



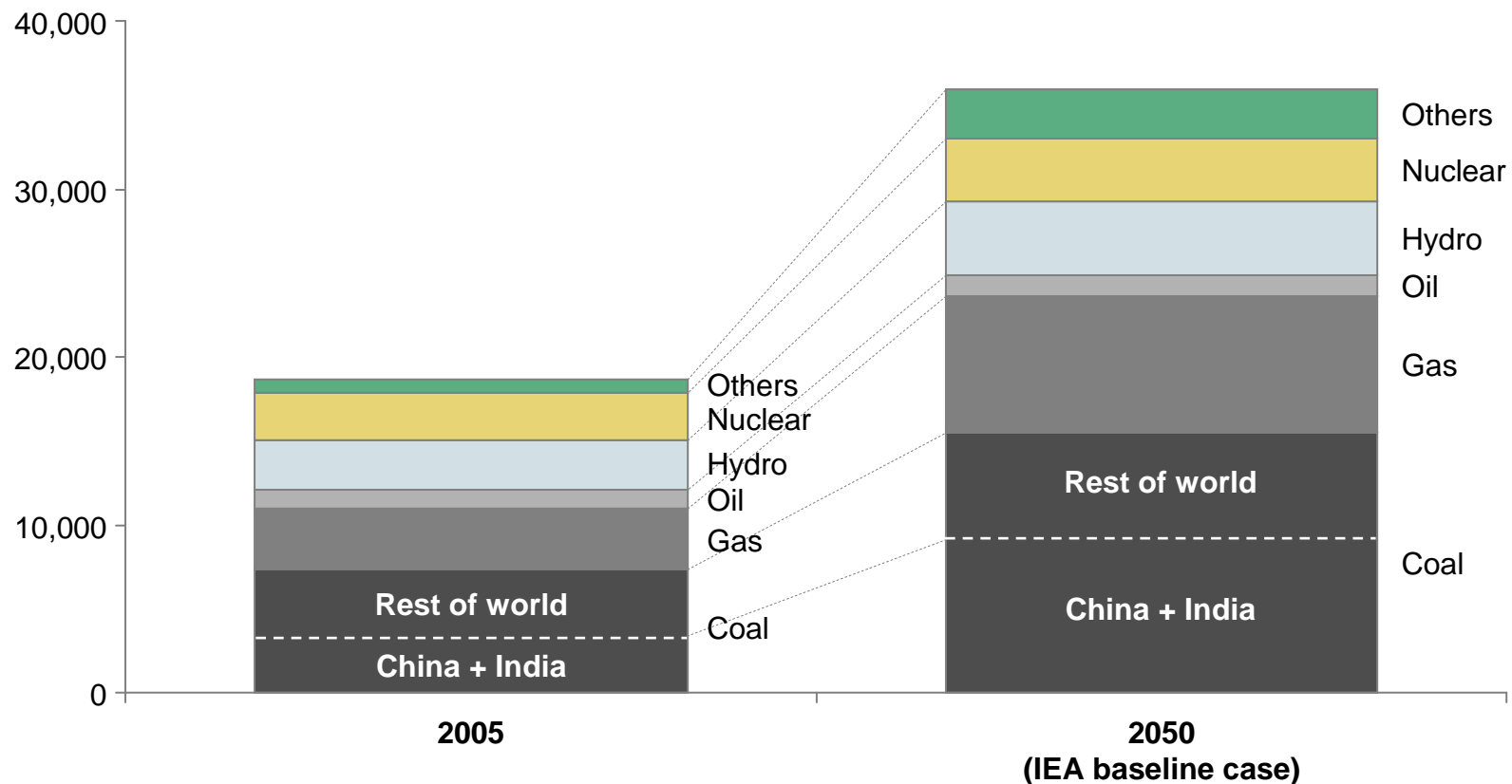
**Australian Government**

**Global Carbon Capture and Storage Initiative  
Grant Keys  
Australian Embassy  
Beijing**

13 May 2009

