Electricity Focus

September 2016

Disclaimer

This presentation has been completed by Leigh Creek Energy Limited. It may contain forward looking statements that are subject to risk factors associated with the energy industry. It's believed that the expectations reflected in these statements are reasonable, but they may be affected by a variety of changes in underlying assumptions which could cause actual results or trends to differ, including but not limited to: price fluctuations, actual demand, currency fluctuations, drilling & production results, reserve estimates, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal & regulatory developments, economic & financial market conditions in various countries & regions, political risks, project delay or advancement, approvals & cost estimates amongst other items, & the cumulative impact of items.

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

Gas Resources reported in this announcement were initially reported & released to the ASX on 8 Jan 2016. We are not aware of any new information or data that materially affects the information included in the 8 Jan 2016 announcement & that all the material assumptions & technical parameters underpinning the estimates in that announcement continue to apply & have not materially changed. All estimates are based on the deterministic method for estimation of petroleum resources.

Risk and Solution

South Australia (SA) faces severe Energy risks.

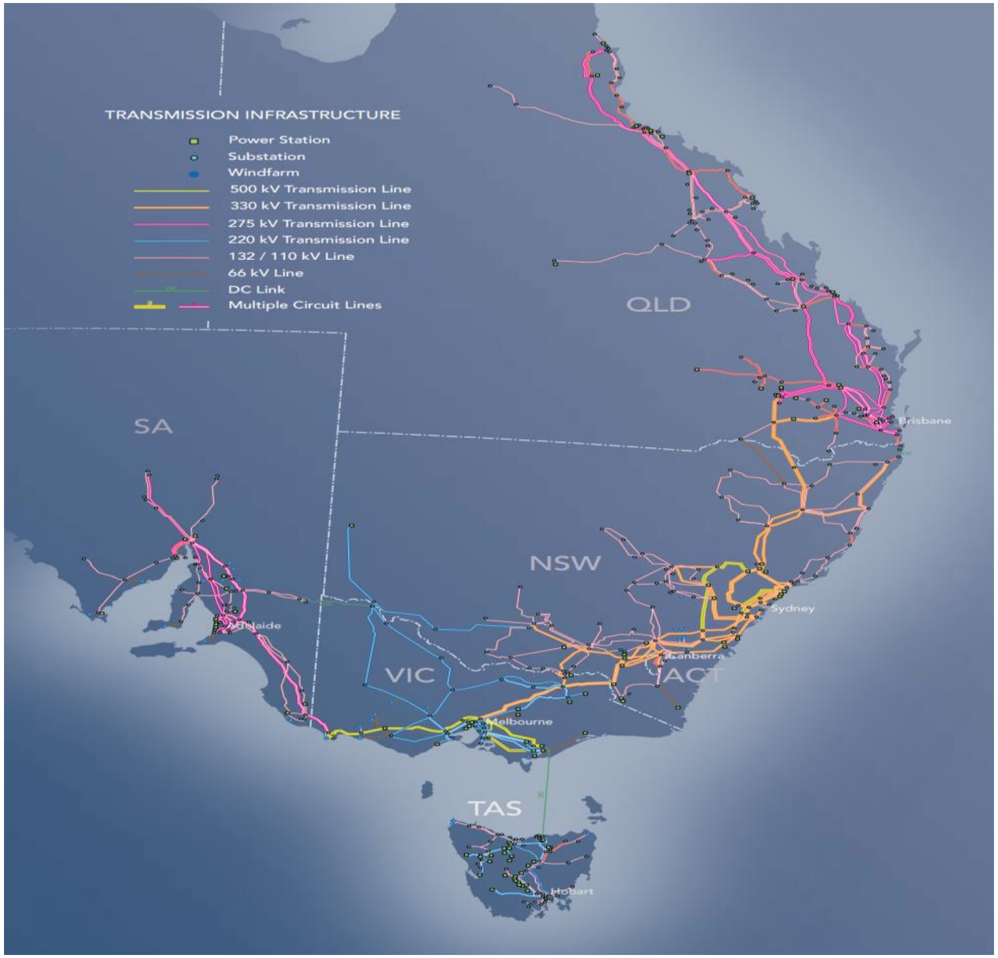
LCK ideally placed to bring **Reliable, Affordable Energy** to **SA**

