

# FEDERAL AND STATE CCS/CCUS/CO<sub>2</sub>-EOR OVERVIEW

12<sup>TH</sup> ANNUAL (2014) EOR CARBON MANAGEMENT WORKSHOP

DECEMBER 9, 2014

KIPP CODDINGTON  
WASHINGTON, D.C.

# OVERVIEW

- International
- Federal
- State



# INTERNATIONAL: THE 2015 PARIS AGREEMENT

## Long-term and collective aspects of mitigation

- Mitigation commitments/contributions in aggregate to contribute to emission reductions consistent with the agreed limit to global temperature rise
- A long-term common goal to be expressed:
  - As a limit to global average temperature rise below 2/1.5 °C above pre-industrial levels
  - As a maximum concentration of GHGs in the atmosphere
  - As a global goal for emission reductions
    - In the form of a trajectory to reach 50 per cent below 1990 levels by 2050
    - In line with science (e.g. 40–70 per cent below 2010 levels by 2050 with net emissions near zero, or below zero, by 2100); as carbon neutrality by the end of the century; and by 2050 for developed countries
  - As a carbon budget: atmospheric space and development space to be divided among Parties
- Mitigation and adaptation to achieve a net decrease in emission levels

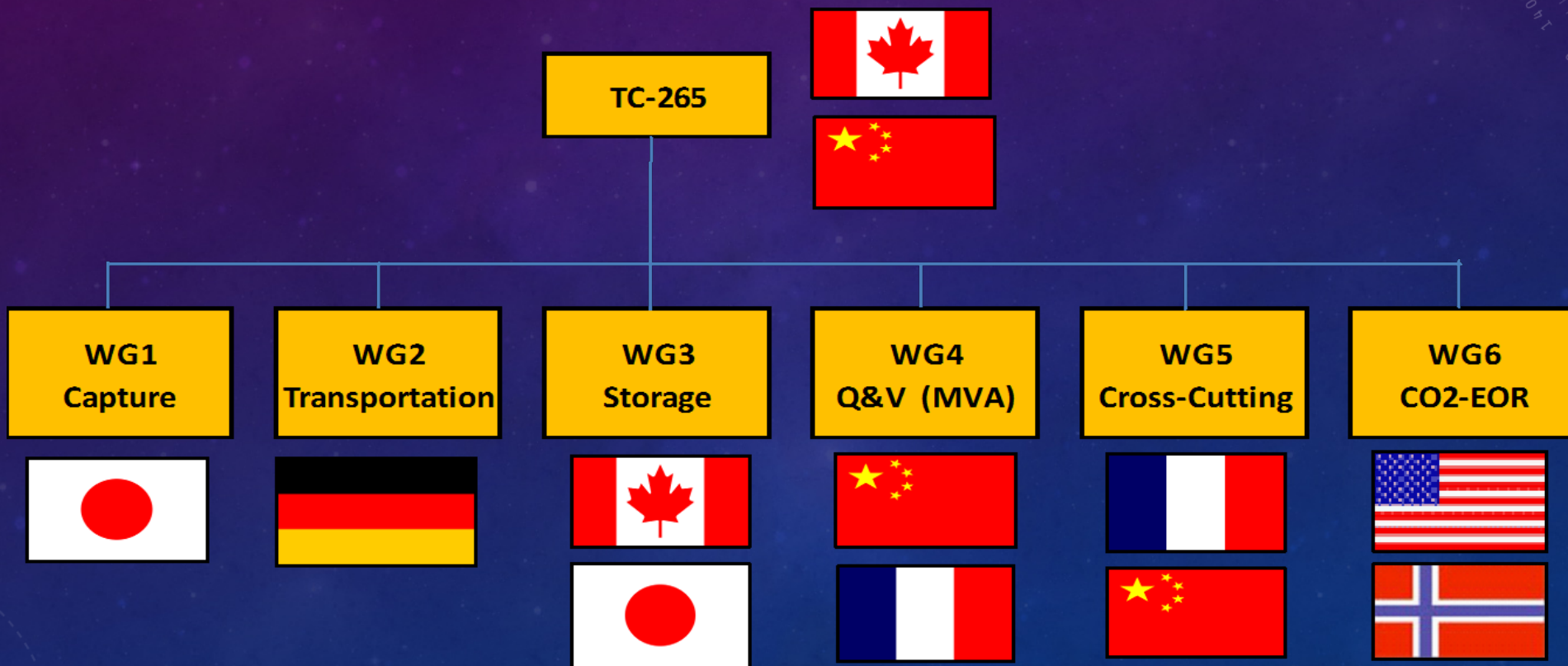
Source: “Parties views and proposals on the elements for a draft negotiating text,” Ad Hoc Working Group on the Durban Platform for Enhanced Action (July 7, 2014)