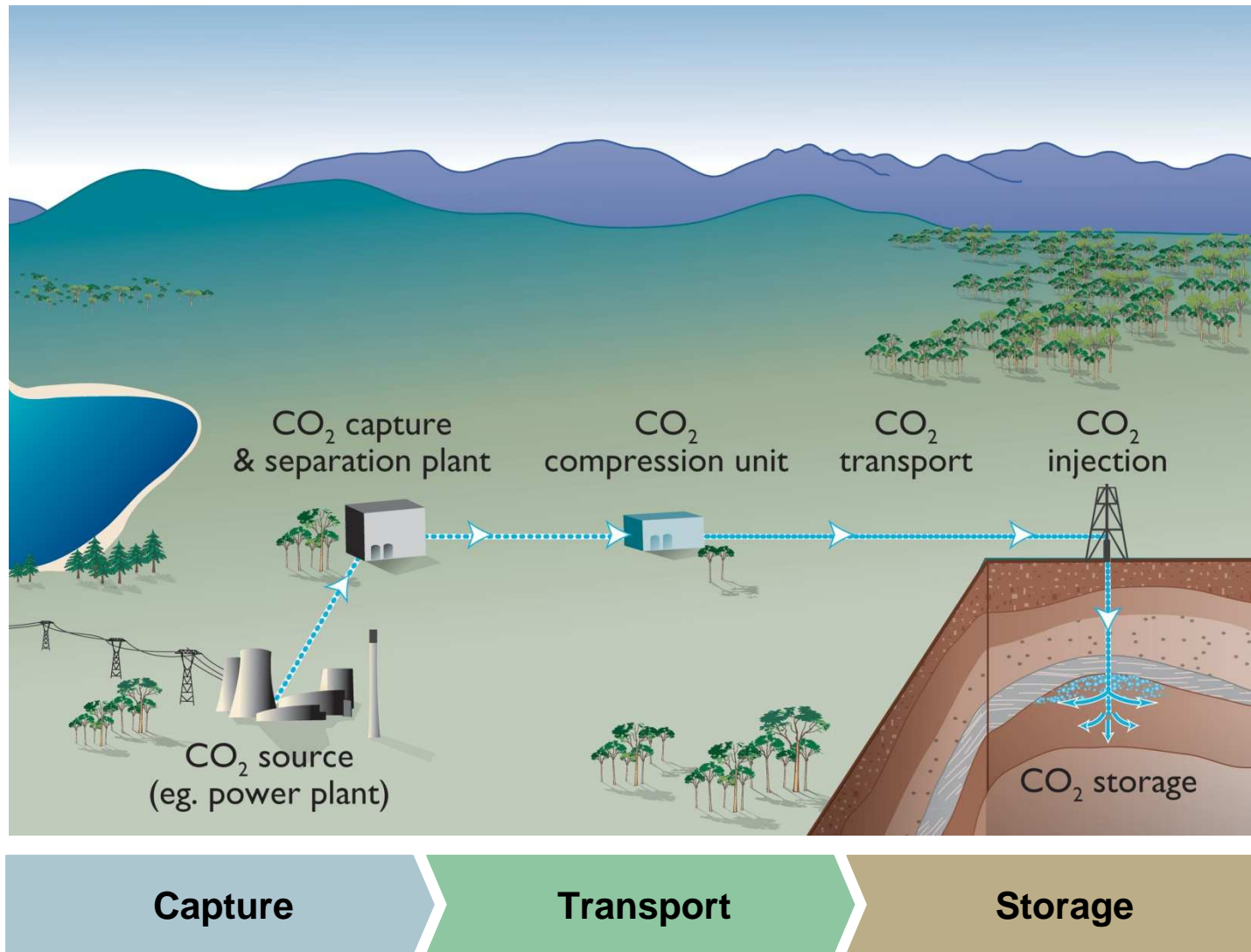
# Reducing emissions from coal-based power generation will be particularly important

Global electricity production  
(TWh / year, by fuel)