East Coast Electricity Market

National Electricity Market - NEM

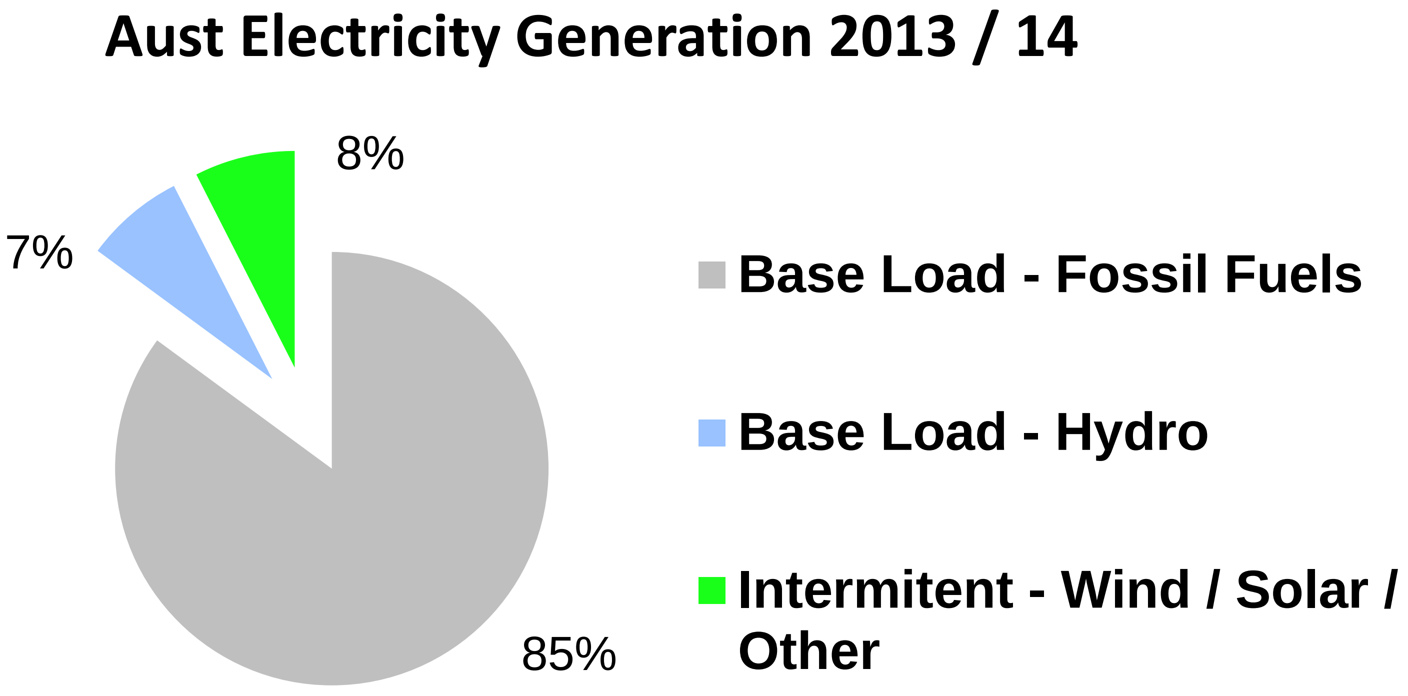
SA most at risk:

