the private sector, governments and the investment community
3. Facilitating identification of both near and longer-term **investment opportunities**
4. Disseminating **best practice** in CCUS policy, regulation and investment

Side-event at CEM-10 in Vancouver, Wednesday 29 May




- 80% of our primary energy is from fossil fuels, and this has not changed in the past 30 years
- CCUS technology is available, and has been for several decades
- Public-private collaboration is critical to drive more action
- Banks are interested in investing in CCUS, but need good projects driven by government incentives




Disseminating best practice (1)

Webinars to disseminate country experience


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



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




Leon...
Deputy Planning...
Secretary...



Progressing CCUS in the UK and Accelerating CCUS Globally

The UK CCUS Action Plan and Outcomes from the Global CCUS Summit

March 14, 2019



Clean Energy Solutions Center

Clean Energy Solutions Center | X +

https://cleanenergysolutions.org/topic/carbon-capture

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https://cleanenergysolutions.org/topic/carbon-capture

17 May 2018

Framework for Carbon Capture, Utilization, and Storage (CCUS) in the Clean Energy Ministerial

The Carbon Ca... governments, carbon emissi...


The initiative aims to facilitate diffusion of... to accelerate both n... technologies and ap...



19 September 2018

CCUS in Mexico for a Low Carbon Economy

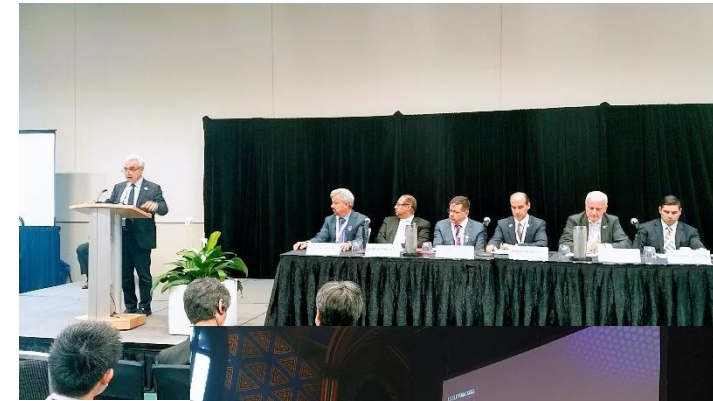
Mexico has ambitious commitments for Energy and GHG reduction.



14:06 07/06/2019

Disseminating best practice (2)

- Twice per year meetings with topical discussions
 - Incentivising CCUS
 - Keeping track of technology developments
 - Engaging with the financial sector and industry
- Supporting key events and conferences
 - IEA – UK CCUS Summit, November 2018
 - C2ES – METI CCUS Roundtable, February 2019
 - KAPSARC CCUS workshop, April 2019
 - ACEF, June 2019
 - ...



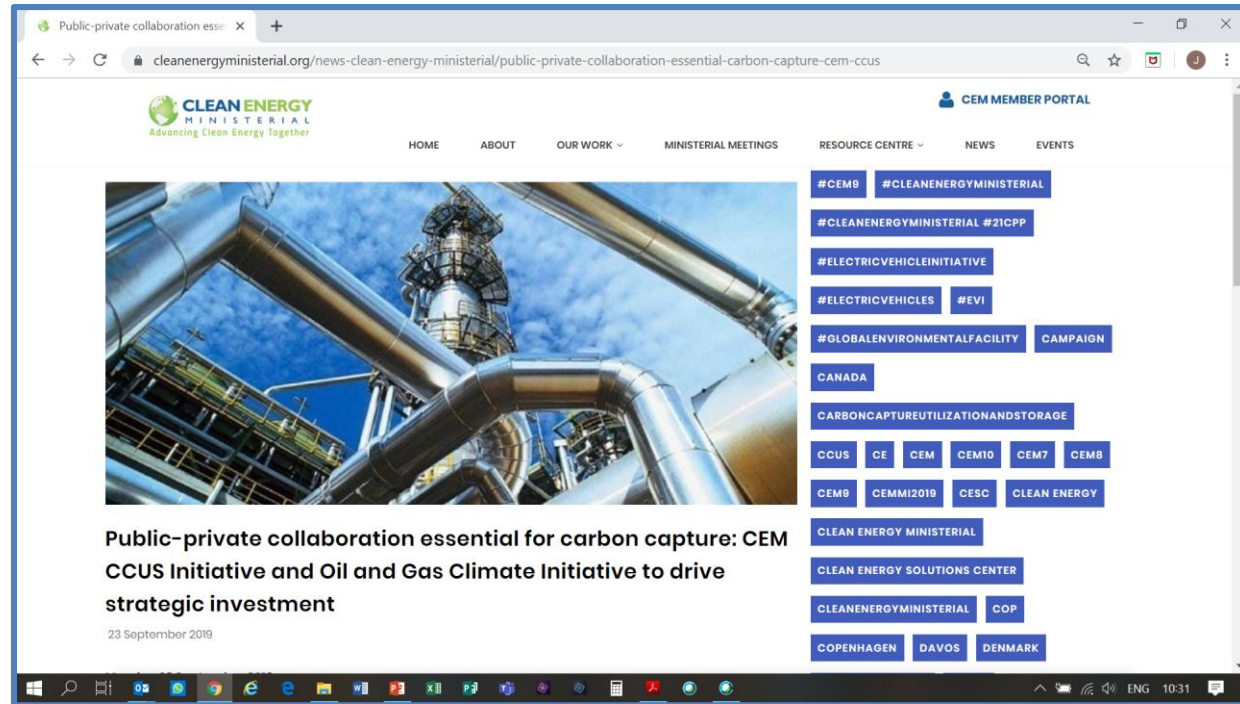
CEM CCUS Initiative – OGCI collaboration



