

ENERGY: GET AHEAD OF THE CURVE

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This presentation may also contain non-IFRS measures that are unaudited, but are derived from & reconciled to the audited accounts. All references to dollars, cents or \$ in this presentation are to Australian currency, unless otherwise stated.

Mineral Resource Statement

Estimates of Mineral Resources reported in this announcement were initially reported & released to the ASX on 8 Dec 2015. We are not aware of any new information or data that materially affects the information included in the 8 Dec 2015 announcement & all the material assumptions & technical parameters underpinning the estimates in that announcement continue to apply & have not materially changed.

Gas Resources Statement

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An energy market in turmoil

The Australian East Coast electricity market (NEM) is in turmoil. Prices have risen despite falling demand and grid stability is becoming an important concern for power consumers due to:

- Intermittent power
- Two-way power flows
- Renewable mandates and certificates
- Withdrawal of both baseload and peakload fossil supply
- Gas shortages
- Market power and vertical integration of retailers

South Australia (SA) is at the epicentre of this turmoil.

SA generation mix reliant on wind

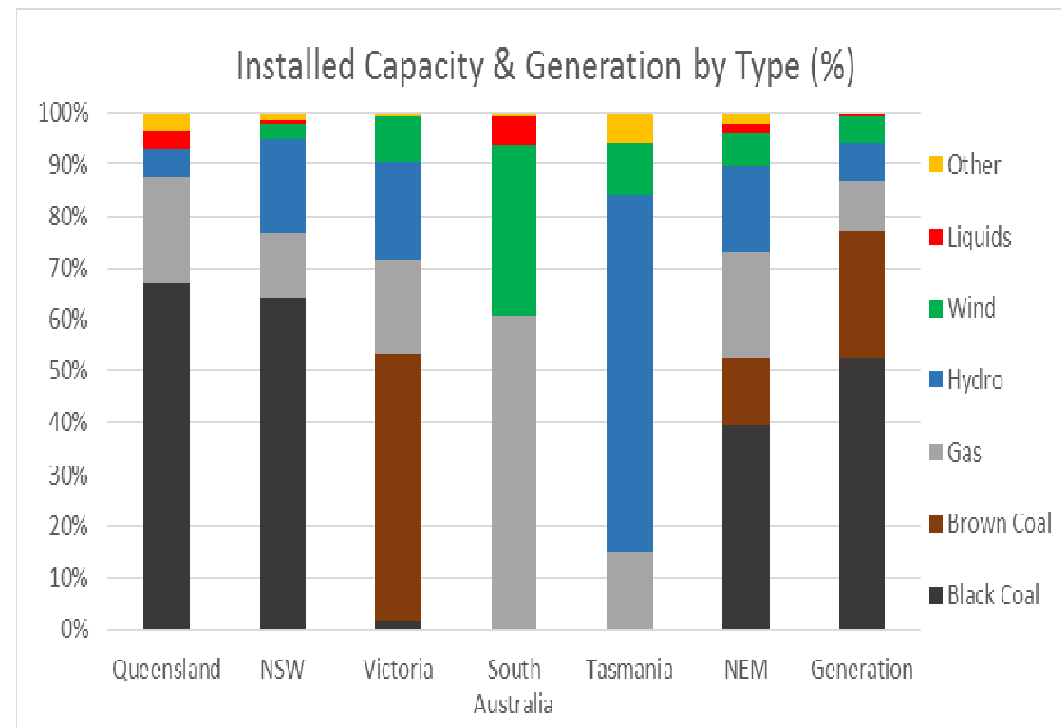
SA has highest Renewable Energy mix in Australia.

This has led to :

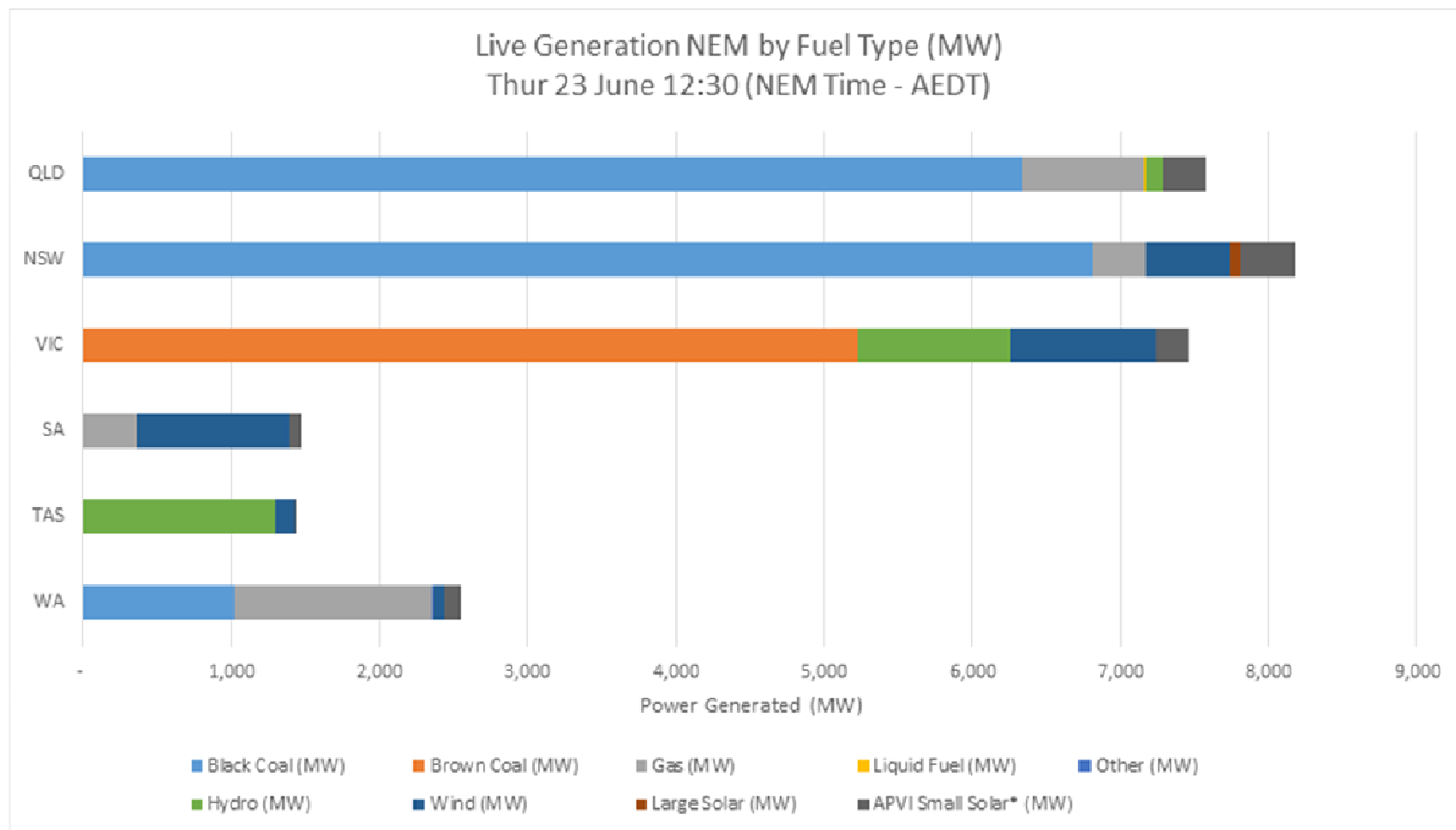
- power shortages,
- higher prices,
- dependence on Victorian brown coal generation

SA now dependent on Interconnectors.