# THE 2015 PARIS AGREEMENT: WHAT TO EXPECT

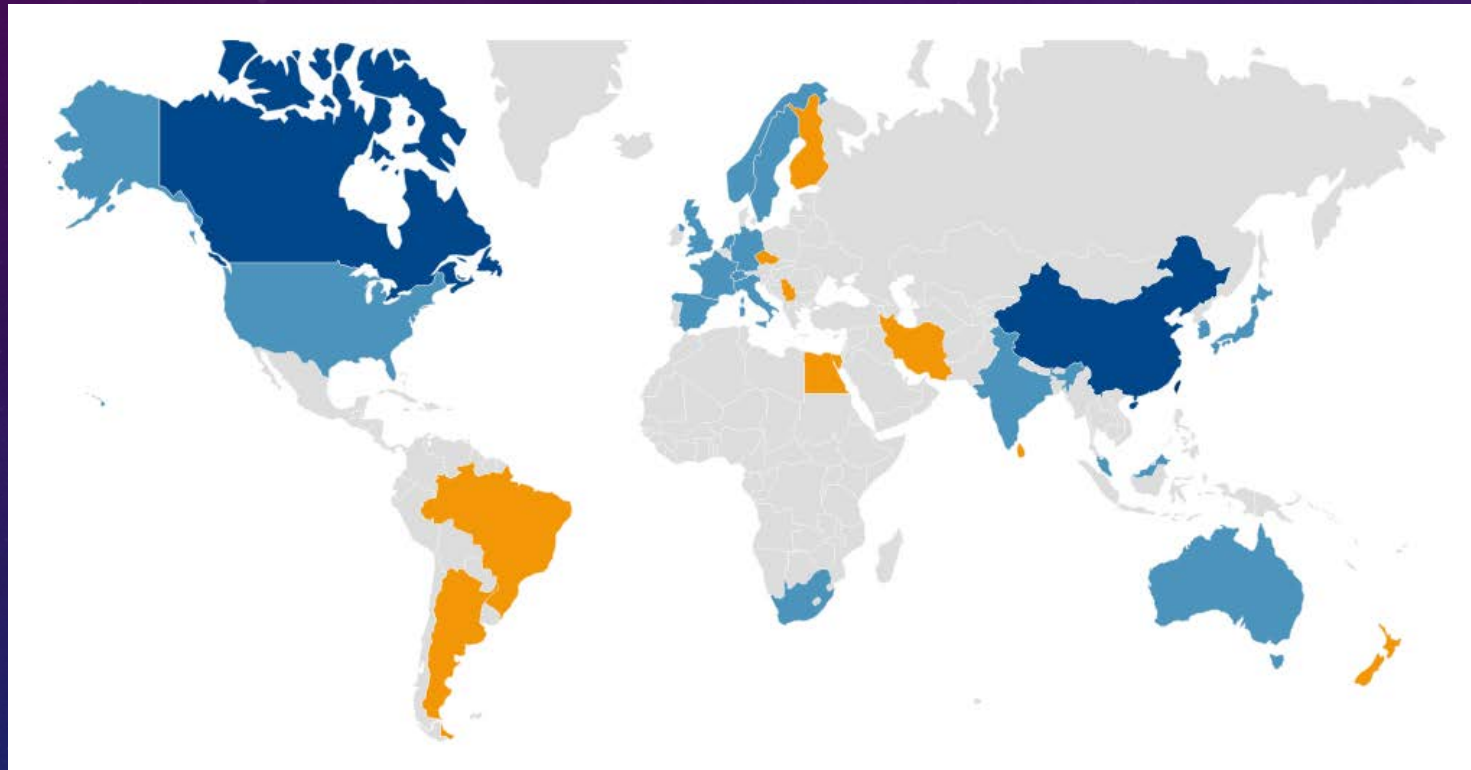
- Effective 2050-2100 decarbonization pathways
  - *CCS/CCUS/CO<sub>2</sub>-EOR implicitly necessary*
  - *Oil, natural gas and coal targeted*
- New U.S. commitments by 1Q 2015
- Draft treaty text by spring 2015
- Treaty text likely agreed by December 2015 (Paris)
- Senate ratification likely not required