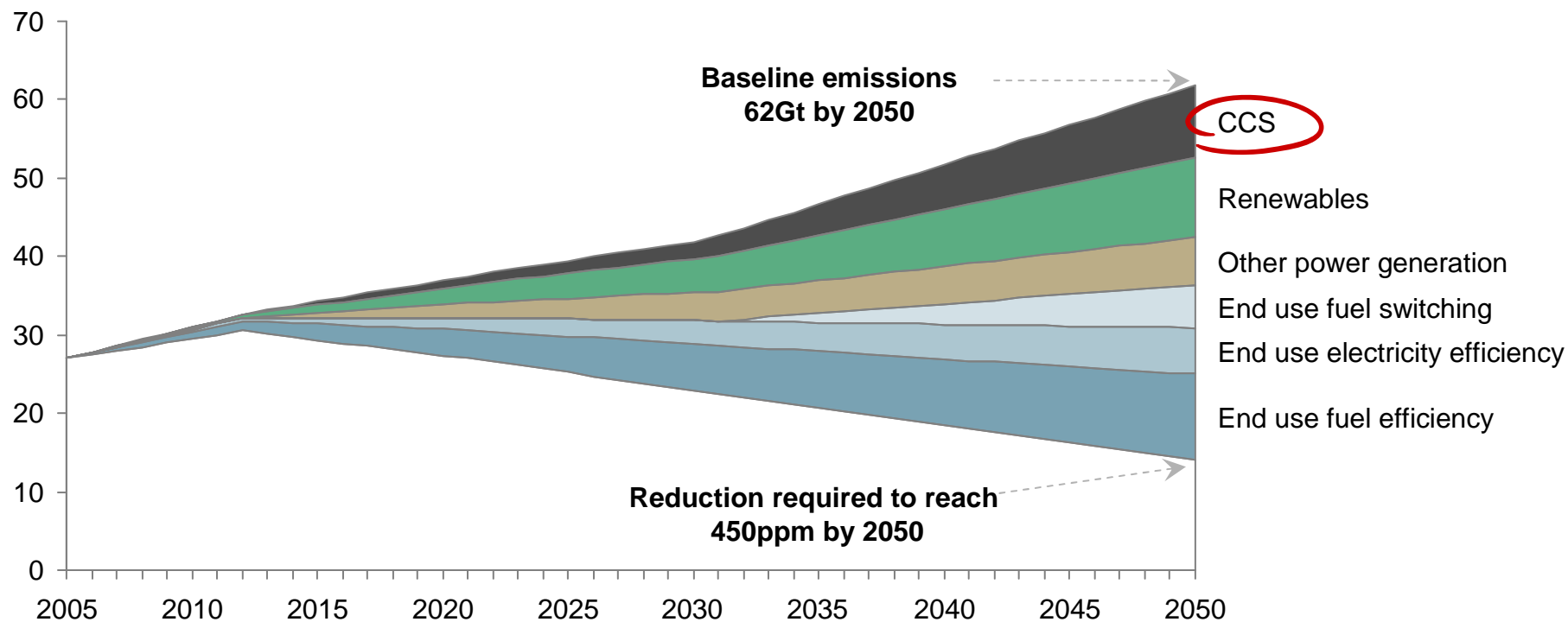
Source: IEA, Energy Technology Perspectives 2008; IEA, World Energy Outlook 2007