- End of grid
- Highest renewables
- Reliant on interconnect
- Gas shortages



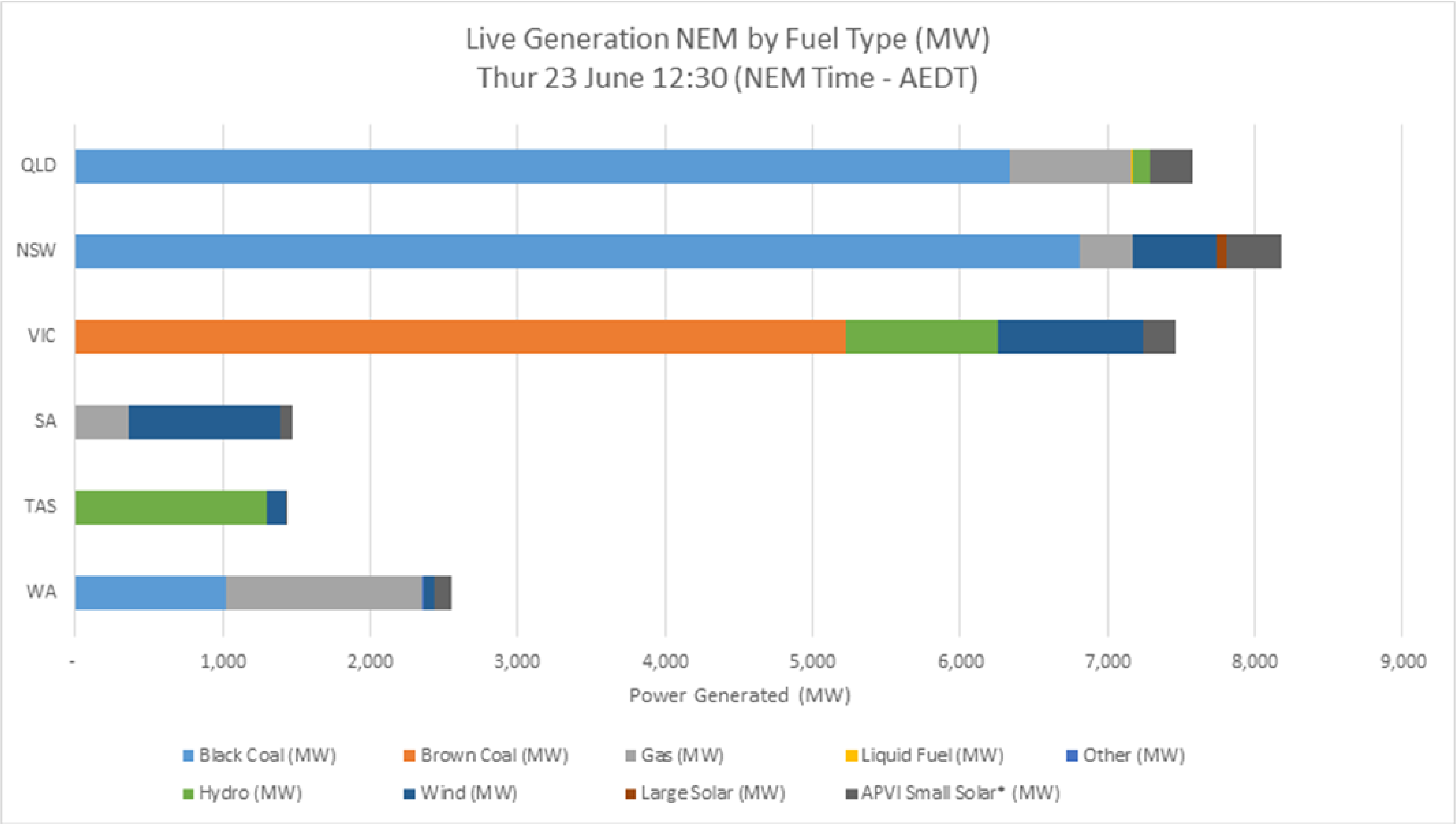
Australia Relies on Fossil Fuel Base Load Power

Renewables (excl Hydro) aren't reliable (yet).