# INTERNATIONAL: CCS AND CO<sub>2</sub>-EOR/STORAGE STANDARDS UNDER DEVELOPMENT



# PARTICIPATING COUNTRIES



## Voting (18)

Australia  
Canada  
China  
France  
Germany  
India  
Italy  
Japan  
Korea, Republic of  
Malaysia  
Netherlands  
Norway  
South Africa  
Spain  
Sweden  
Switzerland  
UK  
US

## Non-Voting (9)

Argentina  
Brazil  
Czech Republic  
Egypt  
Finland  
Iran  
New Zealand  
Serbia  
Sri Lanka



# INTERNATIONAL CCS/CO<sub>2</sub>-EOR STANDARDS: WHAT TO EXPECT

- 2015 Meetings
  - *Birmingham, January 2015*
  - *Norway – later in 2015*

# FEDERAL DEVELOPMENTS

- Legislation on Section 45Q
- Draft EPA Guidance on Transition from Class II to VI
  - *Future uncertain*
- New Source Performance Standards for New EGUs
  - *Expected to require EOR to opt into Subpart RR of the GHG Reporting Rule (MRV)*
  - *Likely to be issued in January 2015*
  - *Expect litigation, including Class EOR/VI arguments*



# STATE DEVELOPMENTS

- California
- Social Cost of Carbon in PUC Proceedings
  - *Minnesota*
- Carbon State Implementation Plans under the Section 111(d) Rule
  - *Federal Implementation Plans possible, maybe even likely*
- CO<sub>2</sub>-EOR as “Best Available Control Technology” for Prevention of Significant Deterioration Permitting under the Clean Air Act
  - *Natural gas separation plants*
  - *LNG export terminals*
  - *Refineries*
  - *Power plants*
  - *Ethanol plants*
  - *Etc.*

# IMPACTS FOR PROJECT OWNERS, OPERATORS & DEVELOPERS

The oil and gas industry has been successfully and economically recovering CO<sub>2</sub> from natural gas pretreatment plants and using it for EOR for over 35 years. The technologies and operational practices for treating, transporting, and injecting CO<sub>2</sub> for EOR are well developed and are very similar to those that would be required to capture CO<sub>2</sub> from Freeport's Pretreatment Facility CO<sub>2</sub> stream. "These technologies are considered readily transferable and applicable to CCS..."<sup>28</sup> While most CO<sub>2</sub> used for EOR has been extracted from naturally occurring sources, there are several CCS projects that use CO<sub>2</sub> produced from natural gas and other similar nearly pure CO<sub>2</sub> waste streams, including many in Texas' Permian Basin. Some of these projects are summarized in Table 3:

**Table 3**  
**Commercial EOR Projects Using Anthropogenic Carbon Dioxide<sup>29</sup>**

USA						
Project	Leader	Location	CO <sub>2</sub> Source	Size Mt/yr	CO <sub>2</sub> Sink	Status
<a href="#">Val Verde</a>	Multiple operators	Texas	Gas Processing	1.3	EOR	Operational 1972
<a href="#">La Barge</a>	Exxon Mobil	Wyoming	Gas Processing	6	EOR	Operational 1986

- ✓ 109 references to EOR over 49 pages
- ✓ Litigation over permits, MRV plans and the like can be expected

Source: "Comments of the Sierra Club on the PSD Permit for the Freeport LNG Liquefaction Project" (January 6, 2014)



## JOIN US & GET INVOLVED

- North American Carbon Capture & Storage Association
- U.S. Technical Advisory Group (ISO/TC-265)

# QUESTIONS?

Kipp Coddington

Kazmarek Mowrey Cloud Laseter LLP

1301 Vincent Place

McLean, VA

[kcoddington@kmcllaw.com](mailto:kcoddington@kmcllaw.com)

703-628-3950