Furthermore gas shortages predicted as the LNG exports ramp up in Queensland.



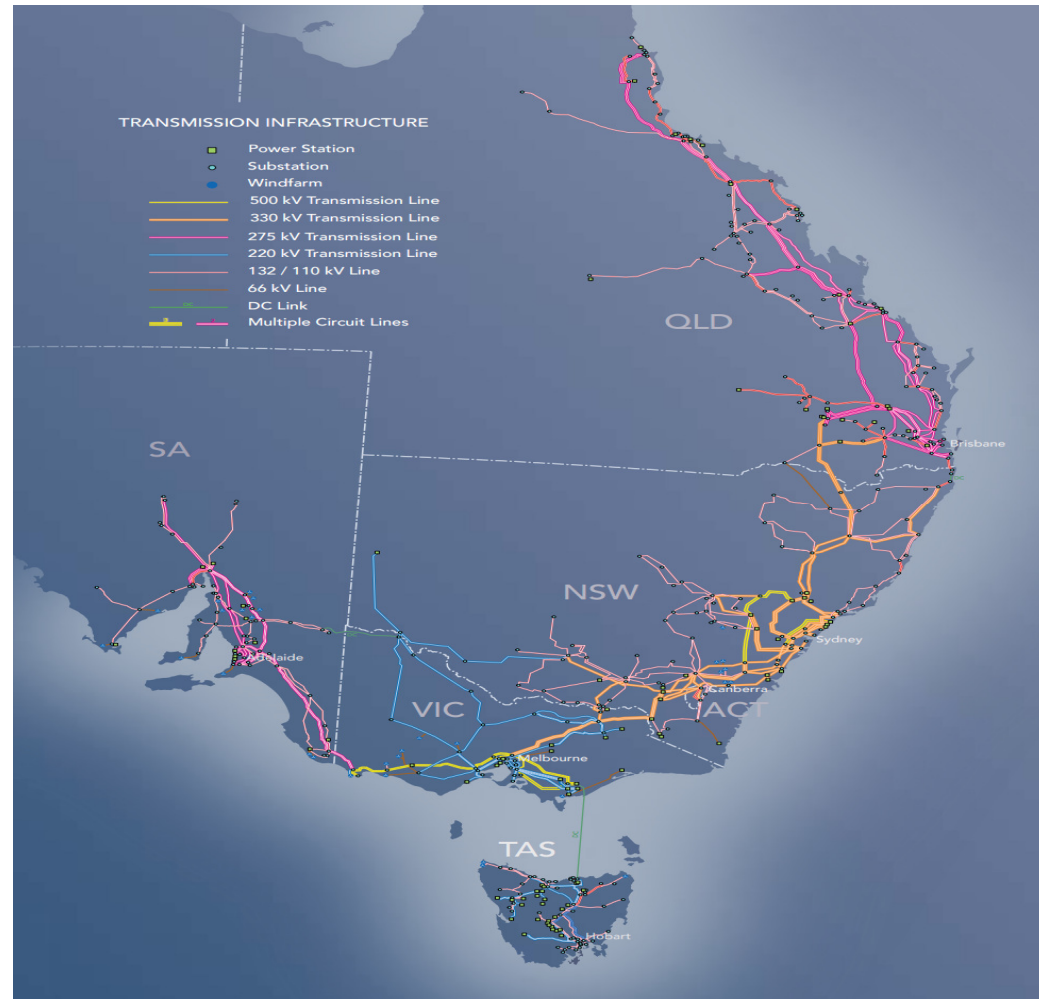
SA – only State without Reliable Base Load Power



National Electricity Market

SA isolated and at risk:

- End of grid
- Highest renewables
- Reliant on interconnect



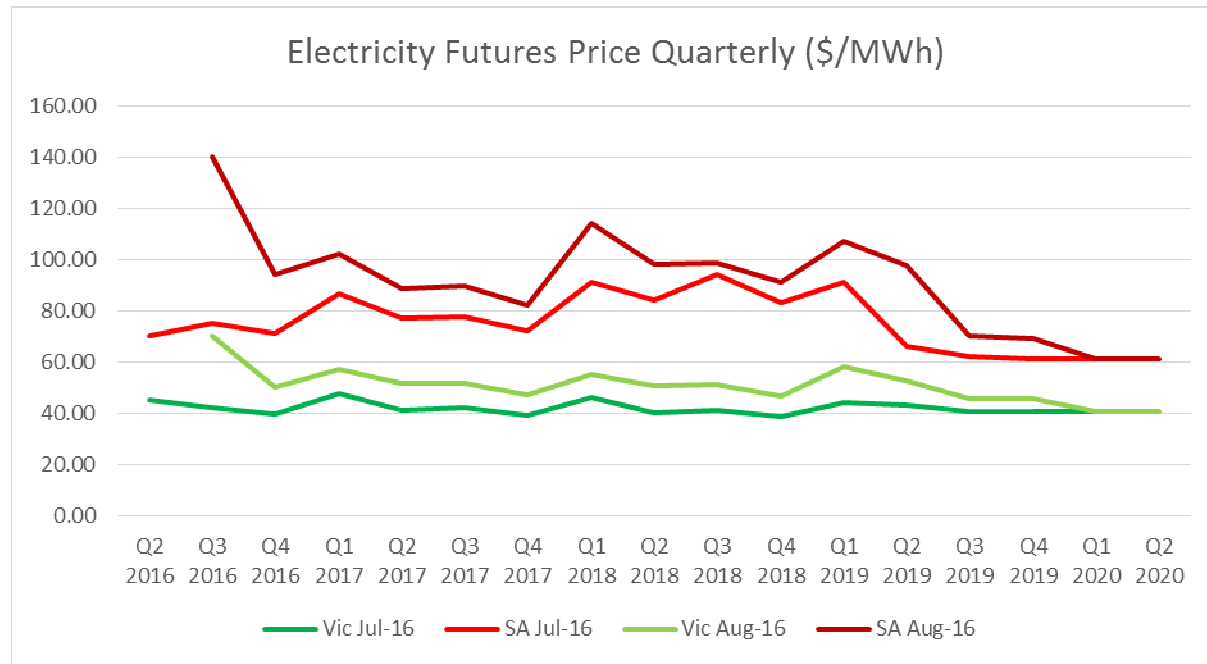
South Australia – most exposed

Expect high electricity prices and blackouts due to

1. Intermittent Wind Energy
2. System failure (age)
3. Interconnect failure
4. Aging base load Gas Fired Power and gas shortages

SA - Highest Electricity prices in the Country

Power prices in SA are expected to rise even further due to summer weather impact.



