Australian
Coal Association

# Coal – what role in the energy sector's transition?

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## Outline of presentation

1. Coal's importance to Australia and Queensland
2. Coal's changing share in the energy mix
3. Transitioning to low emissions coal technologies

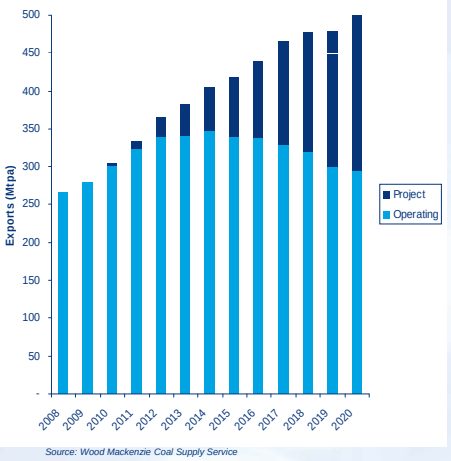
# COAL'S IMPORTANCE TO AUSTRALIA AND QUEENSLAND

- Australia is the world's largest coal exporter
- Coal is our biggest commodity export - A$50 B in 2010/11 (forecast)
- Coal provides 76% of our electricity needs
- Queensland is the largest coal exporter by value in the world.
- In 2009-10 Queensland produced 205 Mt and exported 183 Mt (87% exported) earning $24.4 billion
- Today: Queensland has 33 billion tonnes of coal reserves
- Coal provides around 68% of Queensland's electricity



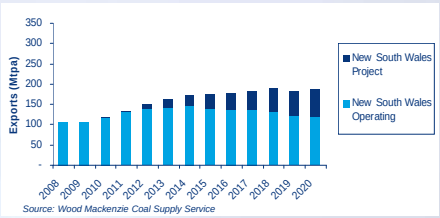
# Australia's coal exports projected to grow

**Australian Coal Exports – by Mine Status**



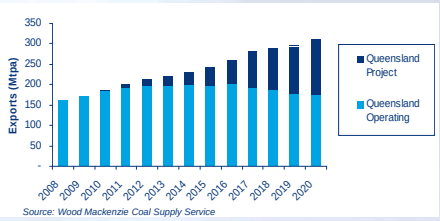

*Source: Wood Mackenzie Coal Supply Service*

**New South Wales Coal Exports – by Mine Status**




*Source: Wood Mackenzie Coal Supply Service*

**Queensland Coal Exports – by Mine Status**




*Source: Wood Mackenzie Coal Supply Service*

Wood Mackenzie

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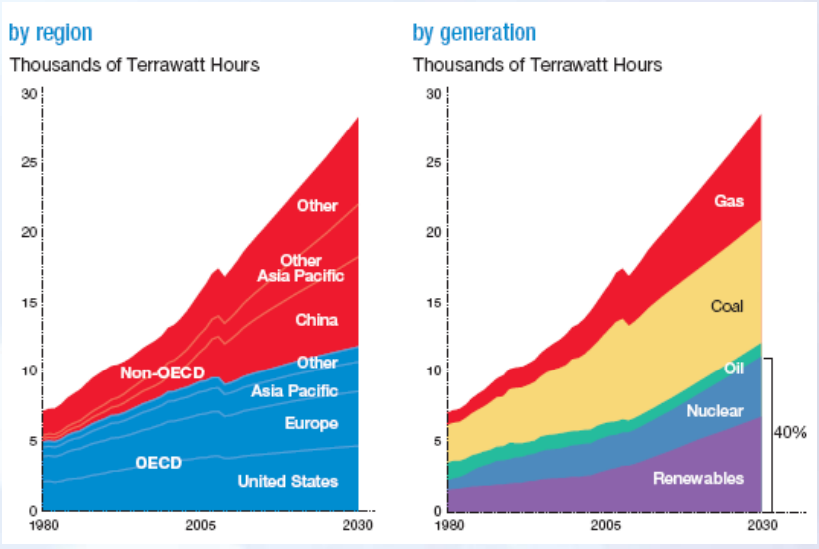
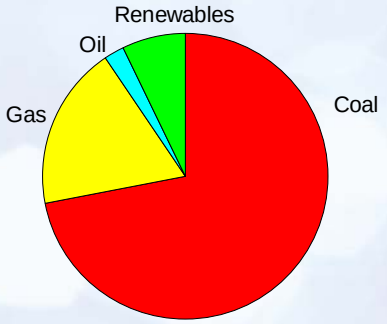
## ENERGY GENERATION DEMAND



