Australian
Coal Association

Low Emission Coal Technology: Australian Industry Perspective

Australia-Japan Coal Workshop

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Carbon Capture & Storage: A key technology for Australia

- CCS a strategically important technology for Australia:
  - Over 90% of our electricity from fossil fuels
  - World's largest exporter of coal ($55B in 2008-09)
  - Set to become a major LNG exporter
- Coal will remain a major part of the Australian energy mix for the foreseeable future - around 43% in 2030 (ABARE)





A Cost-Competitive Technology Option

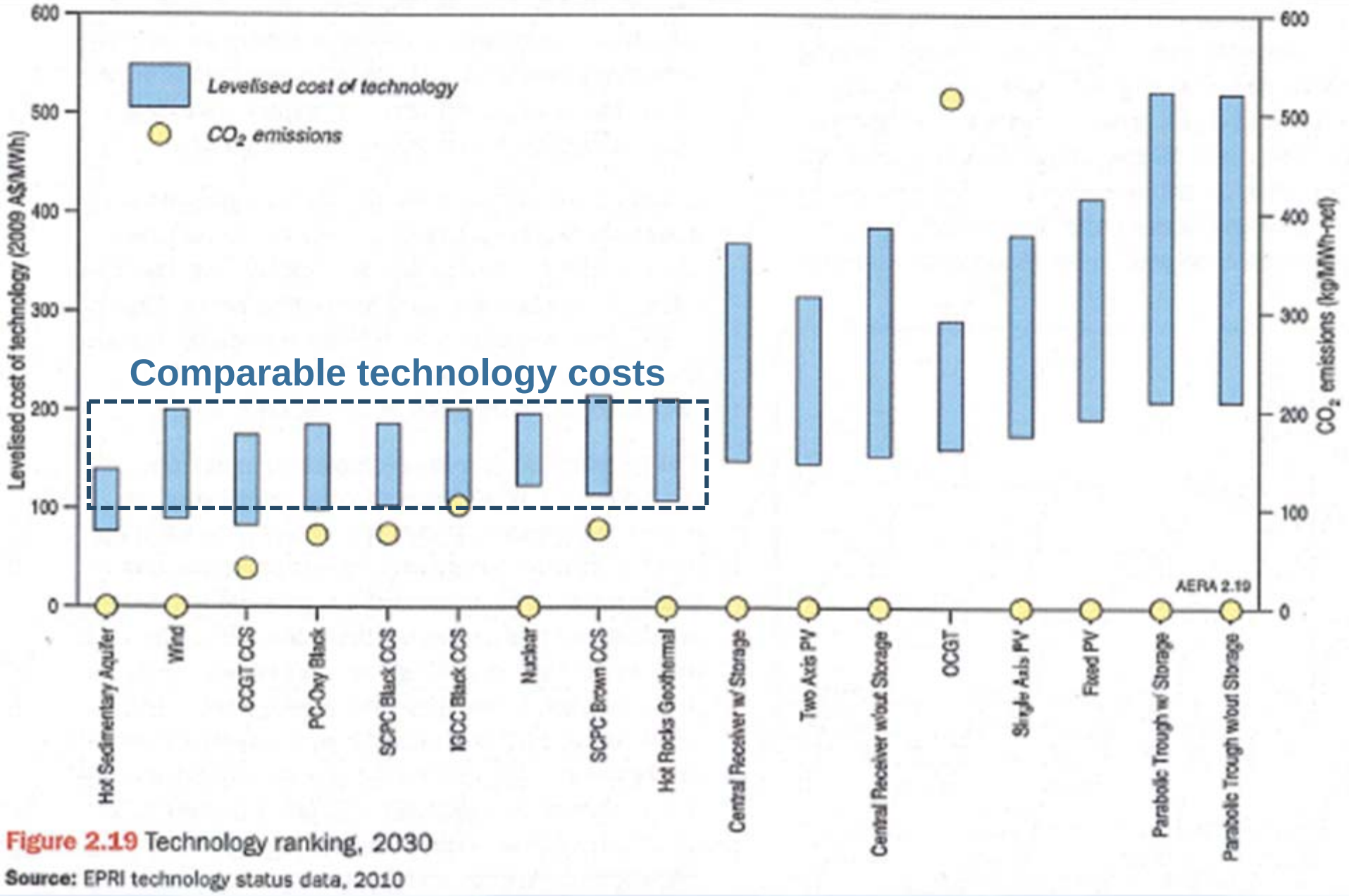
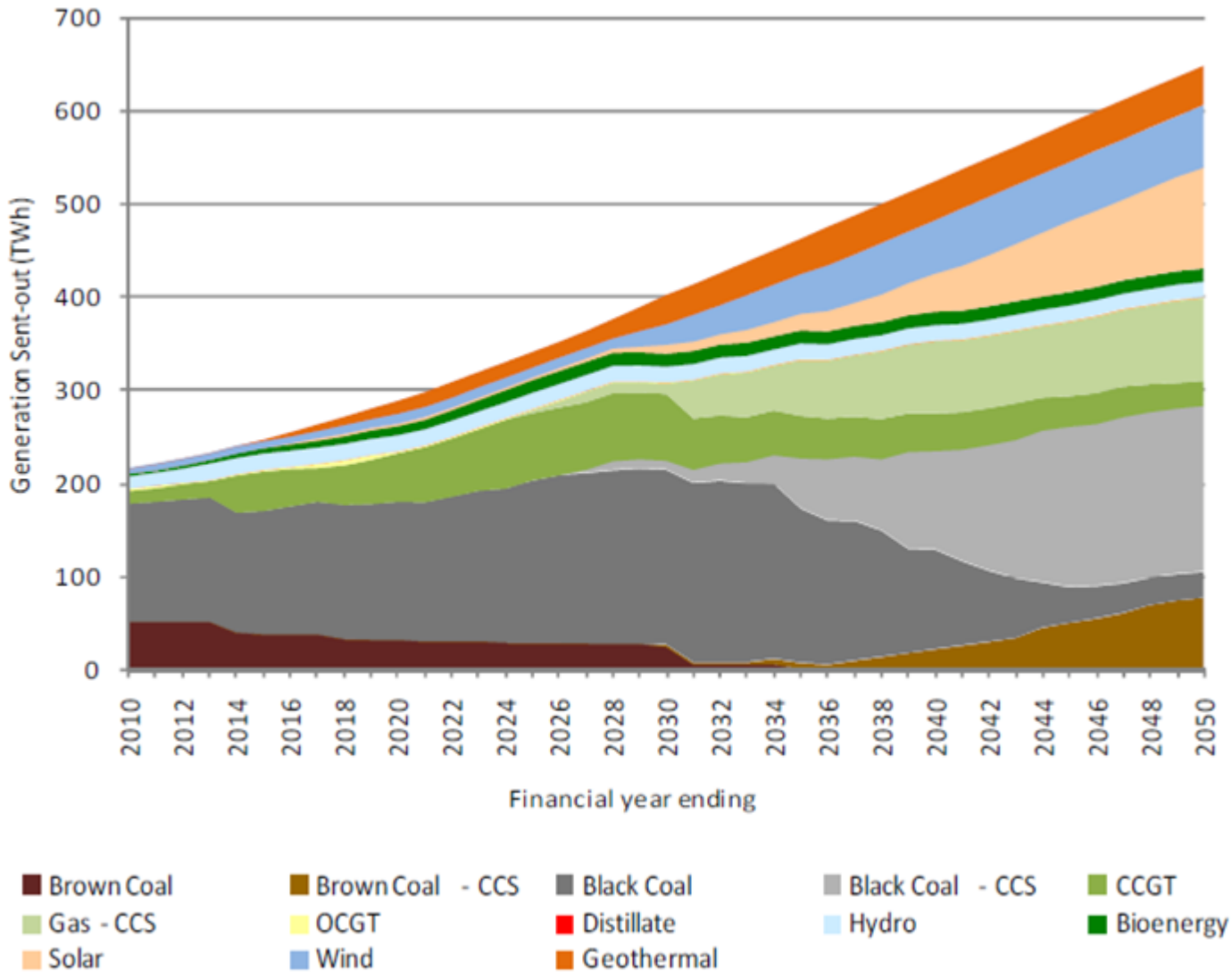