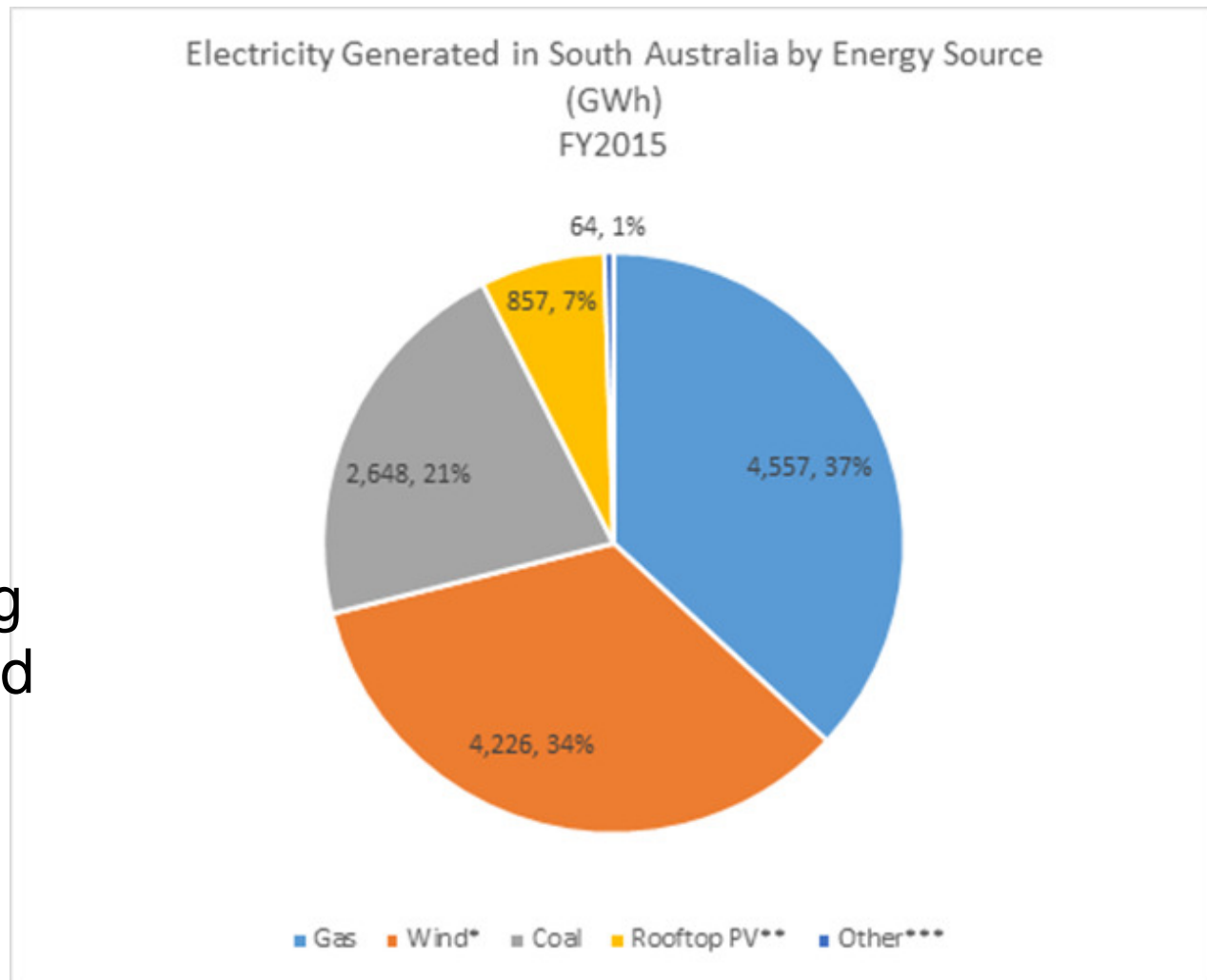
The Futures curve has lifted over recent months across the NEM but remain much higher in SA.

- **Lessened competition in SA is partially the cause post coal fired closure announcements.**

SA – Base load coal closed May 2016

21% supply lost – SA reliant on Vic Interconnect.

Gas fired (37%) under threat of rising gas prices and forecast shortages.



LCEP – Power Options

Opportunities for baseload and peaking power for external customers.

Baseload

LCEP Internal ~150-200MW

External – aim to secure long term contracts for >150 MW
and up to ~460MW

This being what we may send into the market after satisfying load
at OD/PH

Can do more if lines upgraded and contracts suitable.

Peaking

Expect opportunity is many 100's of MW

CQ Partners study underway.

Bringing Reliable Energy to South Australia

Located on former mine site near major energy consumers:

- Olympic Dam (Cu/U)
- Prominent Hill (Cu)
- Carrapateena (Cu)
- Whyalla (Hydromet)
- Port Pirie (Lead)

As well as the metropolitan demand centre in Adelaide

Leigh Creek Energy Project (LCEP)



LCEP – Power Fuel

ISG produces a “syngas” which contains a variety of components, the main fuel items being;

Methane – CH₄

Carbon monoxide – CO

Hydrogen – H₂

Many power stations have been designed to burn fuel derived from coal gasification (usually surface gasification).

Syngas quality

- Air blown ISG has a high nitrogen content (low cost)
- Oxygen blown ISG has higher calorific value (but higher cost).

Important sites in Western SA with 150 to 400MW immediate power needs

■ BHP

- Olympic Dam
- Copper / uranium
- Expansion announced

■ Oz Minerals (copper)

- Prominent Hill
- Carrapateena (awaiting decision to build)
- Possible future – copper smelter & refinery or hydro-met plant (Whyalla).



Companies also need long term contracts to lower price risk

Desire long term contracts to lower price risk for both parties.

