



GLOBAL  
CCS  
INSTITUTE



# THE GLOBAL STATUS OF CCS

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China Australia Geological Storage of CO<sub>2</sub> (CAGS) Project

8 May 2013



## ABOUT THE GLOBAL CCS INSTITUTE

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The Global CCS Institute accelerates carbon capture and storage, a vital technology to tackle climate change and provide energy security.

- We advocate for CCS as a crucial component in a portfolio of technologies required to reduce greenhouse gas emissions.
- We drive the adoption of CCS as quickly and cost effectively as possible by sharing expertise, building capacity and providing advice and support to overcome challenges.
- Our diverse international Membership comprises governments, global corporations, small companies, research bodies and non-government organisations committed to CCS as an integral part of a low-carbon future.



# GLOBALY-CONNECTED MEMBERSHIP

## INSTITUTE MEMBERSHIP NUMBERS AND LOCATIONS TOTAL 374





# THE GLOBAL STATUS OF CCS: 2012

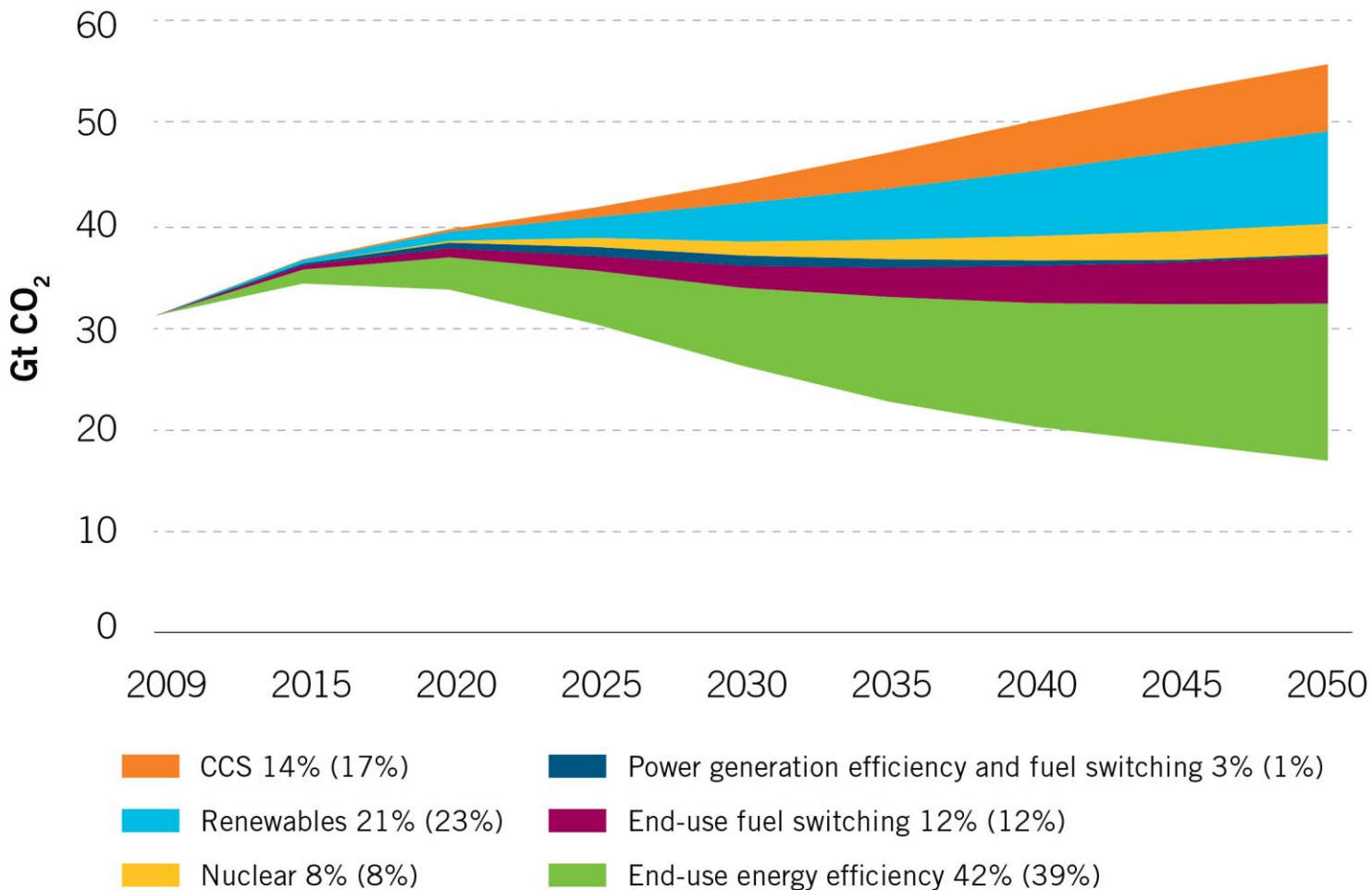
Key Institute publication



- Released October 2012.
- Comprehensive coverage on the state of CCS projects and technologies.
- Challenges and recommendations for moving forward.

