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# GLOBAL CCS INSTITUTE

**Ron Munson, Principal Manager Carbon Capture**

Alternative Natural Gas Applications Workshop

October 8, 2014



## OUR MISSION

To accelerate the development, demonstration and deployment of CCS globally

### 1

Authoritative knowledge sharing

- 1.1 Drive knowledge transfer
- 1.2 Build on our world-leading CCS knowledge base
- 1.3 Optimise global collaboration and dissemination of high quality information

### 2

Fact-based influential advice and advocacy

- 2.1 Improve public awareness and understanding of CCS
- 2.2 Position CCS as a key low-carbon technology
- 2.3 Equip Members to make better informed decisions

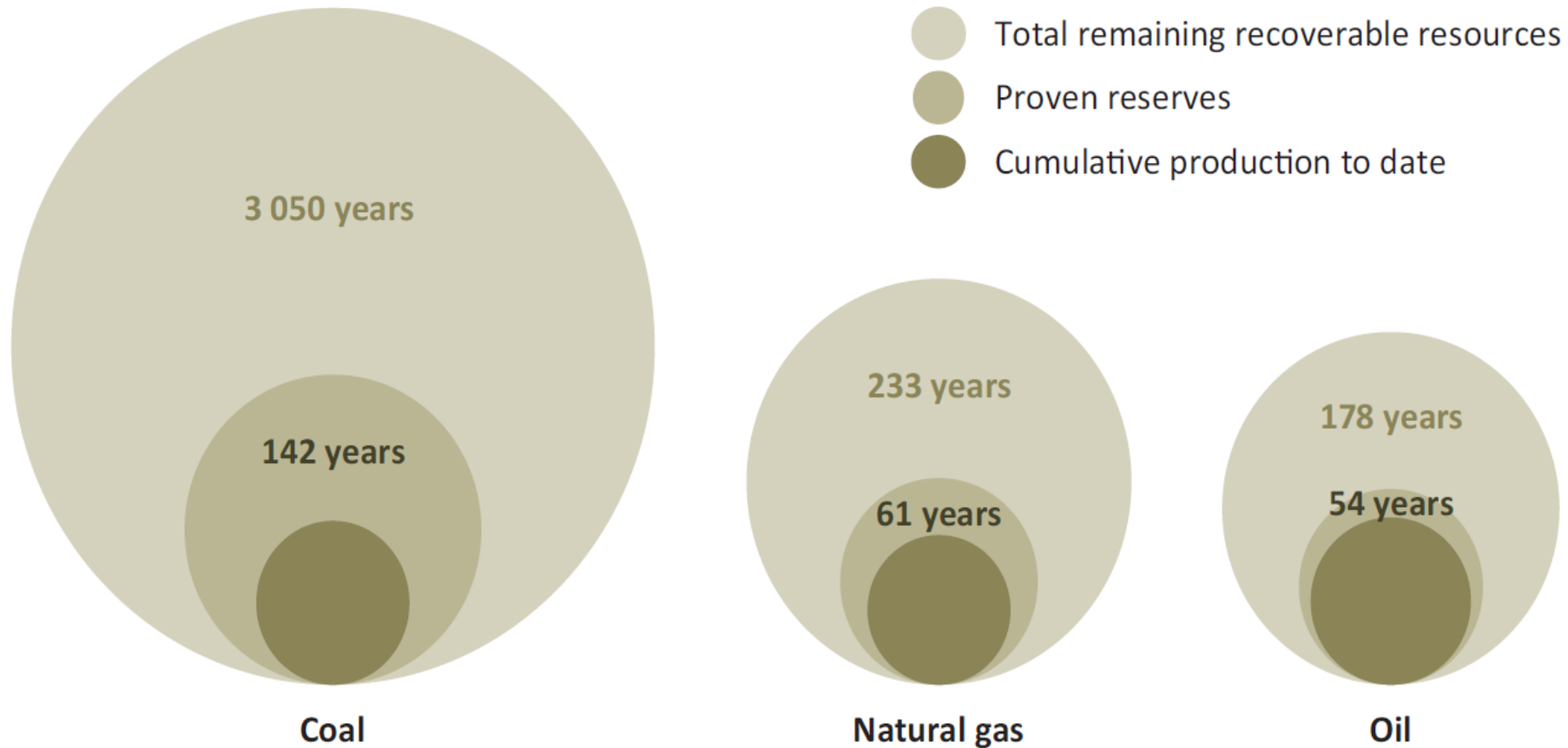
### 3

Create favourable conditions to implement CCS

- 3.1 Help develop supportive policies, standards and frameworks
- 3.2 Encourage collaboration on business cases
- 3.3 Develop enabling capabilities