Figure 2.19 Technology ranking, 2030

Source: EPRI technology status data, 2010

A Scenario for CCS Deployment - 2050



IES Scenario Modelling for the Energy White Paper: Scenario 1 (Fast Rate of Change); Medium Carbon Price

Coal Industry Contribution to CCS

- COAL21 National Action Plan launched 2004
- COAL21 Fund established 2006
  - **$1 billion over 10 years**
  - Black coal producers
  - World-first voluntary fund
- Coal industry participation in:
  - National Low Emissions Coal Council / National CCS Council
  - Carbon Storage Taskforce
  - CO2CRC, ANLEC R&D
  - Global CCS Institute

Summary of Funding Commitments

(March 2011)

	Project	Funding Commitment
Queensland	ZeroGen IGCC with CCS	$46.2m
	Wandoan IGCC with CCS	$14.3m
	Callide Oxyfuel Project	$67.9m
	Qld Geostorage Initiative	$20.0m
	Remainder of IGCC Project Commitment	$239.5m
New South Wales	Delta PCC Project (Scoping & Delivery)	$9.4m
	NSW Storage (*in-principle*)	$18.1m
	Remainder of PCC Project Commitment	$40.6m
National	Australian National Low Emissions Coal R&D	$75.0m
	CO2CRC and Otway Project	$2.5m
	NewGenCoal Communications	$5.0m
	TOTAL:	**$538.5m**