# ACTION IS NEEDED NOW TO ENSURE CCS CAN PLAY A VITAL ROLE IN TACKLING CLIMATE CHANGE

Energy-related CO<sub>2</sub> emission reductions by technology



**SOURCE:** IEA  
**NOTE:** Percentages represent share of cumulative emissions reductions to 2050. Percentages in brackets represent share of emissions reductions in the year 2050.

# CCS IS ALREADY CONTRIBUTING, BUT PROGRESS MUST BE ACCELERATED

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## 8 operating projects:

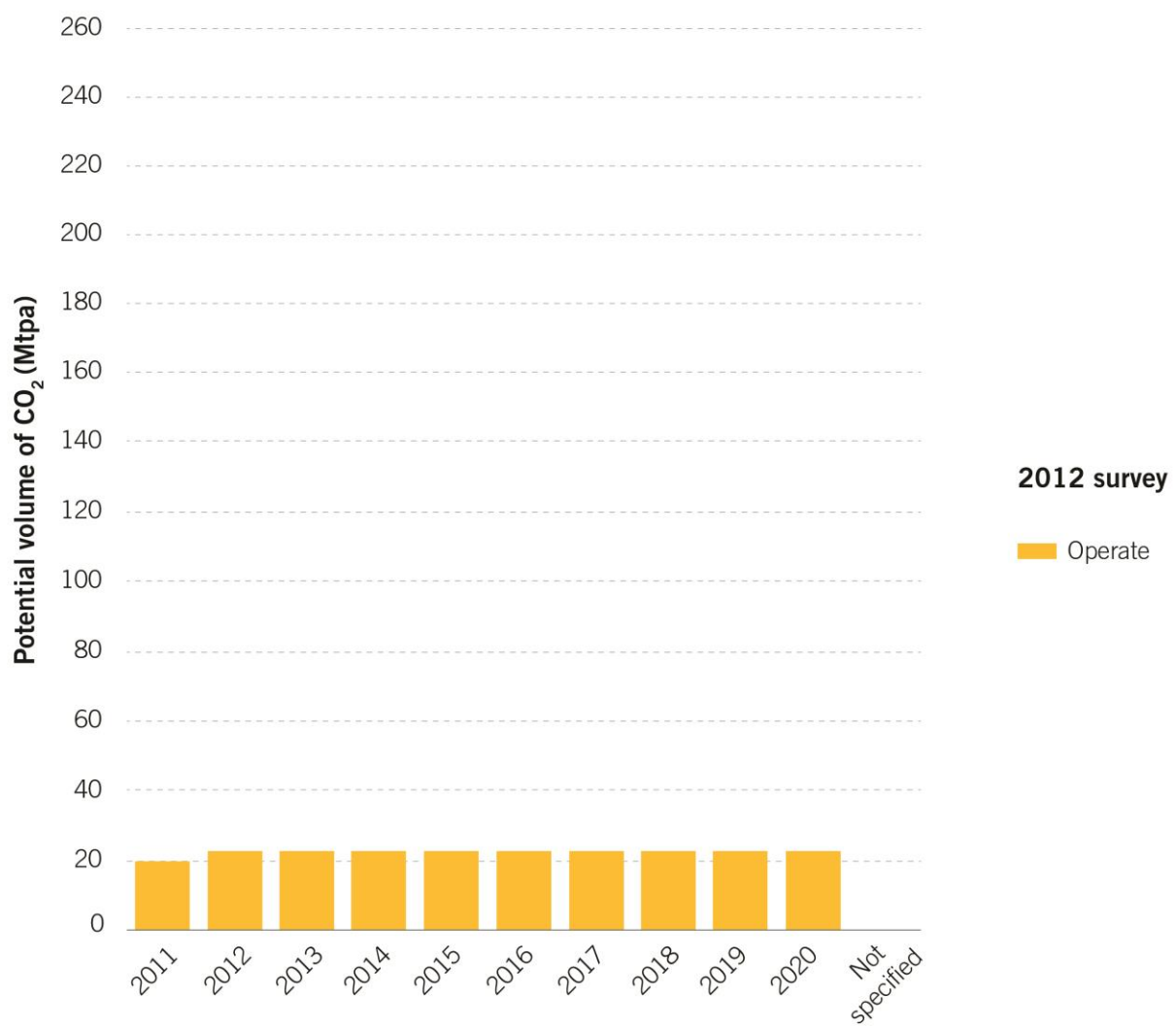
- 6 natural gas processing plants
- 1 fertiliser plant
- 1 synthetic natural gas plant