Focus on large load;

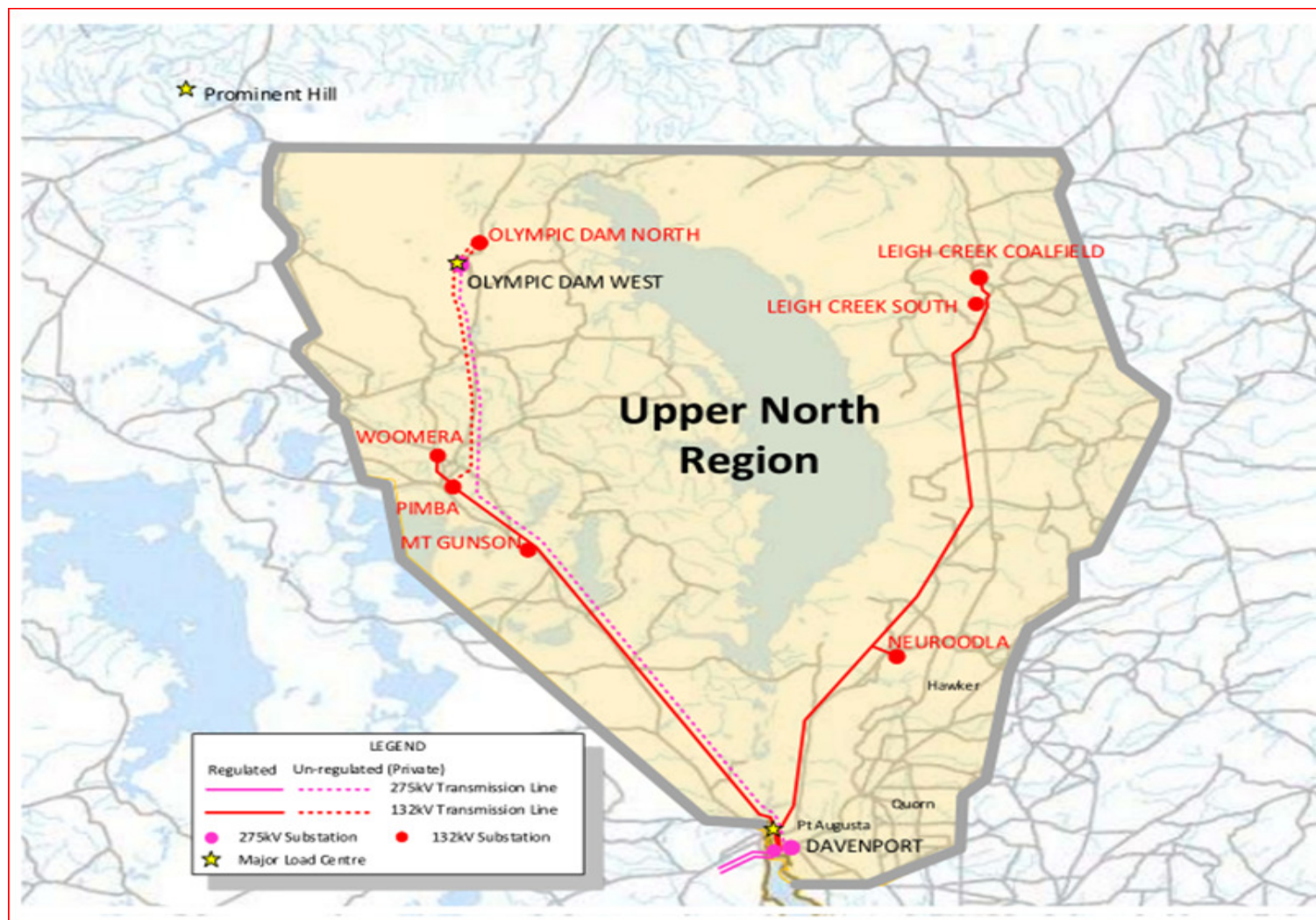
- BHP - Olympic Dam
- OZL – PromHill, Carrapateena, Whyalla hydromet
- Nystar – Port Pirie

Also Retail

- Lumo (owned by Snowy Hydro)

Currently widening discussions with new potential customers.

Transmission Lines – existing (excluding OD-PH)



South Australia & LCK

LCK brings **reliable affordable power** to SA.

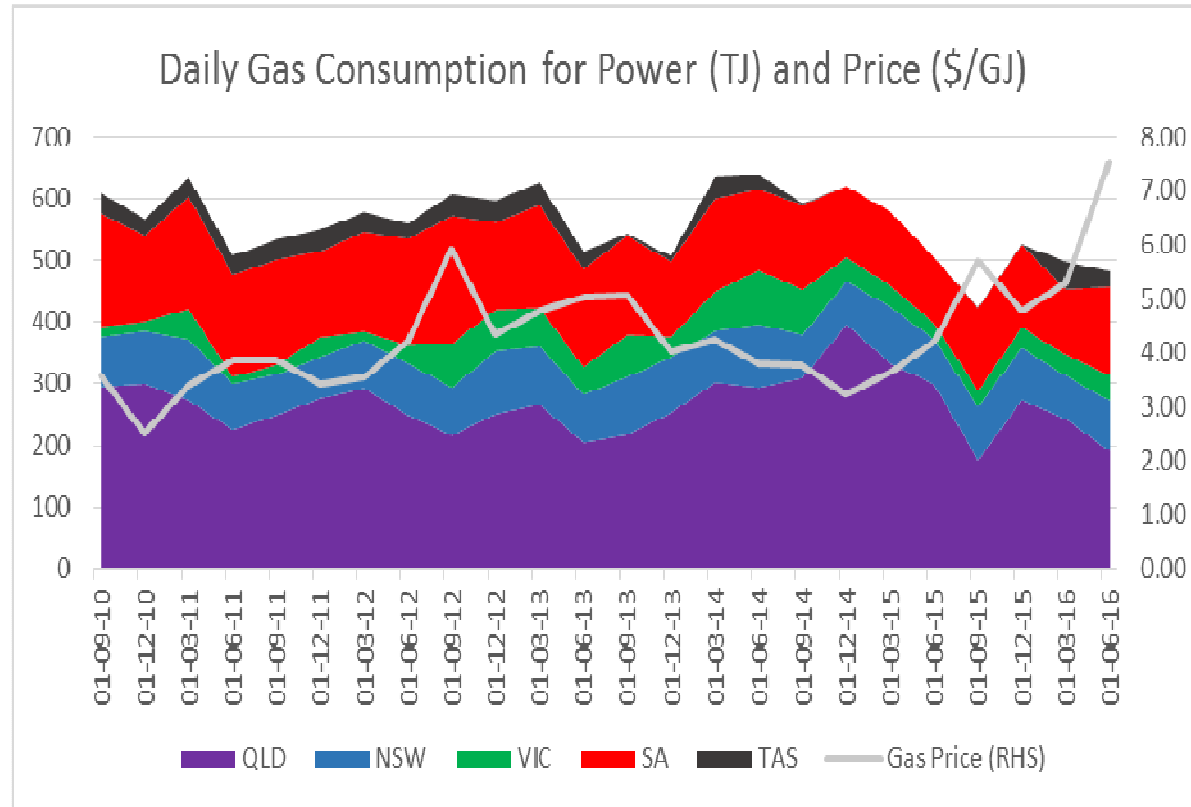
- Supports jobs in regional areas,
 - Leigh Creek
 - Upper Spencer Gulf
- Helps support investment decisions
 - Mining expansions and new projects.

Local fertiliser for SA Farmers.

Intention to capture, consume or sequester CO₂.

Gas prices also rising rapidly

Despite gas demand for power declining, prices have doubled to \$7/GJ in Adelaide.