# Fossil fuels will be important for a long time to come



Source: IEA (2013)

*134 GW coal capacity added in 2013 – at least double that of any other fuel.– IEA 2014*



## When expectations collide

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- 'Business as usual' is incompatible with climate change objectives.
- 'Business as usual' leads to a world of rising average global temperature.

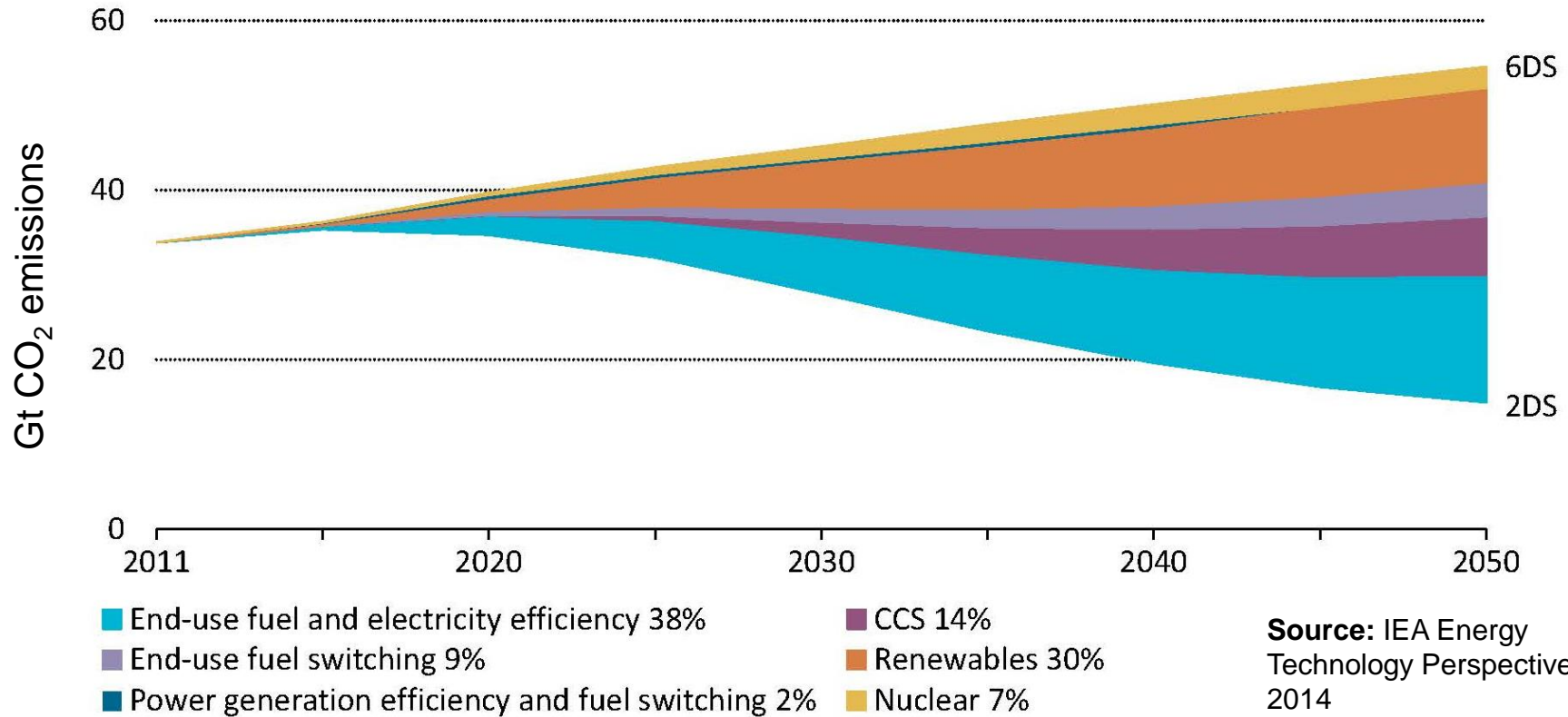
*A 4°C world is so different from the current one that it comes with high uncertainty and new risks that threaten our ability to anticipate and plan for future adaptation needs.*