# Carbon dioxide Capture and Storage (CCS) involves capturing CO<sub>2</sub> and transporting it to underground storage



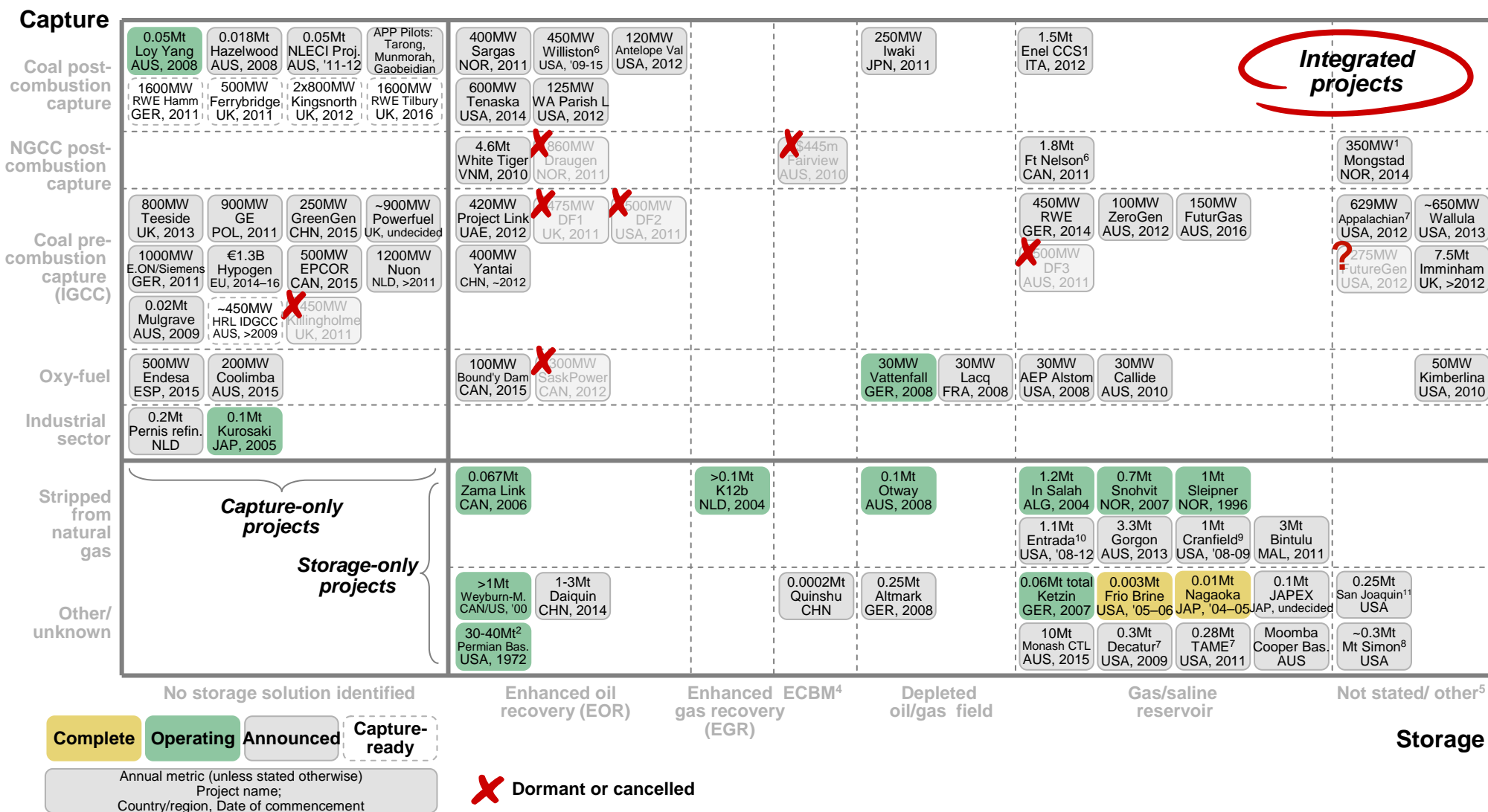
# CCS is needed as part of CO<sub>2</sub> reduction efforts

Contributions of global emission reduction options  
(Gt CO<sub>2</sub>)



**IEA projects that CCS will need to contribute nearly one-fifth of the necessary emissions reductions to reduce global GHG emissions by 50% by 2050 at reasonable cost.**