## 8 projects under construction (Execute):

- 2 electricity generation plants
- 2 natural gas processing plants
- 2 hydrogen plants
- 1 fertiliser plant
- 1 ethanol plant

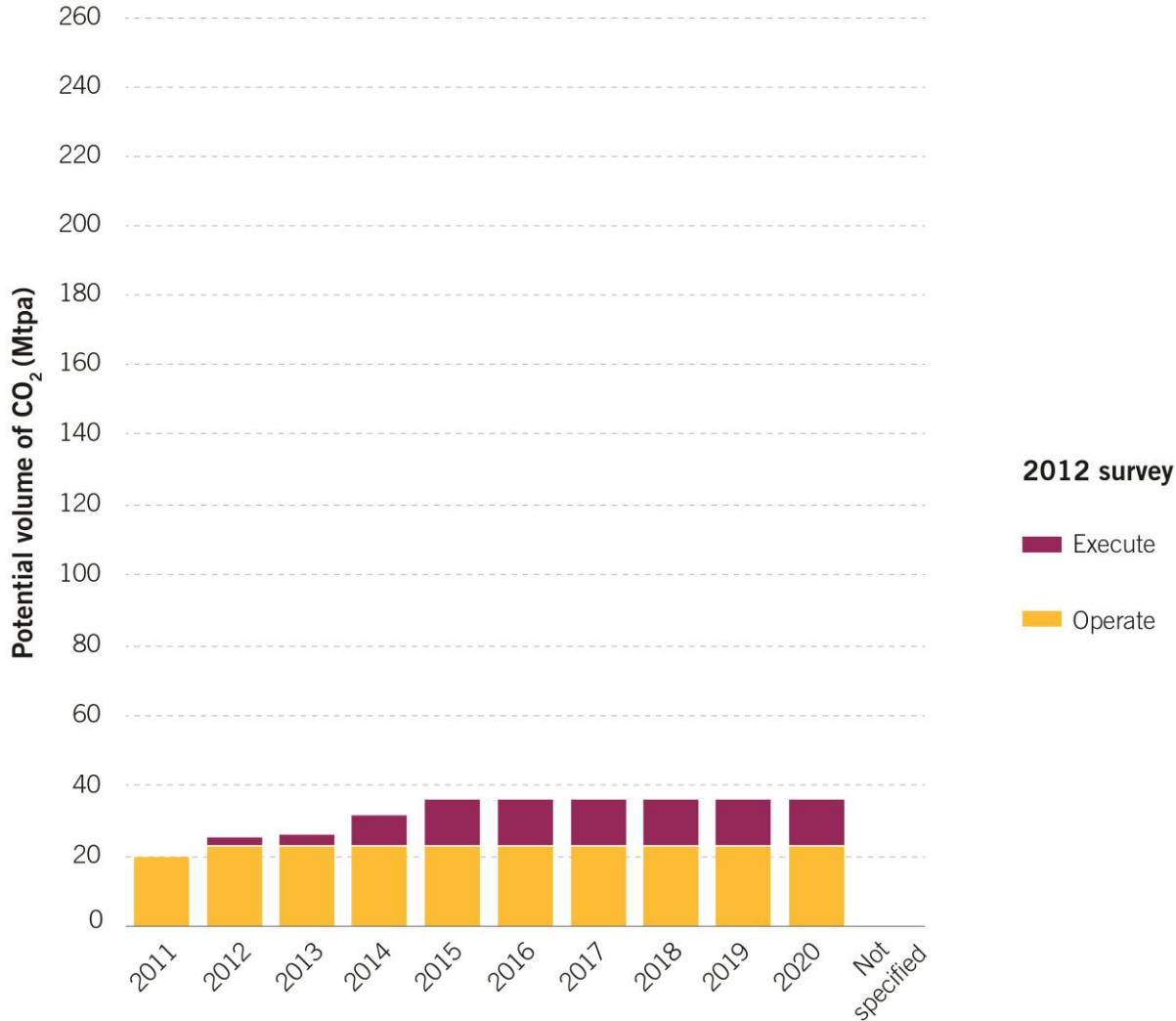
# CCS IS ALREADY CONTRIBUTING, BUT PROGRESS MUST BE ACCELERATED

Volume of CO<sub>2</sub> potentially stored by large-scale integrated projects