Monday 23 September 2019

Joint declaration on accelerating the CCUS industry

1. Carbon capture, utilization and storage (CCUS) is an essential part of a broad set of solutions needed to create more sustainable low-carbon energy and industrial systems in support of the Paris Agreement climate goals. It can reduce emissions on a significant scale in both the industrial and power sectors, and support the emergence of key technologies, such as clean hydrogen, direct air capture and biomass with CCUS, crucial to meet net zero ambitions.
2. Investment in CCUS must be scaled-up urgently to support achieving global climate and energy goals. Accelerating CCUS will require governments and industry as well as other stakeholders to work collaboratively to develop and deploy investable business models and supportive policies.
3. The Clean Energy Ministerial Carbon Capture, Utilization and Storage Initiative (CEM CCUS Initiative) countries¹ and the Oil and Gas Climate Initiative (OGCI) member companies² support the global development of an economically viable, environmentally responsible and safe CCUS industry, and recognise the need for strong public-private co-operation in this respect. At the Tenth Clean Energy Ministerial (CEM 10) in Vancouver on 29 May 2019, CEM CCUS Initiative countries and OGCI agreed to explore ways to collaborate to accelerate CCUS³.
4. Today, we crystallise our intent to work together to drive strategic CCUS deployment forward as a step in the development of an economically viable, environmentally responsible and safe CCUS industry. The collaboration between the CEM CCUS Initiative and OGCI aims to catalyse and facilitate commercial-scale CCUS opportunities worldwide.
5. CEM CCUS Initiative countries and OGCI member companies intend to explore opportunities to support the commercial development of CCUS through the various stages of development. This will notably include sustained dialogue on policy and regulatory frameworks, aiming for commerciality of identified hubs and projects. This could also consider, as appropriate, mechanisms for risk management at each operational phase, knowledge sharing, storage appraisal activities, corporate and project finance and engagement with civil society.
6. This collaboration represents a unique opportunity to bring governments and industries together to help create viable market conditions to advance CCUS and to progress potential CCUS hubs⁴ and projects in CEM CCUS Initiative countries and others identified by OGCI members, as well as exploring opportunities in developing countries as appropriate. To this end, CEM CCUS Initiative countries and industry members within OGCI intend to bring their respective expertise and support to advance CCUS development and deployment across the globe.
7. This collaboration is designed to be flexible, and is non-binding and voluntary. CEM CCUS Initiative countries and OGCI member companies recognise that collaboration will take different forms in different jurisdictions. Various public-private collaboration models exist and CEM CCUS Initiative countries and OGCI member companies will discuss their merits in different circumstances and work together to create



- On Monday 23 September, CEM CCUS Initiative and OGCI announced their intention to collaborate
- Focus: accelerating CCUS projects with emphasis on key hubs and clusters

<https://www.cleanenergyministerial.org/news-clean-energy-ministerial/clean-energy-ministerial-ccus-initiative-and-oil-gas-climate>

Finance sector – a driving force in energy transition



- Emergence of various finance-sector groups calling for
 - Investments according to general principles of responsibility
 - Green investment
 - Alignment of portfolios to a 2 or 1.5 degree future
- EU Taxonomy for green financing
- General pressure by investors and owners on companies to become greener

CEM CCUS Initiative – dialogue with financial institutions

Multilateral Development Banks

- World Bank, Asian Development Bank, European Investment Bank, EBRD, Islamic Development Bank

Commercial banks

- Societe Generale, JPMorgan Chase, Bank of America Merrill Lynch, Citi, BNP Paribas

National finance institutions

- Japan Bank for International Collaboration, Public Investment Fund of Saudi etc.