# Many integrated projects are needed for portfolio

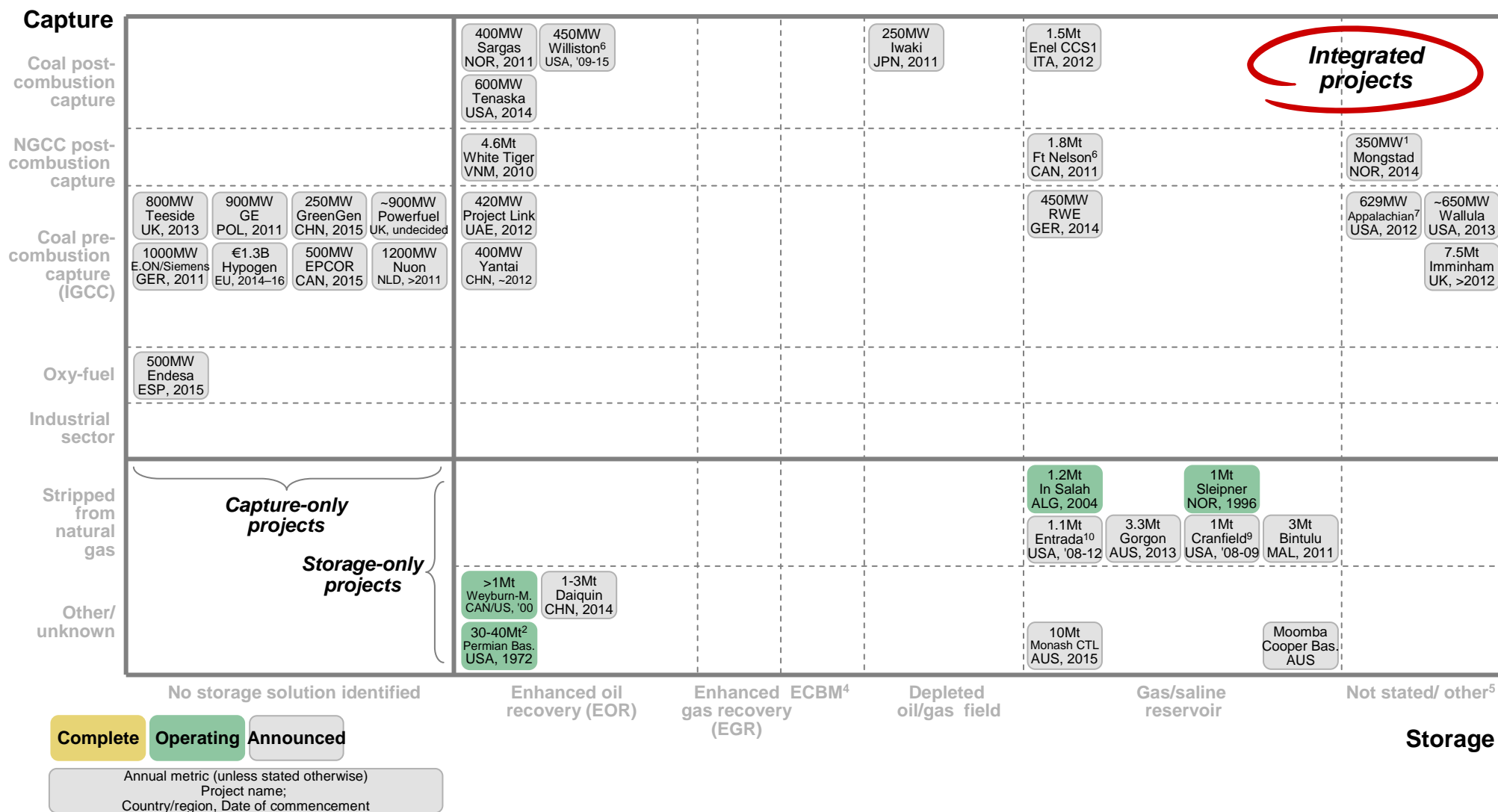


**Integrated projects**

1. "CHP with post-combustion CCS" 2. Permanency of storage is unclear 3. Potential EOR storage 4. Enhanced coalbed methane recovery 5. eg, Depleted coal seams 6. PCOR 7. MRCSP 8. MGSC 9. SECARB 10. SWP 11. WESTCARB. Source: IEA, *Fossil fuel-fired power plants and CO2 capture and storage*; CSIRO, *Australian CCS Commercial and R&D Projects*, 2007; Gassnova, *International CCS technology survey*; Carbon Capture and Sequestration Technologies @ MIT, <http://sequestration.mit.edu/tools/projects/index.html>; Gassnova *International CCS Technology Survey* 2008; RET interviews

# Many more industrial-scale projects needed

Projects of greater than 250 MW power generation or 1Mtpa CO2 storage



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# Growing Global Commitment

Recognition of the part CCS will need to play in the global response to global warming