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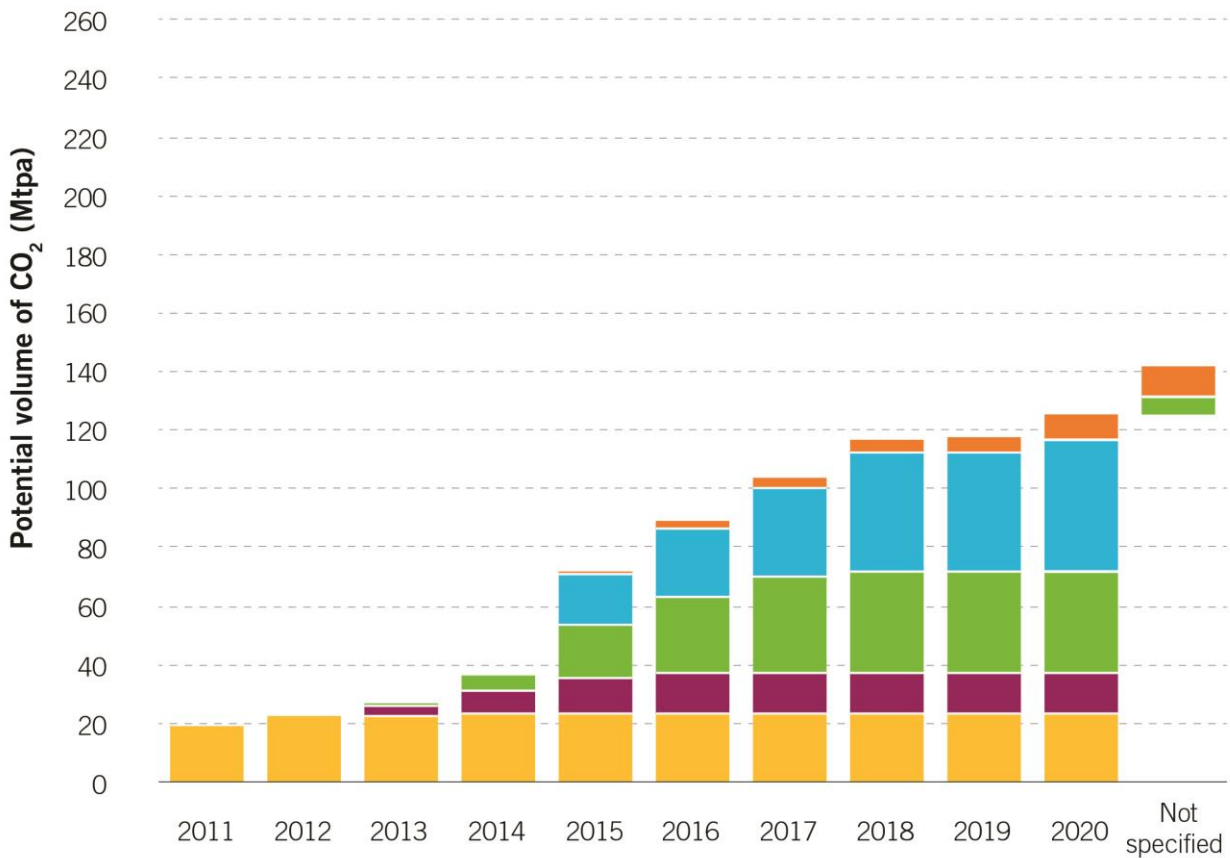
Volume of CO<sub>2</sub> potentially stored by large-scale integrated projects





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Volume of CO<sub>2</sub> potentially stored by large-scale integrated projects