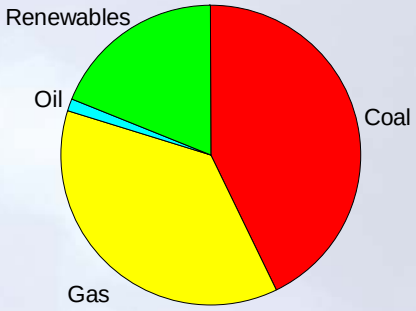

**Source:** ExxonMobil, December 2009

# Australia's electricity generation by fuel type

2007-08




2029-30




**Source:** Geoscience Australia/ABARE, 2010

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Source: ABARE, *Australian Energy Projections to 2029-30*, March 2010

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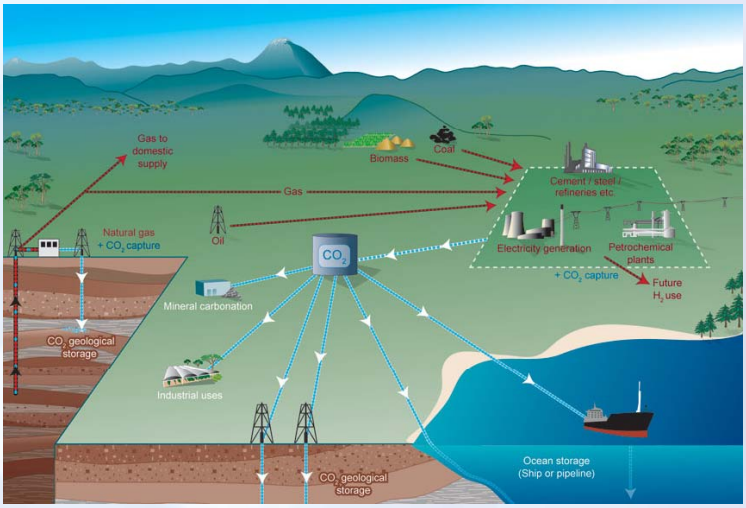
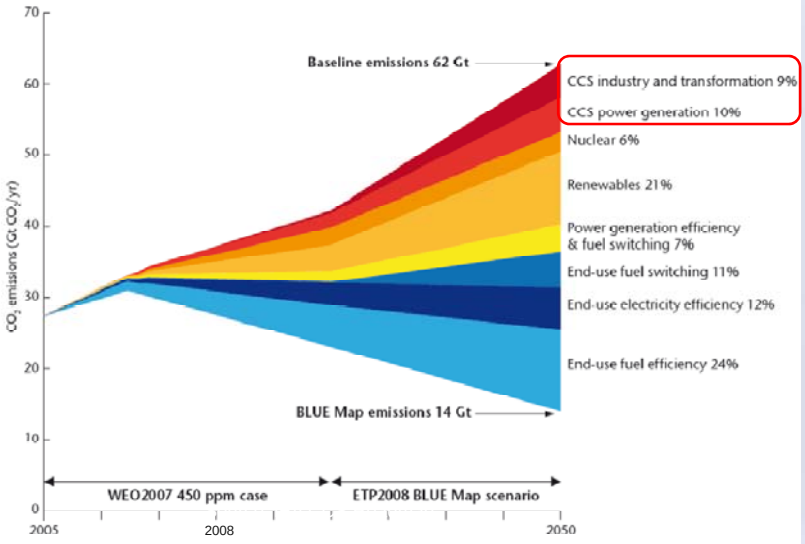
# $CO_2$ capture and storage system