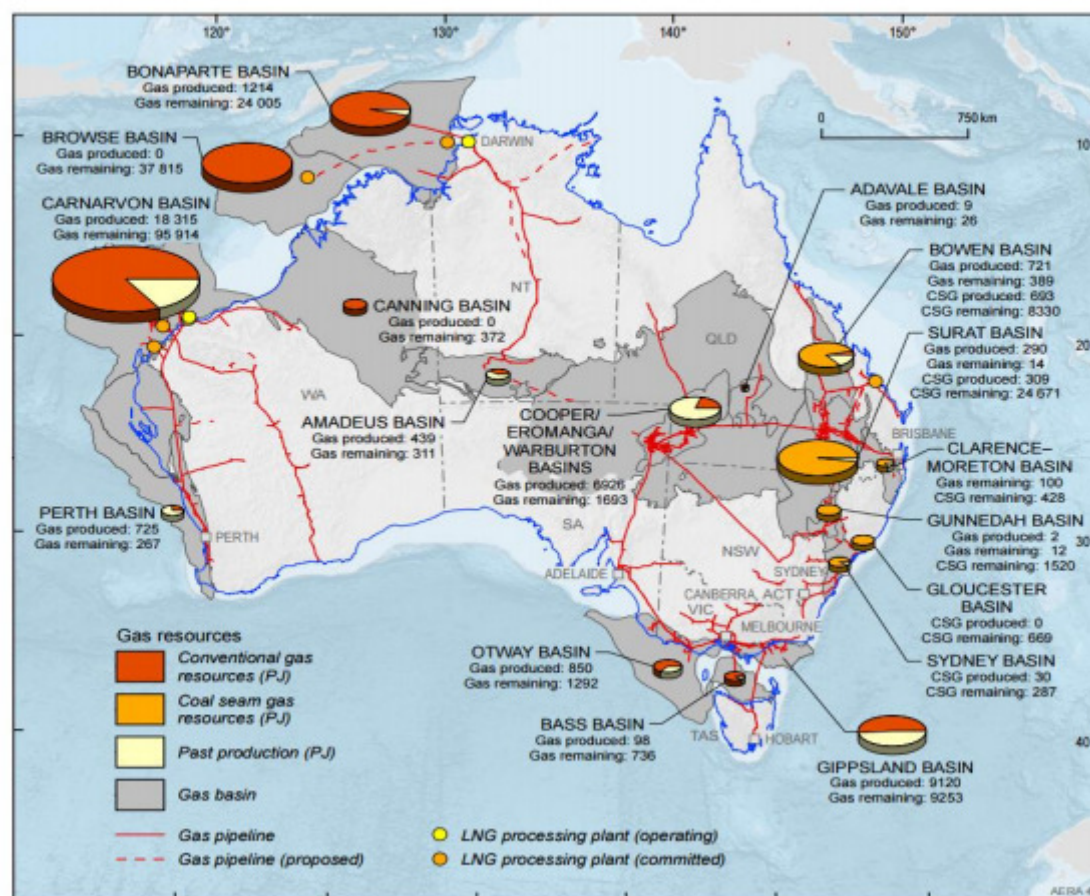


Further gas shortfalls are anticipated as the 3 LNG plants in QLD ramp up. Stretched balance sheets and restraints to new gas exploration result in lower than anticipated supply.

A tale of 2 halves

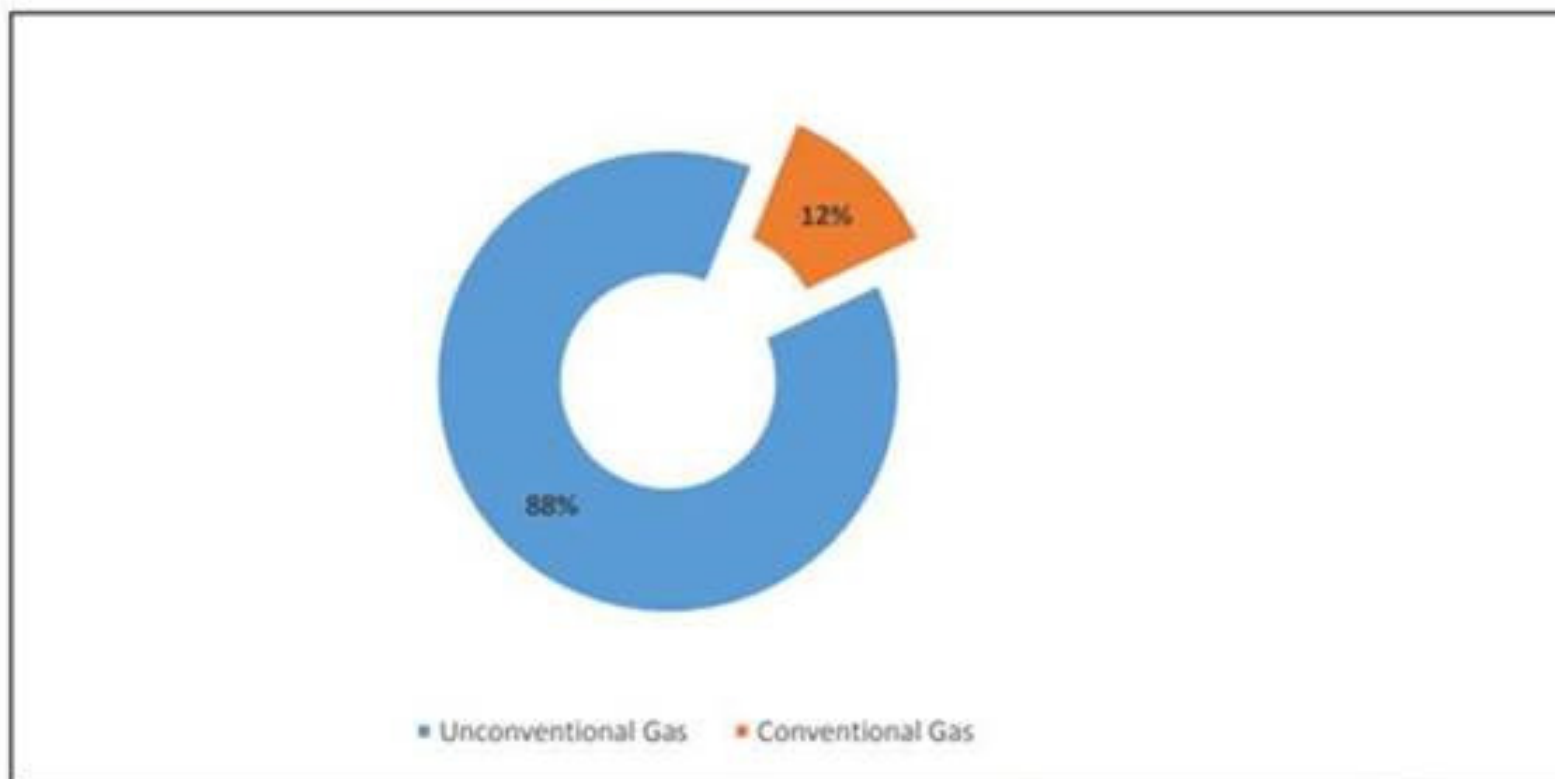
The location of Australia's gas resources is illustrated in Figure 1.