Financing CCUS: some basics (by banks!)

- CCUS can be investable
- CCUS needs to be part of a strategy and needs to have a programme
- Projects need to be “bankable”
 - Earning logic
 - De-risking certain aspects
- Financing \neq funding
- Banks are not philanthropists

Financing CCUS: why the basics don't quite add up...



- CCUS is not part of tangible strategy, NOR is there a government deployment programme in most countries
- ... light at the end of the tunnel: US, UK, NOR, NL, ...
- Projects either DON'T EXIST, or are NOT bankable
- How do they earn money (except for a small number of EOR projects)?
- Risk-sharing has not been completed

CEM CCUS Initiative: “Finance Sector Lead Group for CCUS”

- To gain a more systematic relationship and to provide input and advice on government policy conducive to investment
- Key objectives:
 1. To offer a platform for the financial sector to discuss CCUS investment challenges and opportunities and to gain insights from governments and industry on experience;
 2. To bring views and comments from the financial sector to governments and industry regarding the required government policy approaches and CCUS as an investment proposition;
 3. To help accelerate financing of CCUS clusters and key projects.
- Targeted participants:
 - Multilateral Development Banks
 - Commercial banks
 - Institutional investors
 - Finance-sector associations

Interested? Want to get involved?

If you want to learn more about the initiative and potentially work with us,
please feel free to reach out to us!

Contacts:

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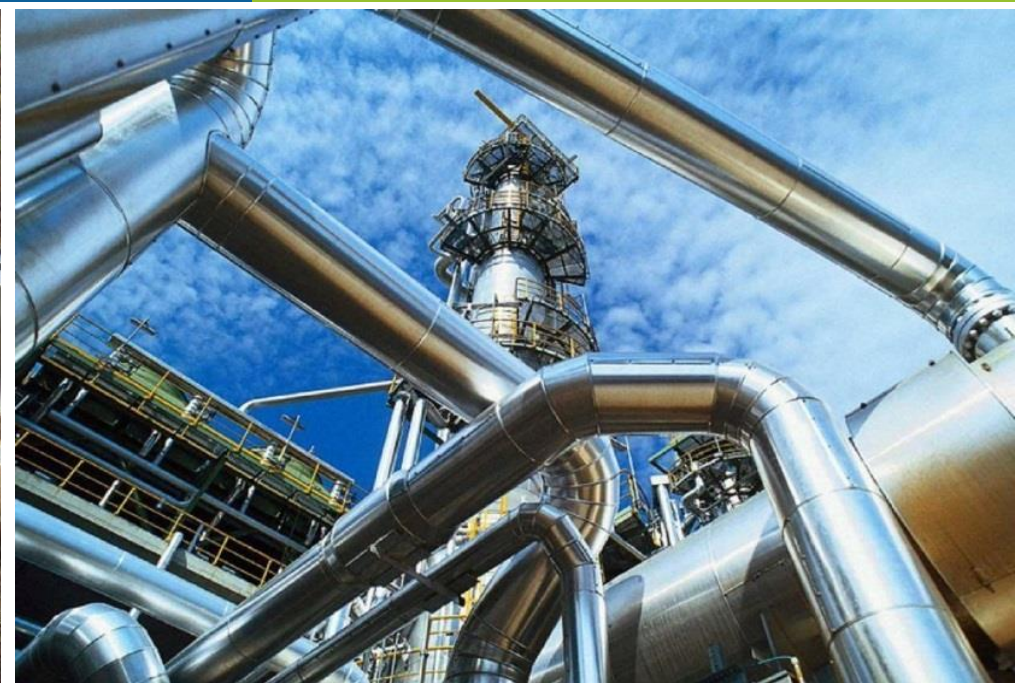
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@ccuscem



CARBON CAPTURE, UTILIZATION & STORAGE

ACCELERATING CCUS TOGETHER

AN INITIATIVE OF THE CLEAN ENERGY MINISTERIAL