**Source**: Cooperative Research Centre for Greenhouse Gas Technologies CO2CRC

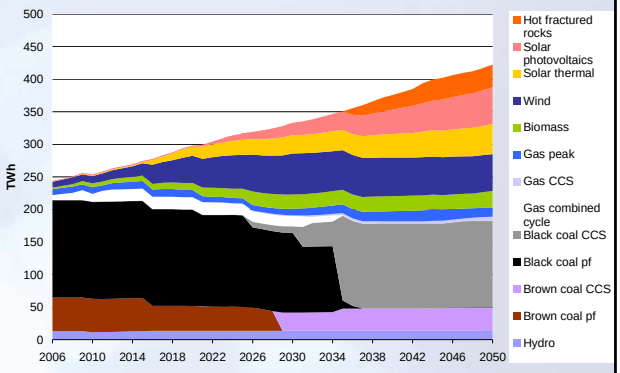
# Why Carbon Capture and Storage?




**Source**: International Energy Agency

# CCS: An Essential Part of the Technology Portfolio

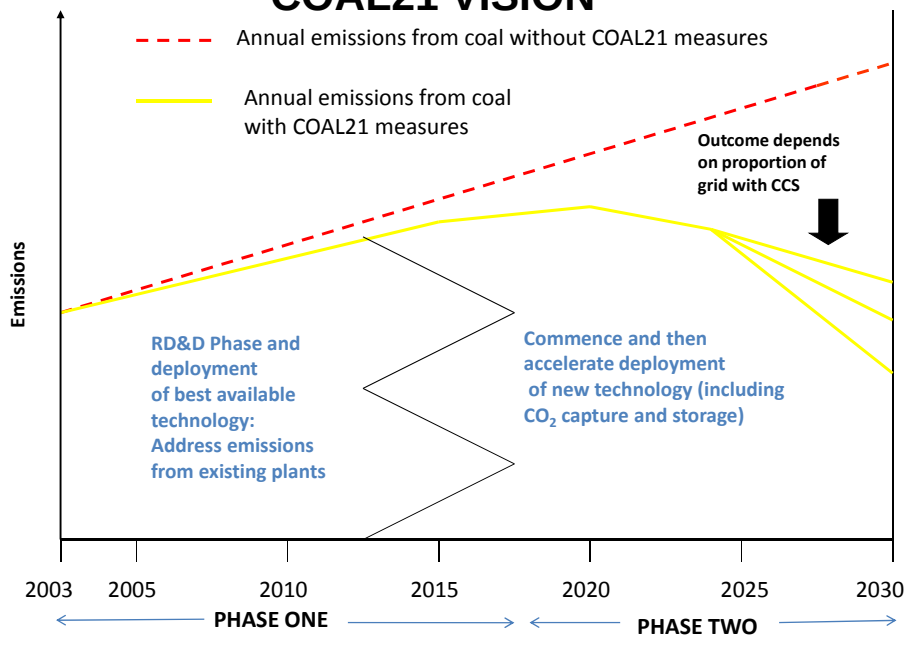
- All technologies will be required to meet growing energy demand while reducing emissions.
- CCS strategically important for Australia in meeting its GHG reduction targets
- Australian CCS projects must be integrated with an international effort to demonstrate and deploy this technology