South Australian Electricity Market

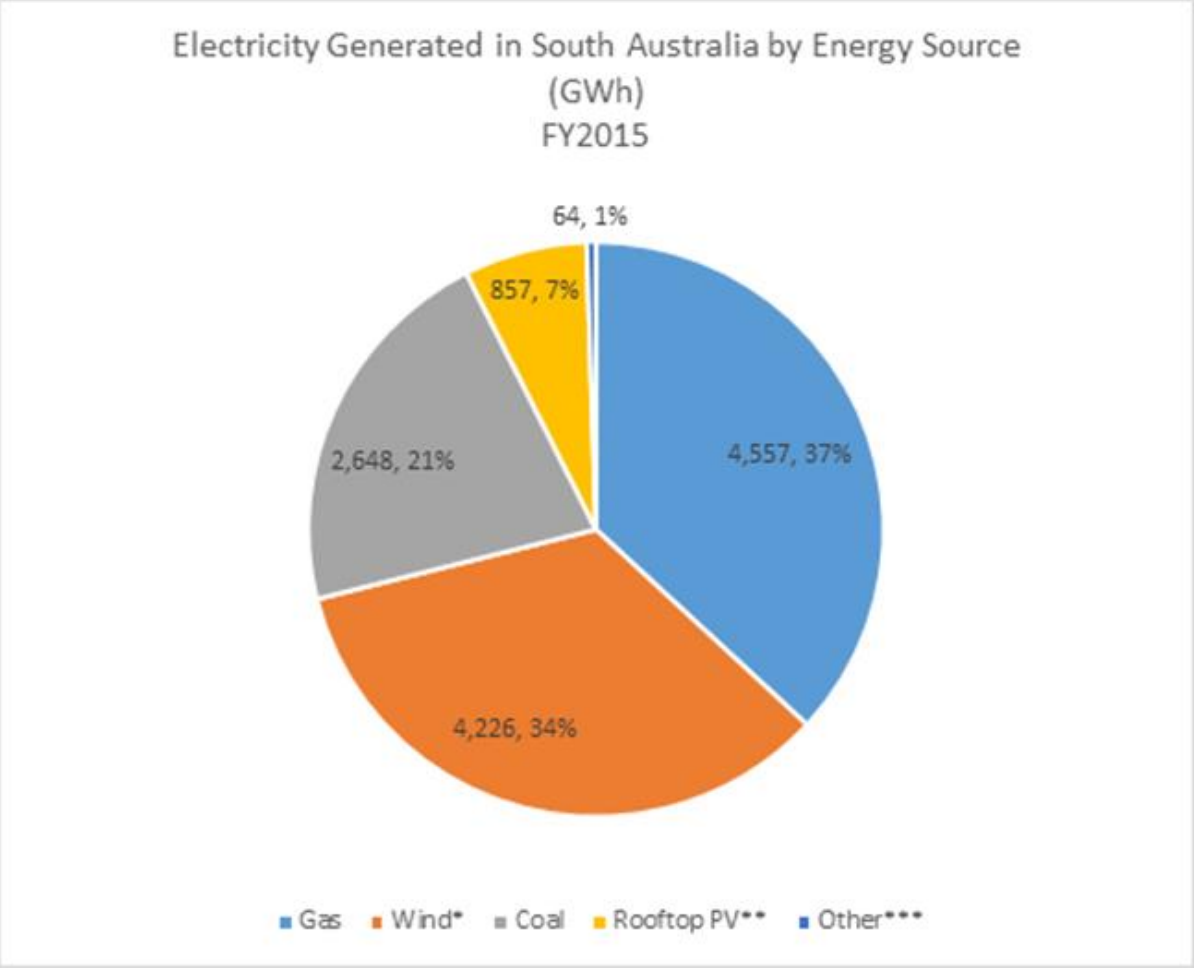
SA – only State without Reliable Base Load Power



SA – Base Load Coal closed May 2016

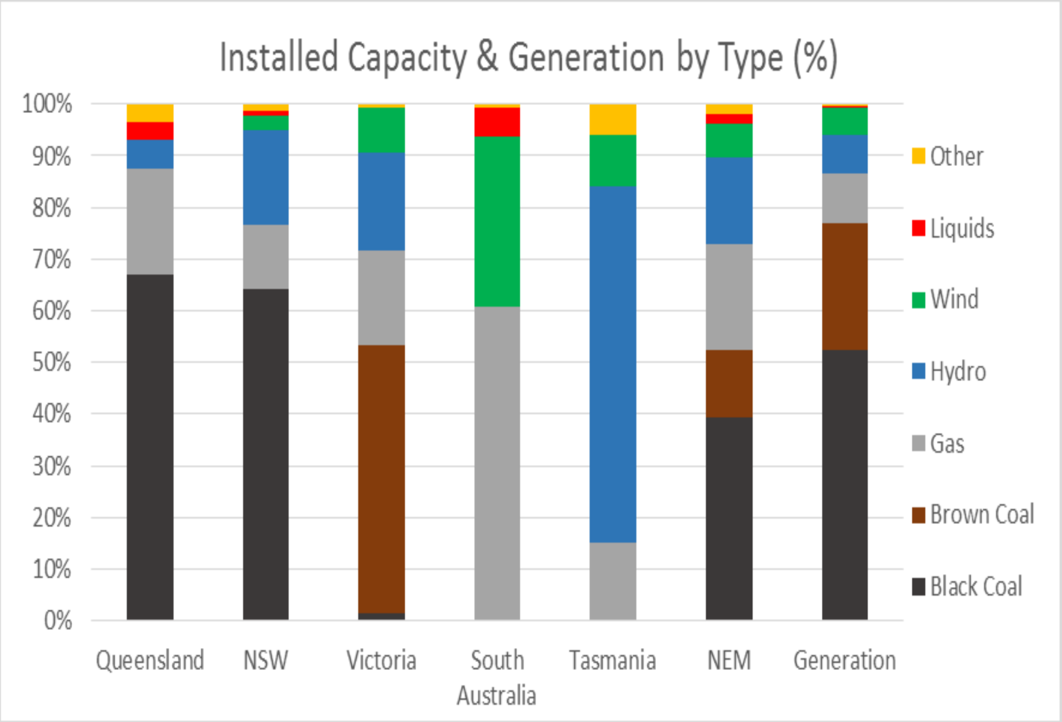
21% supply lost with closure.

