

IEA High-Level CCUS Summit

7 November 2017

Chairs' Summary

Government-industry partnerships a key to CCUS investment boost

Energy Ministers and CEOs representing major energy companies today met on the margins of the 2017 IEA Ministerial meeting to support a renewed push for investment in carbon capture, utilisation and storage (CCUS) as an essential part of a clean energy future.

Ministers and CEOs discussed how CCUS can help shift global energy systems onto a low-carbon pathway. In addition to significantly reducing environmental impact, CCUS is uniquely placed to support energy security and diversity in power generation and to protect substantial capital investments in existing infrastructure. CCUS is also one of the only solutions for deep emissions reductions in the industrial sectors that provide the building blocks for modern society, such as steel, cement and chemicals production. Investment in CCUS can also support future employment and economic prosperity in regions that rely on these industries.

Summit participants also noted, however, that current opportunities for commercial investment in CCUS are limited. According to International Energy Agency (IEA) analysis released at the Summit, around USD 10 billion in capital investments have been made in large-scale CCUS projects globally. This is in contrast with the USD 850 billion invested in low carbon energy in 2016 alone. The policies and programmes that have been successful in supporting these low carbon energy investments will increasingly need to be tailored and applied to CCUS if energy and climate goals are to be achieved.

Summit participants discussed the need for a significant and urgent boost to CCUS investment. Building more facilities will be critical to expand commercial experience and to continue to drive down costs. Strengthened partnerships between governments and industry should necessarily be at the heart of efforts going forward, recognising the significant societal value of CCUS as well as its particular importance for many industries and companies. This shared interest in CCUS was a key theme throughout the Summit discussions.

Ministers and CEOs discussed the five keys to unlock CCUS investment, as identified by the IEA's report:

- **Harvest "low-hanging fruit"** to build CCUS deployment and experience from the ground up.
- **Tailor policies** to shepherd CCUS through the early deployment phase and to address the unique integration challenges for these facilities.
- **Target multiple pathways to reduce costs** from technology innovation in carbon capture and CO₂ utilisation to progressive financing arrangements.
- **Build CO₂ networks** and accelerate CO₂ storage assessments in key regions.
- **Strengthen partnerships** and cooperation between industry and governments.

The importance of building on recent technical success and achievements in CCUS project investment was highlighted by Summit participants. Ten of the 17 large-scale CCUS plants currently in operation have been commissioned in the last five years and include key applications in coal-fired power generation, oil sands processing and steel production. While the United States was a pioneer in CCUS

and has continued its leadership, including with the recent commissioning of the Petra Nova and Illinois Industrial CCS projects, the project fleet is now much more diverse and a truly global effort is underway. CCUS projects are today also operating or in development in Australia, Brazil, Canada, the People's Republic of China, Norway, Saudi Arabia, The Netherlands, the United Arab Emirates and the United Kingdom. Smaller-scale projects are operating throughout Europe and in Indonesia, Japan, Korea and Mexico. Summit participants agreed on the importance of continued collaboration to accelerate CCUS project deployment globally.

Summit participants recognised the leadership of the IEA and its role in bringing together industries, governments and researchers to support the expanding global CCUS effort. IEA efforts are complementary and support other important initiatives such as the Carbon Sequestration Leadership Forum, the Clean Energy Ministerial, the Global CCS Institute and Mission Innovation.

In order to continue the important dialogue from today's meeting, the IEA has agreed to host a policy and investment workshop in 2018 that will provide an opportunity to develop a detailed work plan based on the priority areas for cooperation identified at the Summit. The IEA will also convene future meetings with ministers and industry leaders to strengthen this cooperation and build momentum in the global CCUS effort.

As the Summit Chairs, we would like to thank all participants for their active engagement and constructive contributions to this meeting.

Signed:



Rick Perry
Secretary of Energy, United States of America



Dr Fatih Birol
Executive Director, International Energy Agency

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Participants:

1. Mr Rick Perry, Secretary of Energy, **United States** (Co-chair)
2. Dr Fatih Birol, Executive Director, **IEA** (Co-chair)
3. Mr Jim Carr, Minister for Natural Resources, **Canada**
4. Mr Pedro Joaquin Coldwell, Secretary of Energy, **Mexico**
5. Mr Yoji Muto, State Minister of Economy, Trade and Industry, **Japan**
6. Mr Elnar Remi Holmen, State Secretary, **Norway**
7. Dr Michal Kurtyka, Vice-Minister for Energy, **Poland**
8. Mr Robert Heferen, Deputy Secretary, Department of the Environment and Energy, **Australia**
9. Ms Mechtild Woersdoerfer, Director for Renewables, Research and Innovation, Energy Efficiency, Directorate-General for Energy, **European Commission**
10. Mr Sandor Gaastra, Director General, Ministry of Economic Affairs and Climate Policy, **The Netherlands**
11. Mr Peter Betts, Director for International Climate and Energy, **United Kingdom**

12. Mr Bob Dudley, CEO, **BP**
13. Mr Mark Nelson, Vice President Strategic Planning, **Chevron**
14. Mr Jim Fitterling, President and Chief Operating Officer, **Dow Chemical**
15. Mr Darren Woods, Chairman and CEO, **ExxonMobil**
16. Mr Russell Stokes, President and CEO, **GE Power**
17. Mr Peter Freyberg, Head of Coal Assets, **Glencore**
18. Mr. Kenji Ando, President and CEO, Power Systems, **Mitsubishi Heavy Industries**
19. Mr Allard Castelein, Chief Executive Officer, **Port of Rotterdam**
20. Mr Ben van Beurden, CEO, **Royal Dutch Shell**
21. Mr Eldar Sætre, President and CEO, **Statoil**
22. Mr Steven Williams, President and CEO, **Suncor Energy**
23. Mr Philippe Sauquet, President Gas, Renewables and Power; President Strategy and Innovation, **Total**