*“we strongly support the recommendation that 20 large scale CCS demonstration projects need to be launched globally by 2010, with a view to supporting technology development and cost reduction for the beginning of broad deployment of CCS by 2020”*

*G8 Statement of June 2008*

## G8-IEA-CSLF



RESULTS FROM THE CALGARY WORKSHOP  
NOVEMBER 27 & 28 2007


3RD WORKSHOP

**NEAR-TERM OPPORTUNITIES  
FOR CARBON CAPTURE  
& STORAGE**

# Many national and international efforts underway

But none focused on facilitating demonstration projects globally

**1 International forums**



CS Leadership Forum


IEA Programs

**2 Supranational coordination bodies**



ETP-ZEP  
(EU CCS Platform)

**3 National coordination bodies**



Australian Government  
Department of Resources, Energy and Tourism

**4 Example private and/or academic consortia**



Australia

International Partners

## Asia Pacific Partnership (APP) on Clean Development and Climate.

Working together on such projects as:

- Post Combustion Capture Project at the Gaobeidian power station in Beijing
- Brown Coal Gasification power station in Australia's Latrobe Valley
- Strategic Workshops and Cooperative Research Arrangements
- Cooperative arrangements to support coal science research, skills development and exchange programs like the China-Australia CO<sub>2</sub> Geological Storage Assessment
- Enhanced coal bed methane
- Applied Coal Gasification Research and Development
- Application of solar thermal technology to support coal use
- Guidelines for Safe and Effective Carbon Capture and Storage: Building Regulatory Capacity

# The Global CCS Institute

## Mandate and Objectives

- **Acceleration of the global adoption of safe, commercially and environmentally sustainable CCS**
- **Drive co-operation to deliver a diverse portfolio of 20+ fully integrated industrial scale demonstration projects by 2020:**
  - Across a range of emitters
  - Across a range of technologies
  - Along the entire capture, transport and storage chain
- **Work in concert with existing bodies to overcome barriers to broad industrial scale deployment of CCS**
- **Be responsible for effective sharing of non-proprietary knowledge of CCS among shareholders and interested parties**

**The GCCSI is a global action**

## Background to the GCCSI

- Announced: 18 September 2008
- Funding: up to AUD\$100m pa
- Role: to accelerate the global deployment of 20 full scale CCS projects by 2020.
- Consultation: London Preparatory Meeting November 2008 (broad scale support).
- Launch: 16 April 2009 (85 Foundation Members announced)
  - Governments: 24 national and state
  - Industry: 42 coal, oil, gas, electricity, technology
  - Institutions: 3 finance, 16 industry group/research
- Collaborating agreements with IEA, World Bank and Asian Development Bank

**Founding membership open until 30 June 2009**

# Next Steps for the GCCSI

**Foundation of GCCSI as a corporate entity, headquarters in Canberra.**

**Establishment of GCCSI initial Board.**

**Recruitment of permanent CEO.**

## **Business `build`:**

- Staff/secondments
- Processes/ rules of engagement`
- Funding agreement with Australian Government.

## **Work Program**

- Driving development of CCS demonstration projects
- Supporting CCS uptake globally
- Building CCS capability.

# Current Status

It is still early days for the GCCSI

Interim team of 25 established on 2<sup>nd</sup> February 2009 to :

- Set the `trajectory` for the new Institute into the future
- Define an initial work programme to establish the basis for the activity of the GCCSI in the context of a longer term time frame
- Continue to attract participating countries, companies and organisations and manage their engagement
- Prepare the way for the permanent team through the establishment of a legal and physical entity
- Provide input into the important international actions of 2009

## **Lessons learned so far**

**The GCCSI has a significant role to play in the development demonstration and deployment of CCS Projects.**

**However, co-operation and collaboration with existing national and international clean energy initiatives will be essential.**

**Each international initiative has a role to play in ensuring that CCS is deployed worldwide and at industrial scale by 2020.**

**Australian policy initiatives, programs and demonstration projects are making a major contribution to the development and accelerated deployment of CCS technology.**

## Further Information – Australian Government

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## Further Information - GCCSI

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