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



SA Generation Mix reliant on Wind

SA has highest Renewable Energy mix in Australia.

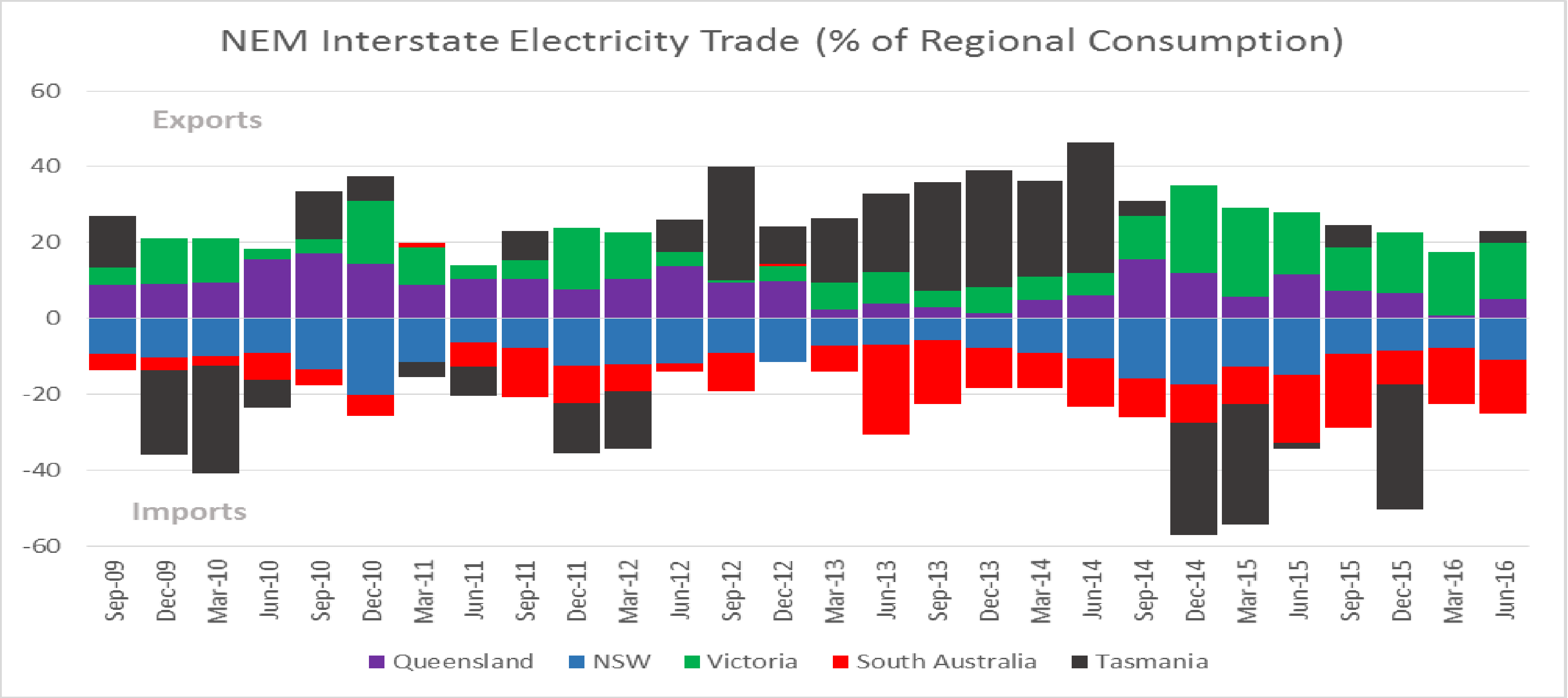


This has led to :

- power shortages,
- higher prices,
- dependence on Victorian brown coal generation (via interconnectors)