CCS Technology Demonstration in Australia: Current Status

- Smaller scale demonstrations progressing, including:
  - Callide Oxyfuel – *due to commence capture operations 2011*
  - Delta Post Combustion Capture
  - CO2CRC Otway storage trial
- Industrial-scale demonstrations:
  - 4 projects shortlisted under $1.8bn CCS Flagship Program
  - Gorgon LNG project will commence CO_2 storage operations 2016



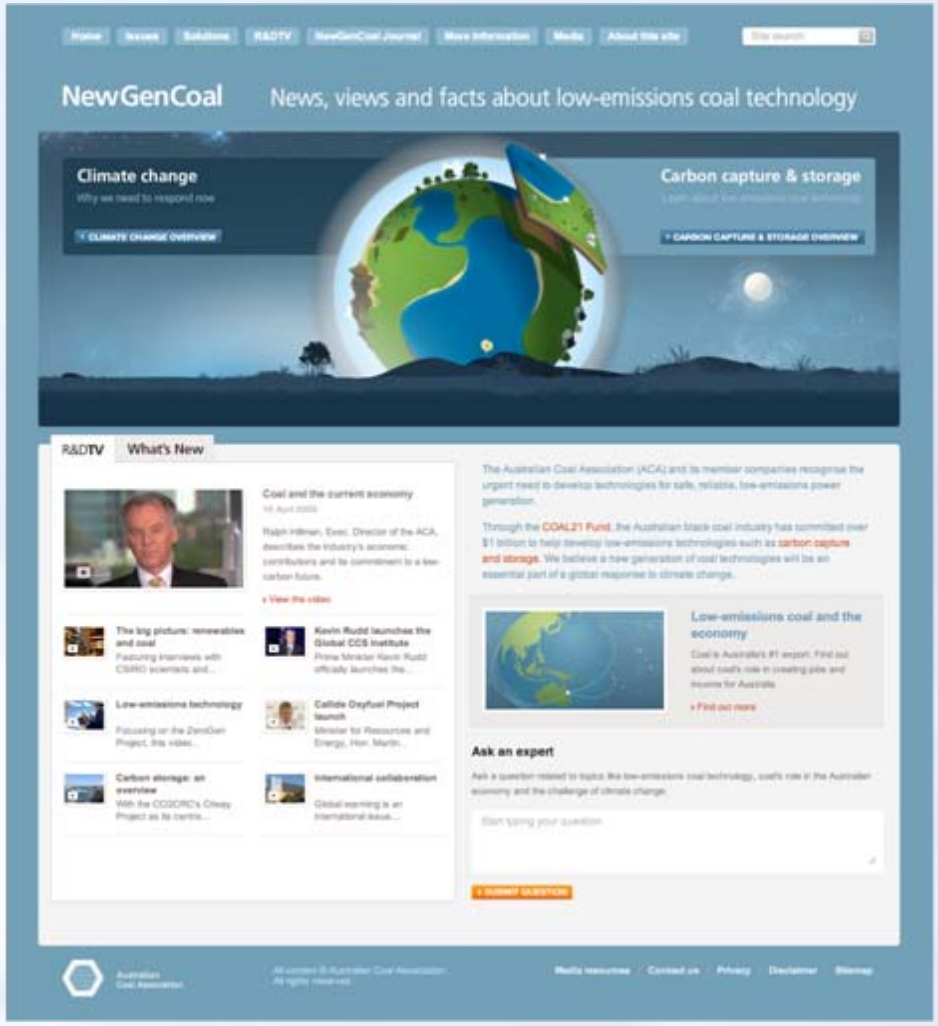
CCS Flagships: Lessons from 2010

- **Storage is critical**
  - Identification and assessment of storage is key to project deployment timeframes
  - Storage must be the immediate funding priority
- **Project costs are higher**
  - Original project cost estimates of $3-4 billion for a new build, first-of-a-kind power generation plant with CCS now appear conservative
- **Deployment timeframes are longer**
  - The aspirational 2015 target for a fully-integrated, commercial-scale demonstration now appears unrealistic

Coal Industry Priorities

1. CO_2 Storage Identification and Development
   - Assessment of large-scale storage in the Surat Basin, QLD
   - Completion of a national, pre-competitive storage exploration program
2. Continuation of the current demonstration portfolio;
3. Additional funding for commercial-scale, integrated CCS demonstrations from 2013-15;
   - Including a mechanism to address higher operational costs for these demonstrations competing in the NEM
4. National public education and awareness program; and
5. Finalisation of legislative and regulatory frameworks.

THANK YOU



For more information please visit:

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