Figure 1: Location of Australia's Gas Resources and Infrastructure²



Where the Gas is

Chart 8: Eastern and South Australia 2P Reserves by Gas Source (PJ)

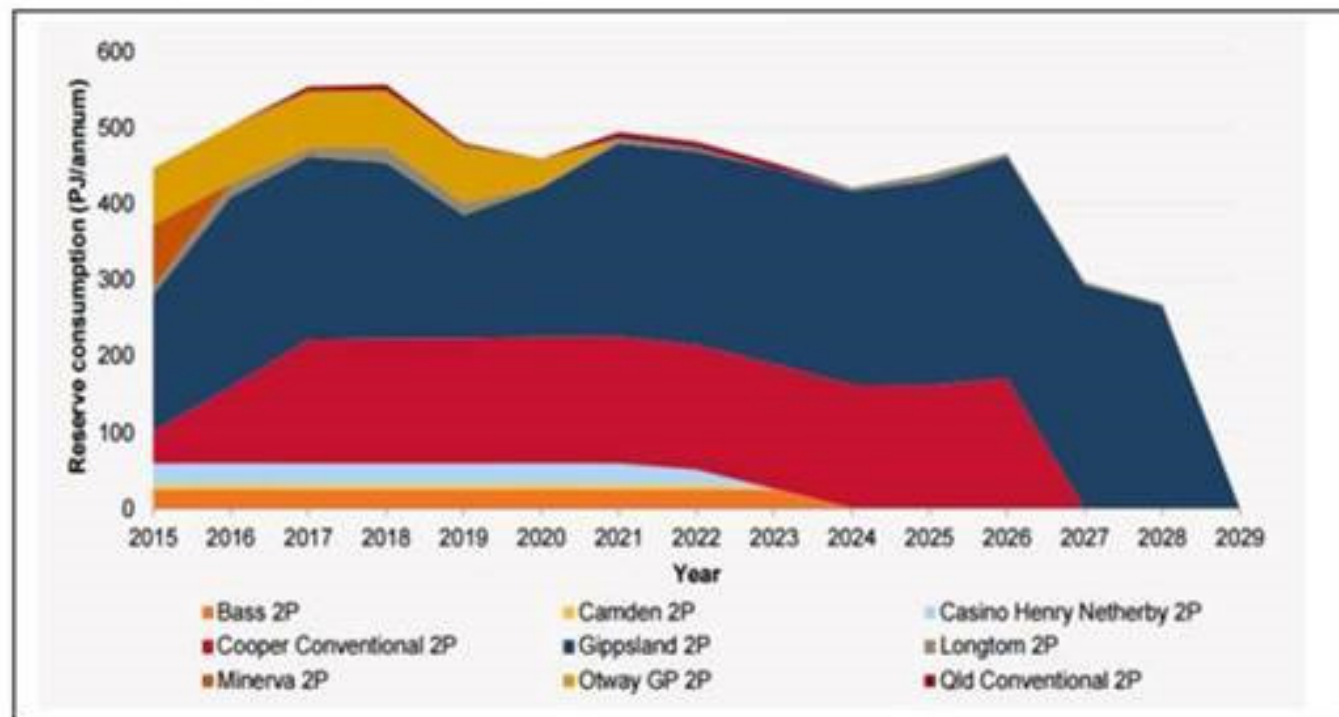


Source: Core Energy Group¹⁹

What is left in the Eastern Gas field is being depleted

Whether or not new supply is provided, AEMO reports that significant 'demand destruction' is already occurring as constrained supply pushes up prices and leads industrial customers to reduce output. The ACCC has pointed out how tight supply reduces competition, especially outside Queensland, and generally puts upward pressure on prices.

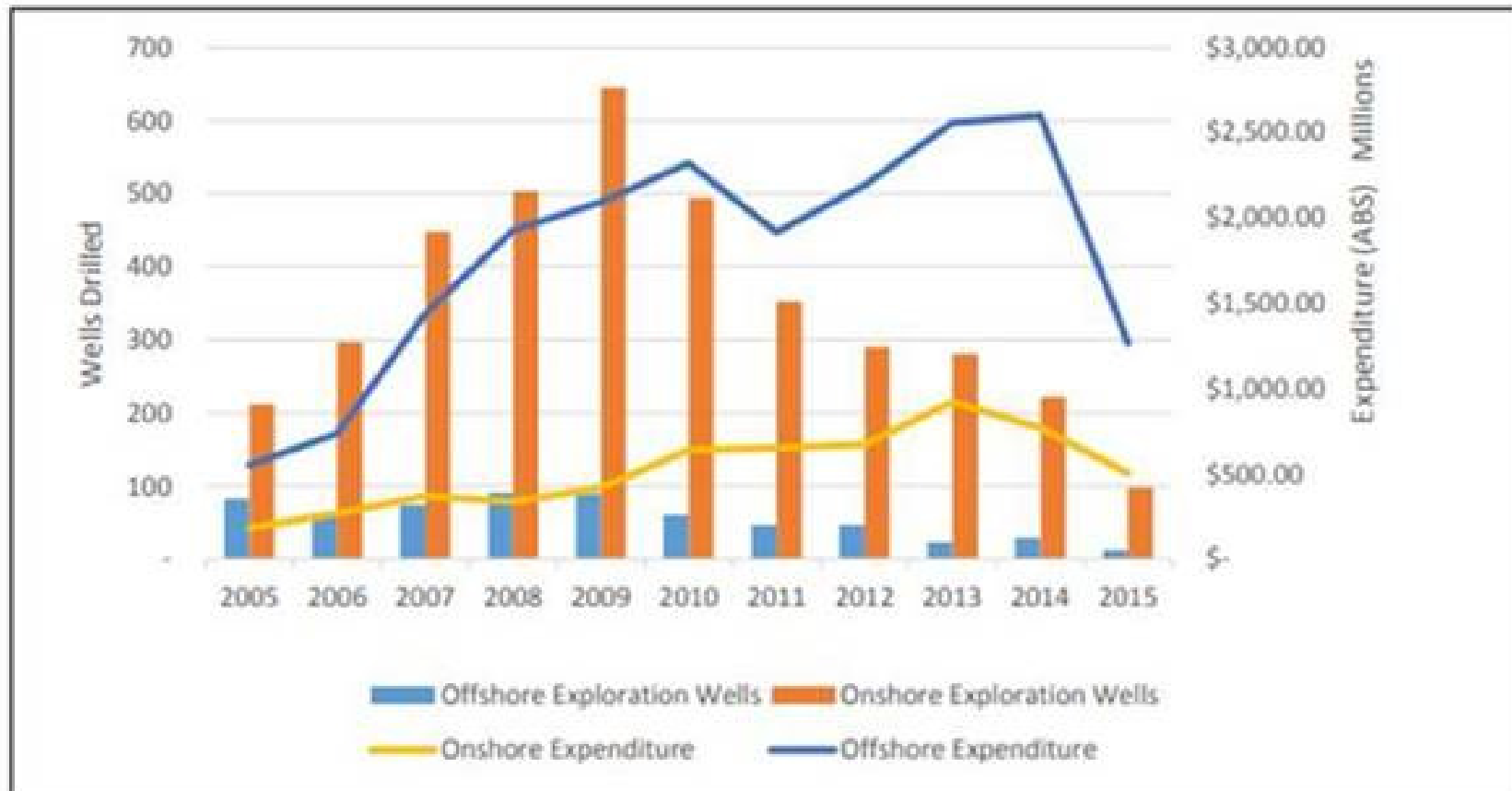
Chart 7: Depletion of Proven and Probable Conventional Gas Reserves – Eastern Australia¹⁸