Further gas shortages predicted

SA Dependence on Electricity Imports

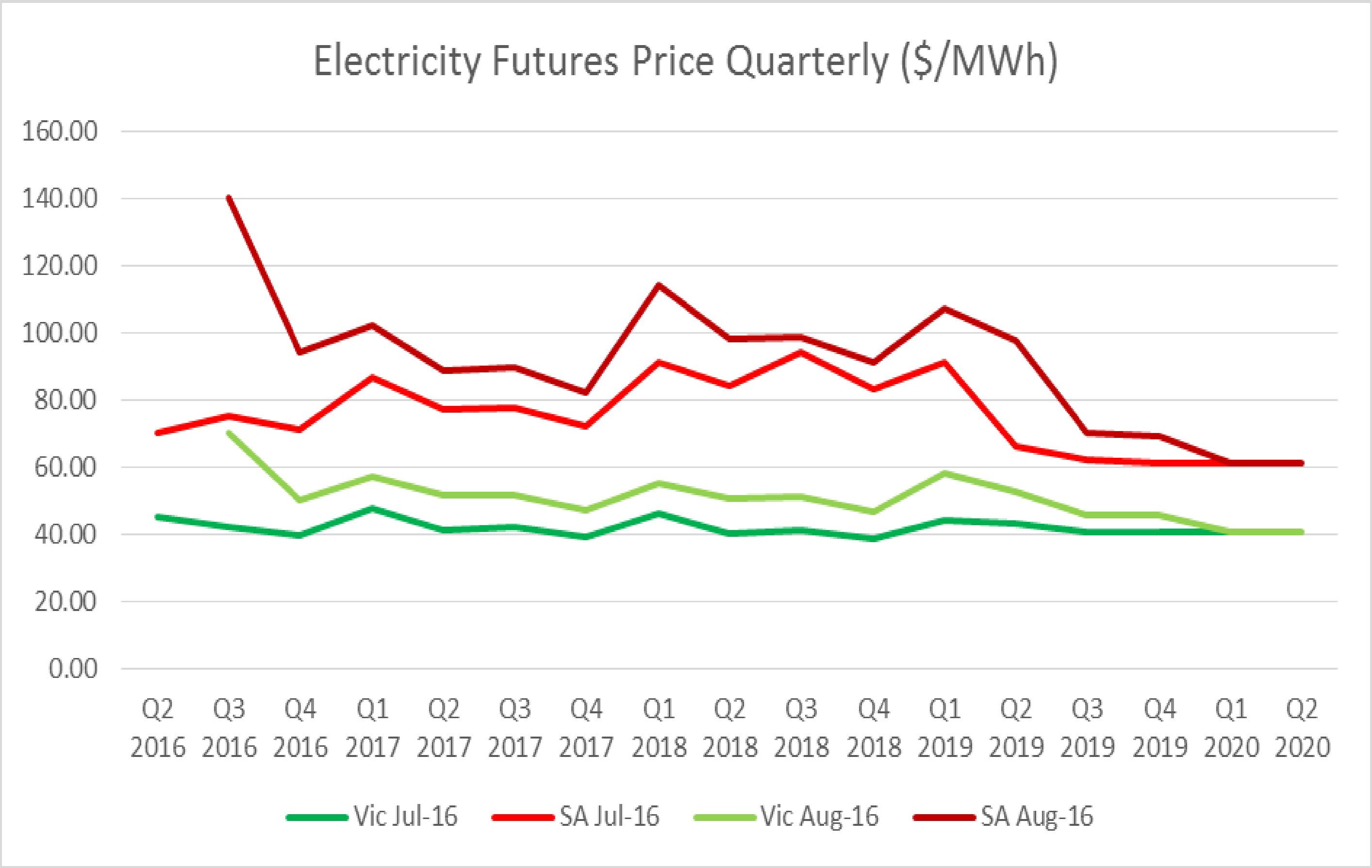


Whilst interconnectors have expanded, coal-fired electricity in Victoria is to be retired.

Up to a quarter of SA's electricity has been imported.

SA - Highest Electricity Prices in the Country

SA power prices to rise further with high summer demand.