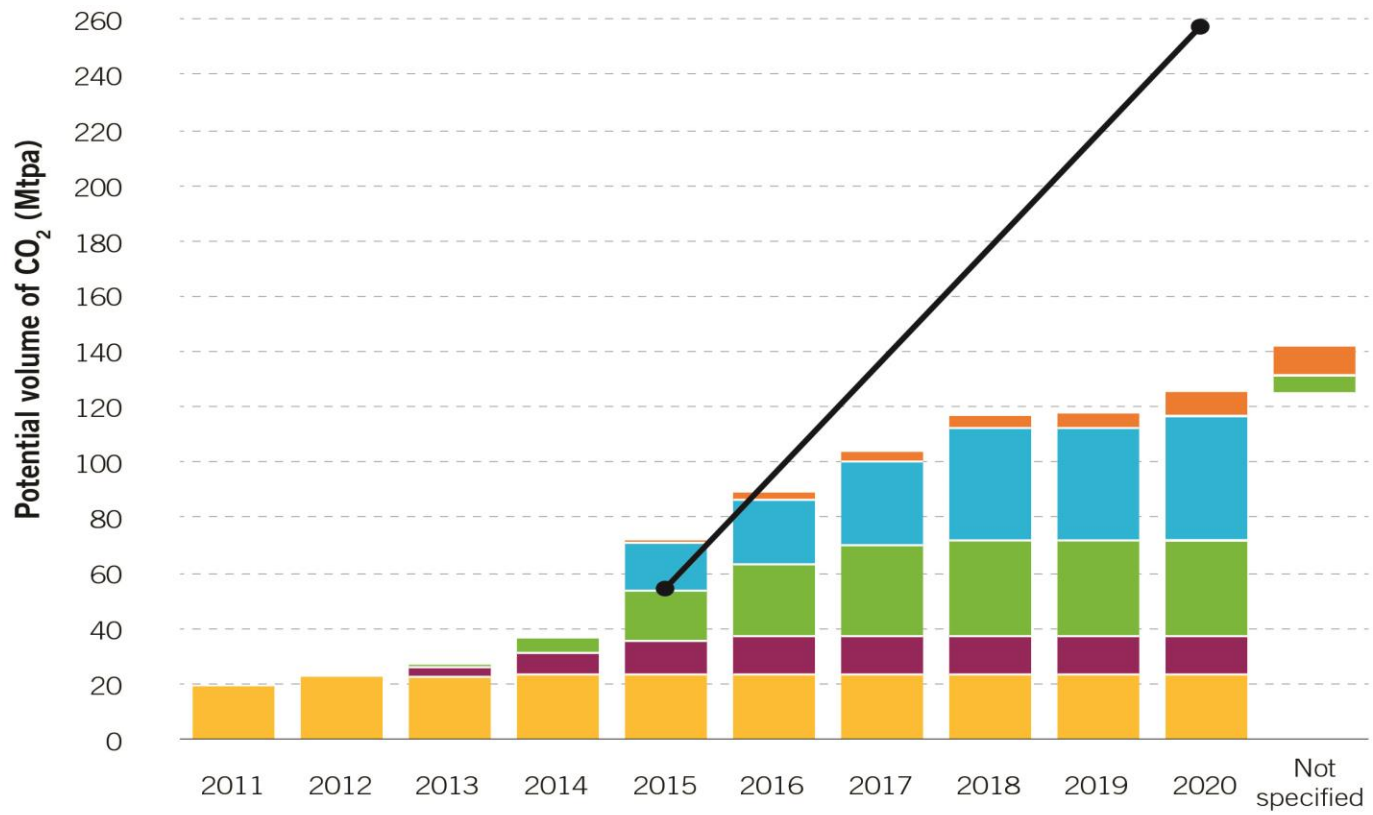


January 2013 Update

Identify Evaluate Define Execute Operate

# CCS IS ALREADY CONTRIBUTING, BUT PROGRESS MUST BE ACCELERATED

## Volume