**Projected Australian electricity generation portfolio under CPRS-5 (Source: CSIRO)**



# COAL21 VISION

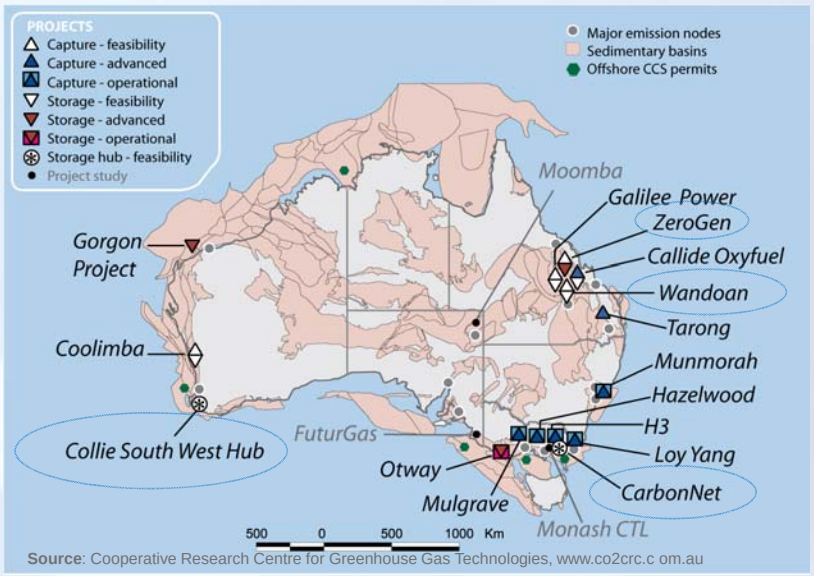


## What Australia is doing to develop low emissions coal technologies

1. Legislative framework
2. Proving up storage sites
3. R&D on capture technologies and pipeline requirements
4. Demonstration and pilot scale projects
5. Supporting commercial scale projects
6. Knowledge sharing both domestically and taking advantage of all international collaboration



## 5. Commercial scale projects




**Source**: Cooperative Research Centre for Greenhouse Gas Technologies, www.co2crc.c om.au

## 6. Knowledge sharing and integrated with G8 goal of 20 CCS demos by 2020

- Crucial to development and deployment:
  - Nationally: projects receiving government funding will have strong knowledge sharing obligations
  - Internationally: Australia participates in regional and global activities to foster and accelerate knowledge sharing:



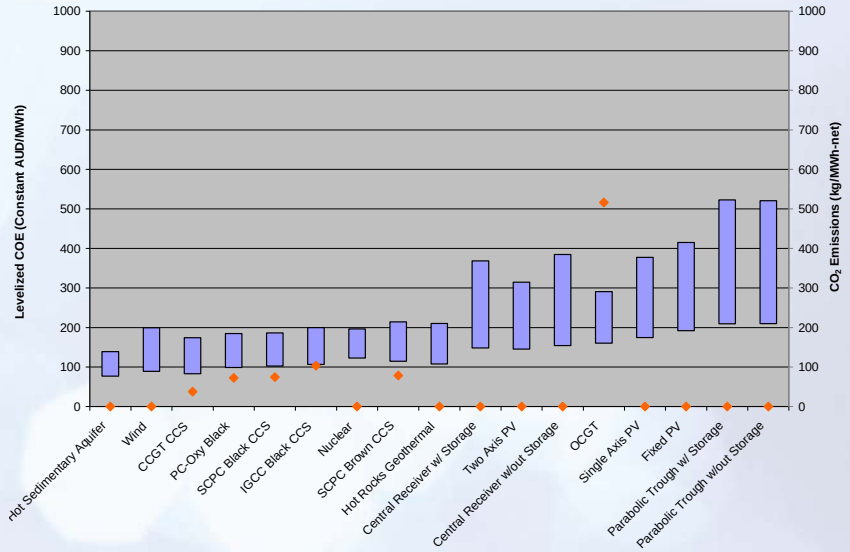

## CCS Policy: The Missing Links

- Australian and State Governments and industry have made a significant commitment to CCS to date.
- However, additional action is required urgently if we are to successfully demonstrate CCS at commercial scale by 2015:
  - a pre-competitive storage exploration program, as recommended by the CSTF;
  - finalisation of legislative frameworks for storage by end 2010;
  - a transitional, market-based mechanism to 'pull-through' CCS investment; and
  - a comprehensive national CCS communications strategy.

# THANK YOU


**For more information please visit: www.newgencoal.com.au**

# CCS: A Cost-Competitive LE Technology




**AUSTRALIAN ENERGY RESOURCE ASSESSMENT**

Source: EPRI technology status data, 2010

Note for 2.18 and 2.19: EPRI levelised cost of technology estimates based on simplified pro-forma costs, individual projects may lie outside this. Levelised cost of technologies: includes weighted cost of capital (8.4% real before tax); excludes financial support mechanisms; excludes grid connection, transmission, and firming (standing reserve requirements); and includes a notional allowance of 7.5% for site-specific costs.