World Bank Group President Jim Yong Kim, November 2012

- Renewable technologies are not the sole answer to mitigating the rise in global temperature:
  - decarbonizing power without CCS would cost 40% more than with CCS
  - in many industrial processes, accounting for over 20% of CO<sub>2</sub> emissions, there is no alternative to CCS.



# CCS is a critical component of a sustainable energy system



*In a 2° scenario, CO<sub>2</sub> captured in 2030 is in excess of 1500 Mt and 6300 Mt in 2050.*



# No CCS – No 2°C

*Many energy and climate researchers believe that CCS is vital to avoiding a climate catastrophe*

**Wired Magazine March 2013**

*Wide adoption of CCS part of the scenario that achieves 450 ppm atmospheric stabilization level for CO<sub>2</sub>*

**World Energy Council**

*CCS is an important technology in the long run...deployment to drive down costs is desirable*

**UK Committee on Climate Change**

**Importance of CCS acknowledged**

*Availability of CCS is critical for producing 450 ppm*

**Energy Modeling Forum 27 Study**

*We intend to promote the use of low carbon technologies (renewable energies, nuclear in the countries which opt to use it, and carbon capture and storage)*

**G7 Energy Ministerial Meeting, May 2014**

*Commercial demonstration of CCS essential for deployment in the 2030 timeframe*

**European Commission**

*CCS to be cost effective when transformational technologies emerge*

**US Climate Action Report 2014**



# Government and Industry Advance Carbon Pricing



Source: World Bank (2014)

*39 National and 23 Sub-national Jurisdictions – World Bank 2014;  
150 Major Companies assign “shadow price” – CDP - 2014*



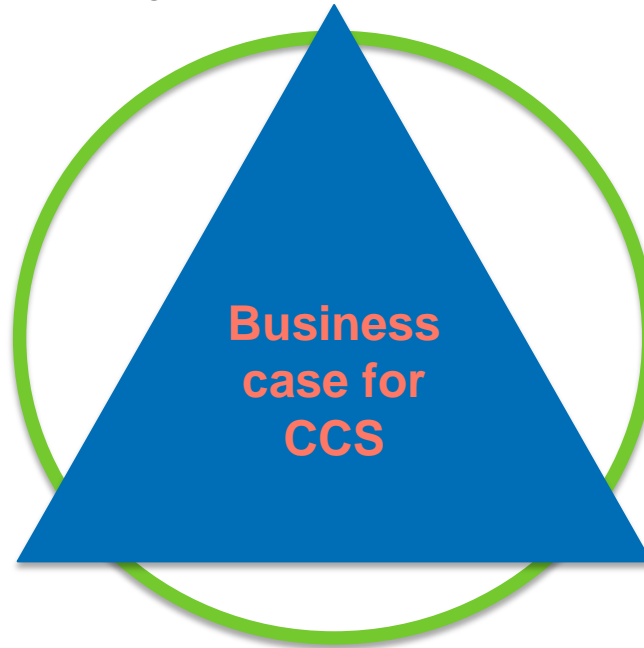
# Business case for CCS

## TECHNOLOGY

- Confidence that the technology will work
- Operational projects in power critical to positive perception of CCS and to gain experience.

## POLICY AND MARKETS

- Importance of CCS consistently acknowledged in global climate discussions, but
- CCS is not treated equivalently to other low-carbon technologies.



## UNDERSTANDING AND ACCEPTANCE

- Awareness and understanding of CCS is low, perception of it as 'experimental'
- Operational projects are key to turn this around.

Collaboration and aligning three pillars of the business case for CCS



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