of CO<sub>2</sub> potentially stored by large-scale integrated projects

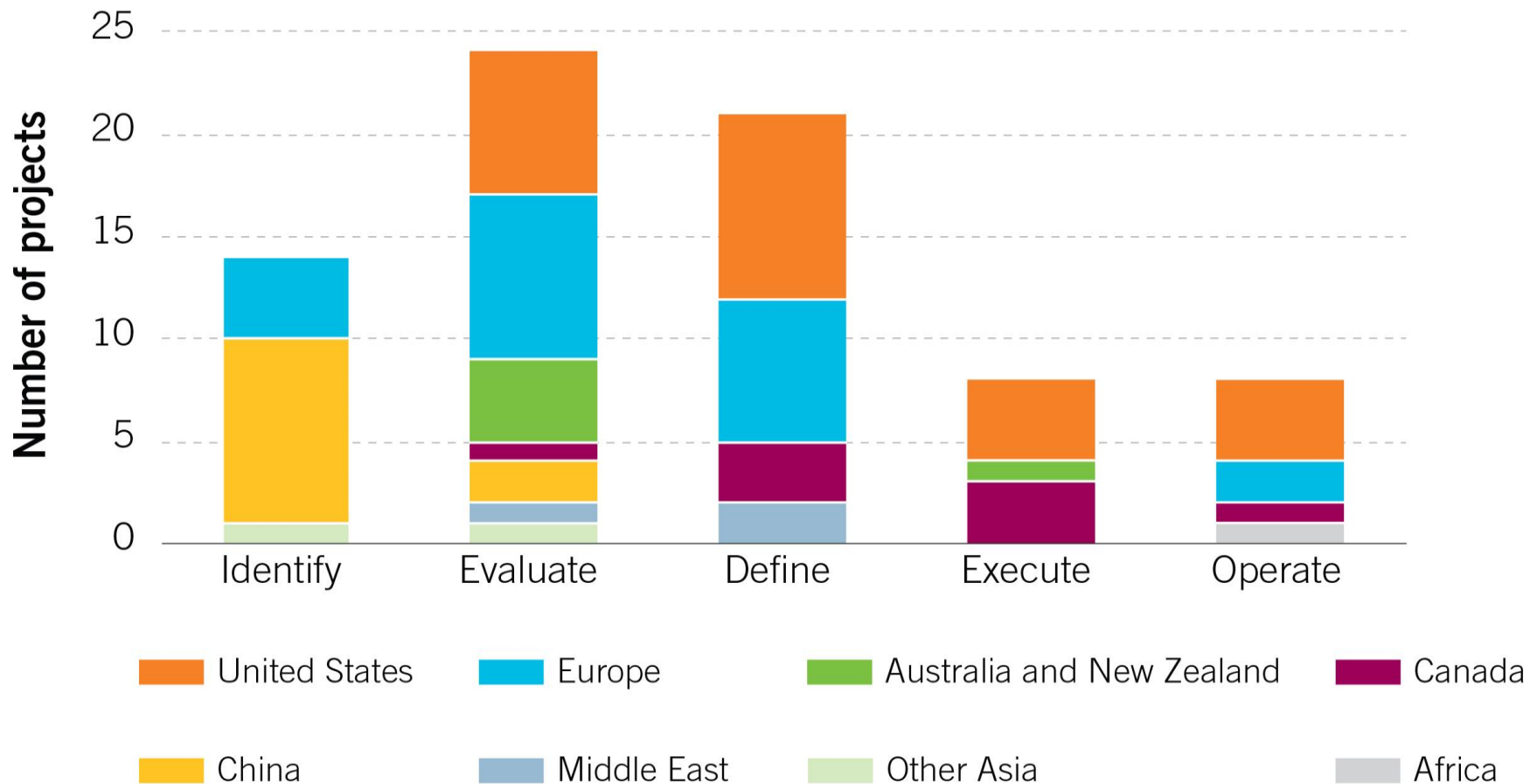


January 2013 Update



# CCS IS ALREADY CONTRIBUTING, BUT PROGRESS