Source: AEMO

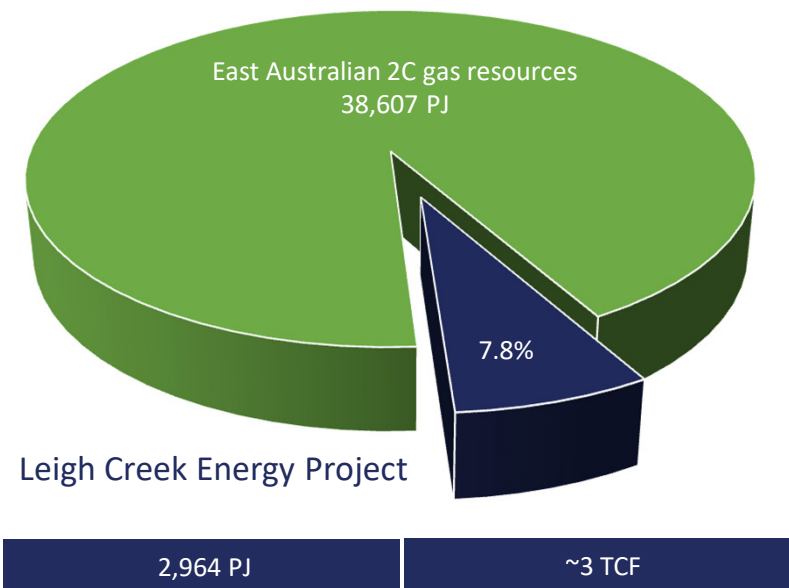
Gas exploration in Australia

Chart 14: Exploration Wells Drilled: Onshore and Offshore



Source: ABS, APPEA

LCEP gas is a significant resource



Source: Energy Quest, December 2017 Quarterly Report

Category	1C	2C	3C
Syngas Resource (PJ)	2,748	2,964	3,303

- **Syngas resource:** SPE-PRMS: 2,964 PJ 2C
- Potential for up to 80PJpa
- 30+ year Project timeline
- Portion of resources expected to convert from 2C to 2P Reserves post-demonstration – Q4 2018

3,000PJ of certified gas

Identified 377Mt of coal resources at Inferred category under the JORC 2012 code, independently reported by GeoConsult in December 2015.

- Resources based on over 6,000 drill holes
- Average depth is 500m+

LCK has achieved certification of its recoverable gas resources under the SPE-PRMS code, by MHA Petroleum Consultants of Denver USA.

Category	1C	2C	3C
Gas Resource (PJ)	2,748	2,964	3,303

Resources will likely convert from 2C to 2P Reserves once gas demonstration is completed in the March Quarter of 2017.

The Leigh Creek Energy solution

The Leigh Creek Energy Project (LCEP) is aiming for commercial production from mid 2019. Cheap energy from in-situ gasification of coal will permit, in a staged development, low cost and domestic supply of:

- Electricity – baseload and peaking for SA
- Pipeline Gas – into the East Coast system
- Fertilisers – SA farmers currently import 100% of their nitrogen fertiliser needs
- Explosives – SA is a significant mining region and there are few options for miners

Our primary focus is reliable electricity supply to major customers in SA.

Commercial Opportunities

Petrochemicals

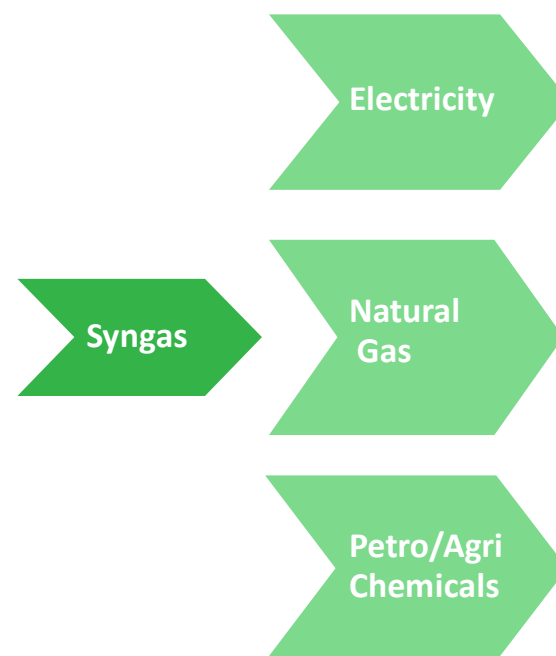
- Domestic and international demand - Australia heavily reliant on imports (particularly for urea)
- High natural gas prices in Australia hampers new construction of domestic plants
- Syngas a feedstock for production, conventionally produced from natural gas
- Stable price outlook
- International demand from China and SE Asia increasing
- Demand for Olefins (plastics, adhesives, etc) driving demand growth of methanol

Electricity

- Withdrawal of baseload
- Penetration of renewables - intermittency
- Price increases well documented

Gas

- Demand increased three-fold due to Gladstone LNG
- Moratoria on exploration in eastern states
- Price increases



Experienced Executive Team

Justyn Peters
Executive Chairman

Lawyer; depth of experience in the ISG industry and senior management roles; experience in mining, industry representative bodies and various state and federal environment departments and authorities.

Phil Staveley
Managing Director

Finance Executive; 30+ years' experience working in resources and oil and gas sectors; finance, commercial and operational functions; last 20 years in CFO/CEO/MD roles in Australia, Asia and Latin America.

Justin Haines
Chief Operations Officer

Broad experience across engineering and geological services. Most recently, Technical Manager for Carbon Energy Ltd, successfully operating CNX ISG facility; leads the Operations Team.

Cristian Bolda
Operations Manager

Experience in delivering high value petroleum and infrastructure projects internationally; senior management roles in the middle east, Wheatstone LNG project (WA), and the APLNG gas field facilities (Qld), and power station upgrades and bioremediation plants.

Mark Terry
Chief Financial Officer

CPA; 20+ years' experience in management of financial and project matters in the mineral exploration and mining industry; with KPMG before holding a range of senior finance roles with Normandy Mining, Newmont Australia and Xstrata Zinc.