MUST BE ACCELERATED

Large-scale integrated projects by asset lifecycle and region/country



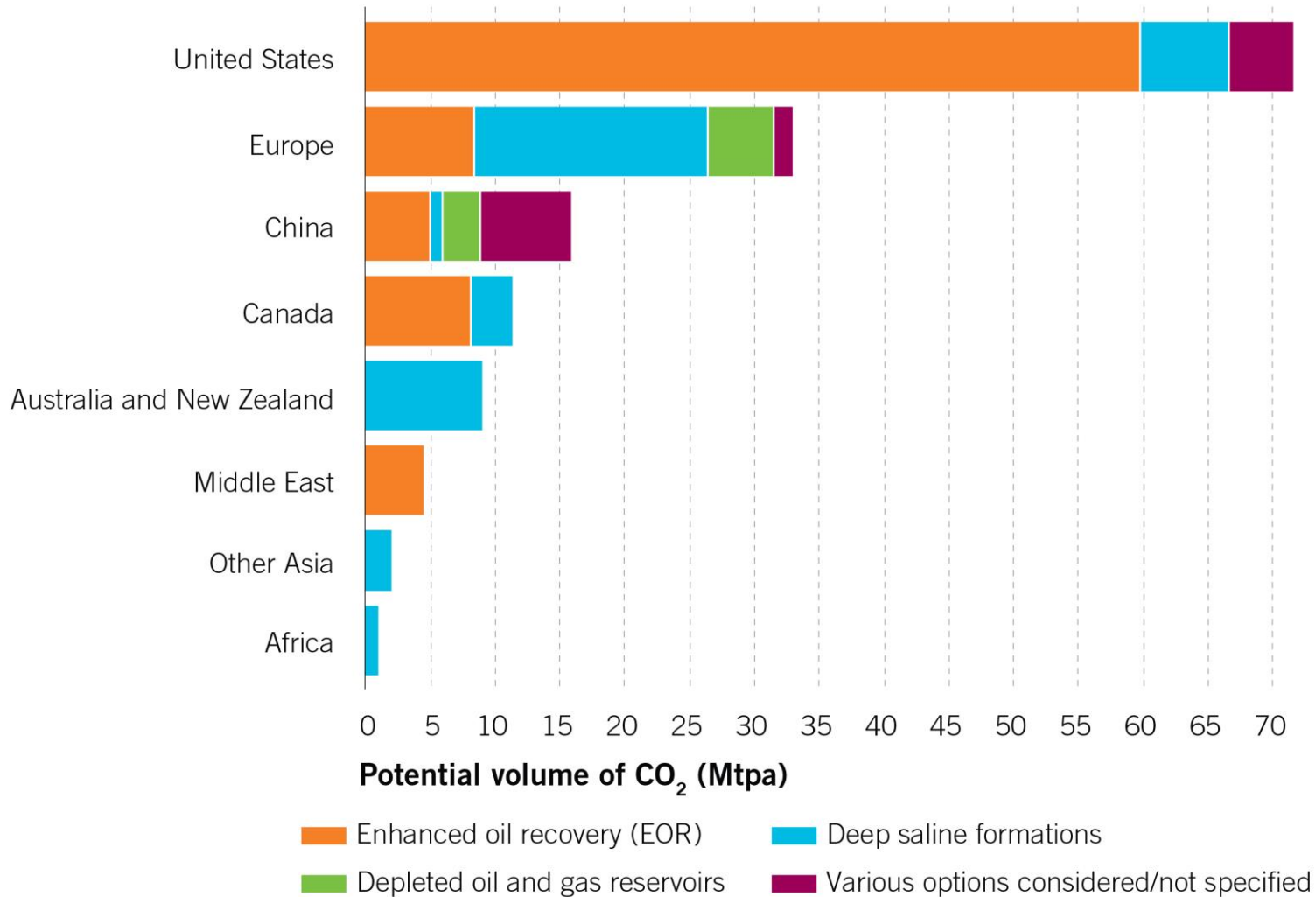
# STEADY PROGRESS BUT IMPORTANT DEVELOPMENTS

Large-scale integrated projects by asset lifecycle and year



# STEADY PROGRESS BUT IMPORTANT DEVELOPMENTS

Volume of CO<sub>2</sub> potentially stored by primary storage type and region



## ENCOURAGING POLICY SUPPORT BUT MORE REQUIRED

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- CCS in the Clean Development Mechanism (CDM) marks an exciting new era.
- Inclusion in the CDM enhances international recognition and encourages institutional arrangements needed to support CCS projects.
- UK taking leading role by implementing policies intended to drive CCS deployment beyond demonstration projects – addressing CAPEX and OPEX.
- International standards for CCS are being developed but this is likely to take time.

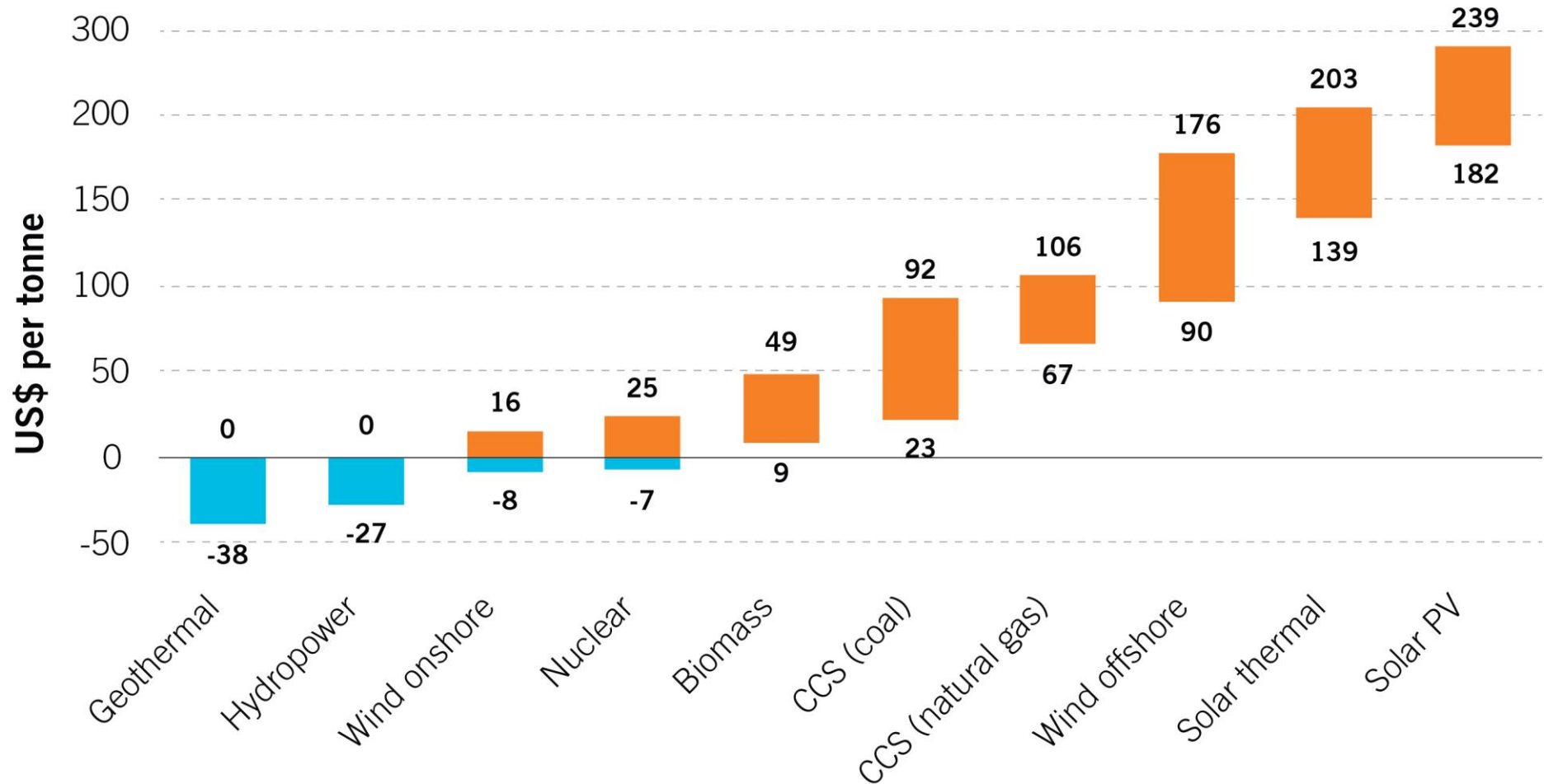
## BARRIERS MUST BE OVERCOME TO REALISE THE BENEFITS OF CCS

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- Storage site selection and characterisation is a lengthy and costly process.
- Early storage exploration is critical for many projects to proceed.
- Majority of perceived risk in CCS projects is often associated with storage.
- Public understanding of CCS remains low.
- Need to bring down the costs of CO<sub>2</sub> capture through technology developments and demonstration.

# BARRIERS MUST BE OVERCOME TO REALISE THE BENEFITS OF CCS

Costs of CO<sub>2</sub> avoided





# REDUCING THE COST OF TECHNOLOGY THROUGH DEMONSTRATION PROJECTS IS VITAL



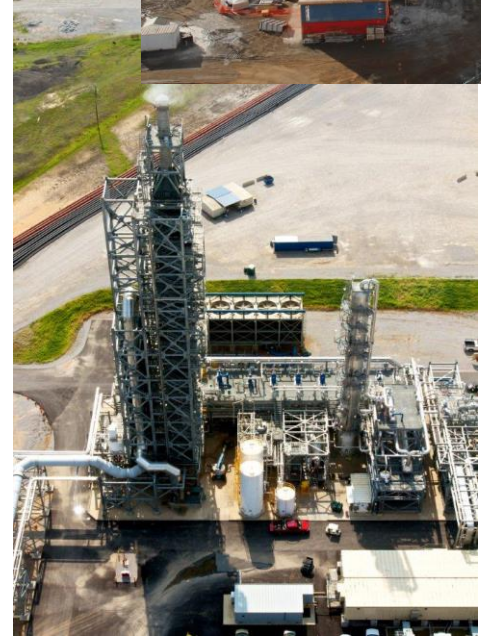
Quest, Canada



TCM, Norway



Boundary Dam, Canada



Plant Barry, US

## ACCELERATION OF CCS DEPENDS ON COLLABORATION AND KNOWLEDGE SHARING

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- CCS faces difficult and time-consuming challenges.
- Sharing knowledge gained is critical to accelerating the deployment of CCS.
- Collaboration and effort is required to increase the intensity and scope of knowledge sharing activities.

# 加强碳捕集和封存合作

Strengthening Cooperation on Carbon Capture and Storage

## 国家发展改革委应对气候变化司与全球碳捕集与封存 合作谅解备忘录签约仪式

Ceremony for the Memorandum of Understanding between  
Department of Climate Change, National Development and Reform Commission, P. R. China  
and  
Global Carbon Capture and Storage Institute

中国国家发展和改革委员会  
Department of Climate Change, National Development and Reform Commission, P. R. China



国家发展改革委应对气候变化司  
Department of Climate Change  
National Development and Reform Commission



全球碳捕集与封存研究所  
Global Carbon Capture and Storage Institute

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