Overview – Cornerstone Investor

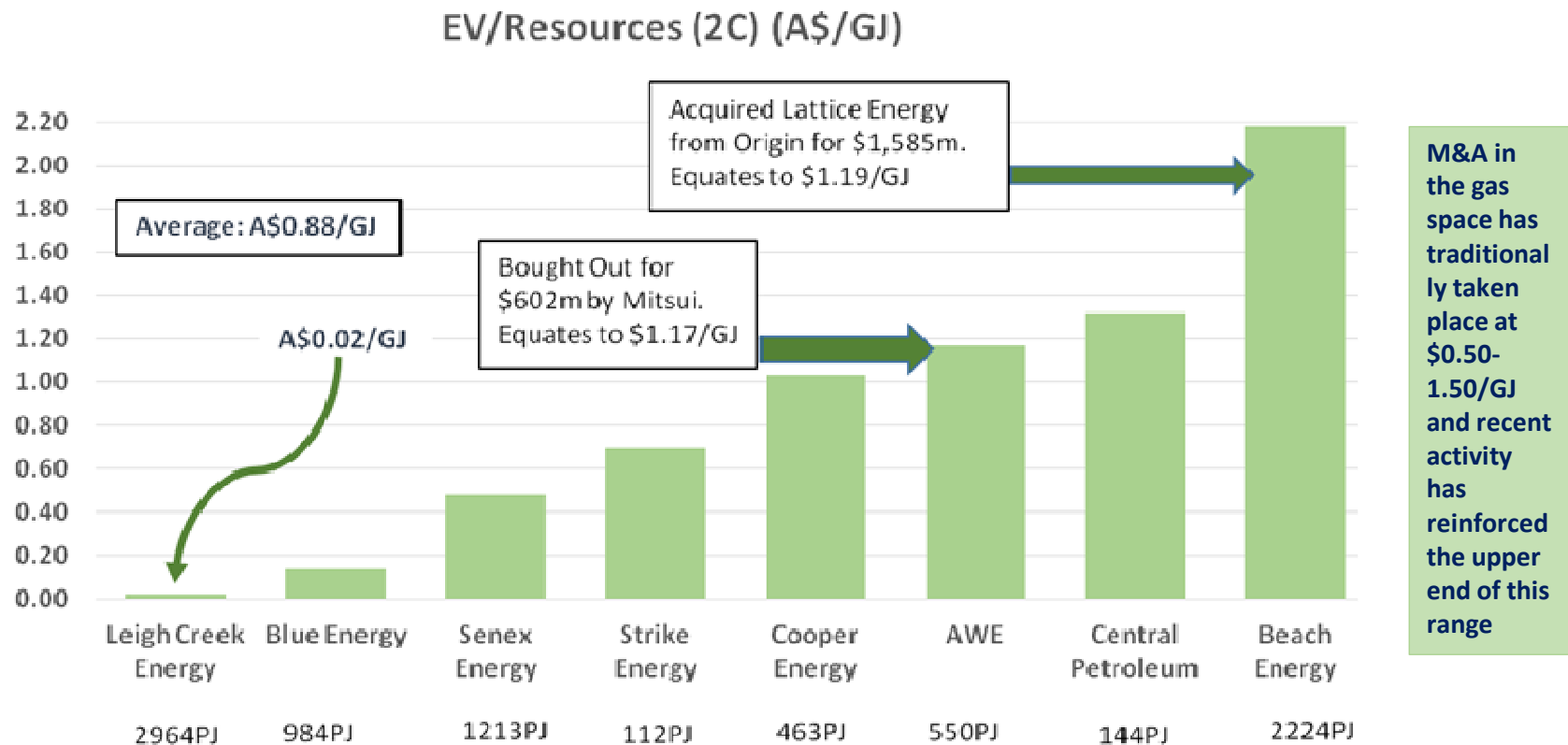
China New Energy Group Limited (32.8%)

- Hong Kong based company jointly owning assets with Shanxi Meijin Energy Limited (Chinese private entity)
- Contributed \$20m in equity in 2017 (before fees)
- Funds were received in 4 tranches – all settled early
- Long term focussed investor with experience in petrochemical manufacture and trade in China

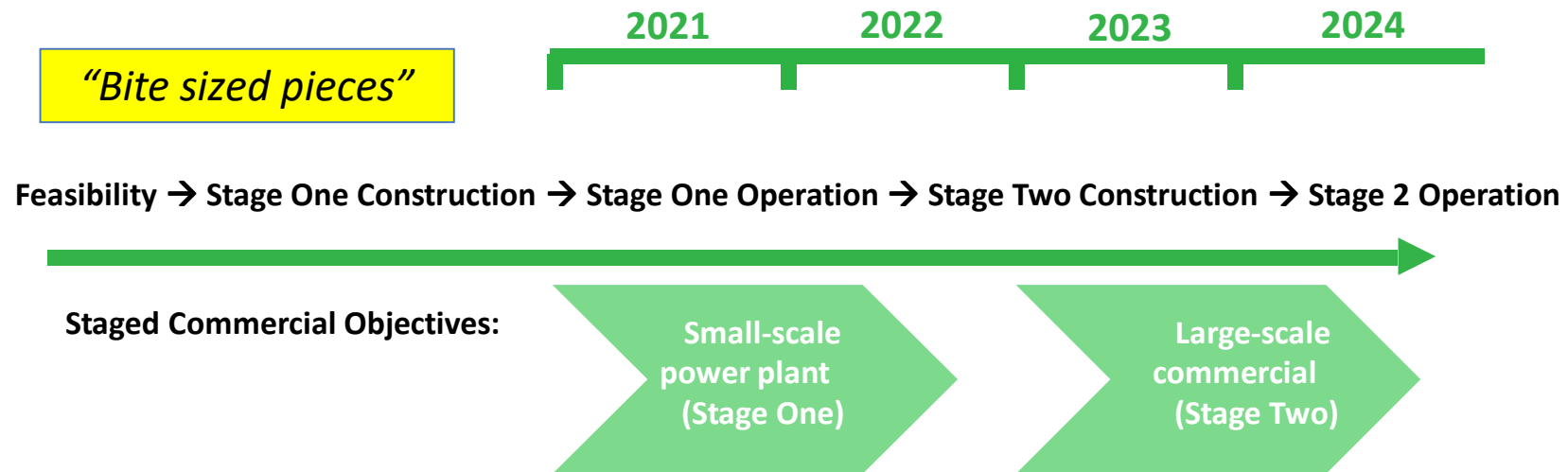


Entrance to Leigh Creek site

The Chasm



Staged Commercial Pathway



- Small-scale power plant is enabler for large-scale project
- Manageable project size for LCK
- Staged development to larger-scale
- Cashflow positive

Conclusions

- Leigh Creek Energy aims to produce cheap energy
- LCEP will initially generate electricity from syngas to support existing and potential manufacturing and mining operations in SA
- Future expansion looking to include natural gas and ammonia-based fertilisers
- SA has a supportive and enabling regulatory framework and process
- The Leigh Creek Energy project is located on a former coal minesite that has significant existing infrastructure
- LCK is working with the local and regional communities to achieve positive outcomes