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

SA Electricity Prices - Jumped

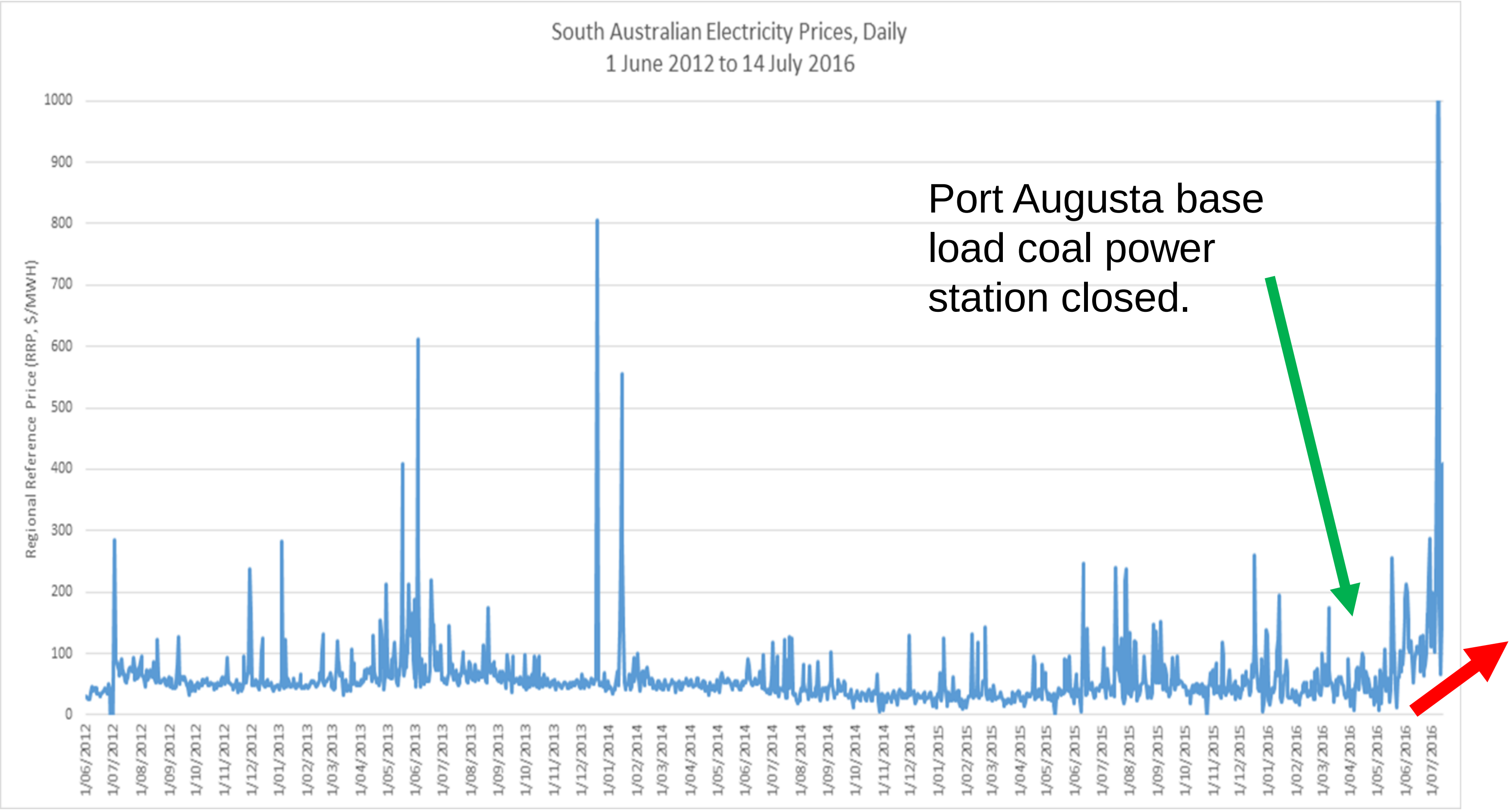


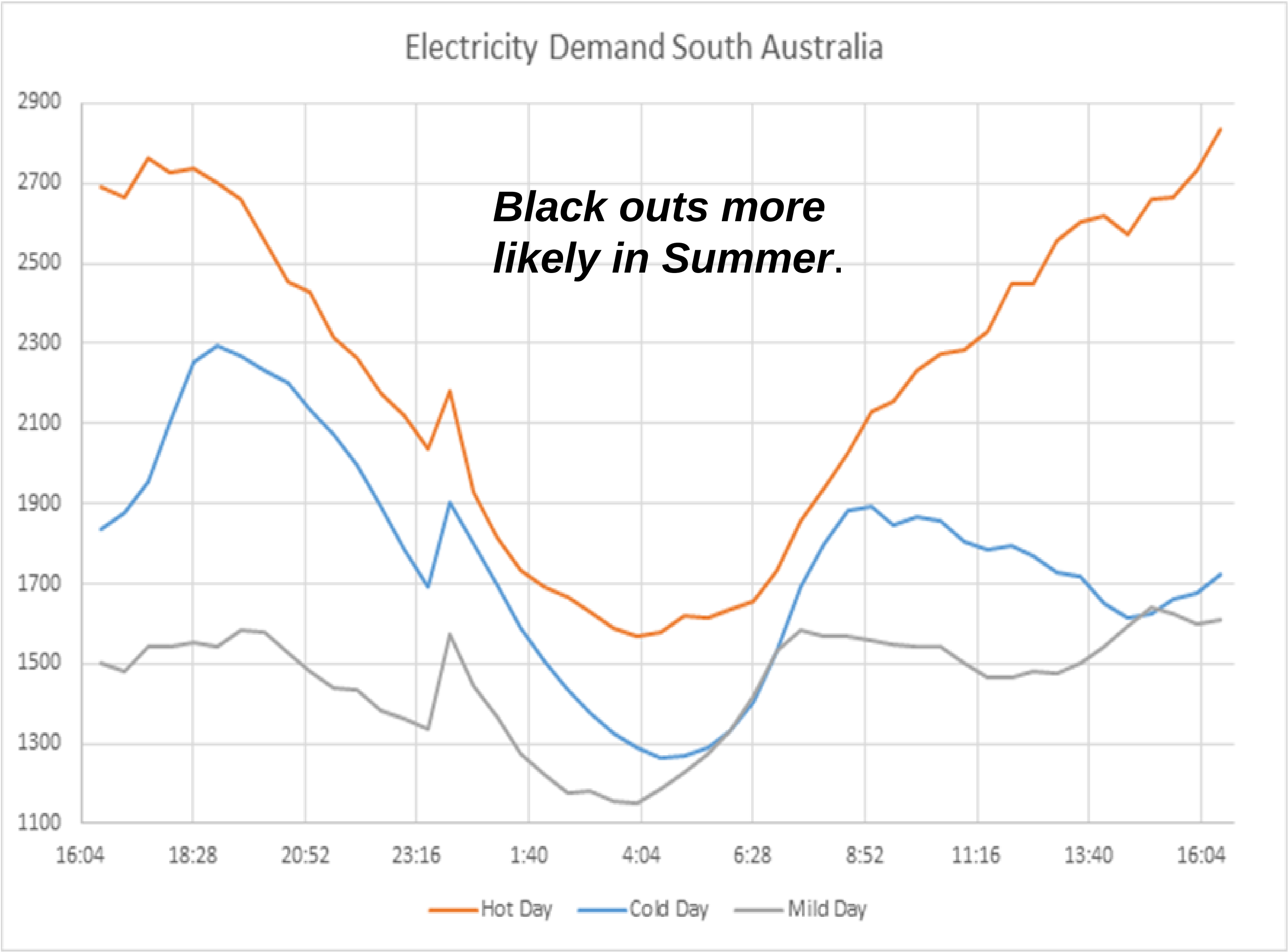
Figure: Data AEMO website – Australian Energy Market Operator

SA Power Demand varies seasonally

Hot day

Cold day

Mild day



Network Stability Crucial – or System fails

Network **must** be balanced and respond instantly to;

- Supply changes (generation and transmission)
  - Wind and Solar generation intermittent.
- Customer load changes; and
- Import / Export changes via Interconnectors – Victoria.

Voltages, currents and frequency must be maintained within defined limits.

Network imbalances can quickly lead to widespread blackouts.

Electricity Supply Concerns

Industrial customers concerned about affordable, reliable electricity supply.

Exacerbated by recent closure of Northern Power Station which was providing baseload power.

This was the last coal fired power station in South Australia.

LCEP – Power Intentions

Opportunities for baseload and peaking power.

Baseload

LCEP Internal ~150-200MW

External – aim to secure long term contracts for >150 MW and up to ~900MW

Peaking

Expect opportunity is 100's of MW

LCEP – Power Fuel

ISG produces a "syngas" which contains 3 main fuels;

Methane – CH_4

Carbon monoxide – CO

Hydrogen – H_2

Many power stations have been designed to burn fuel derived from coal gasification.

Syngas quality

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

Peaking Power

Is now demand for "**dispatchable power**" at short notice.

LCEP has **low fuel costs** vs traditional gas / diesel.

CQ Partners study complete.

– Historic and likely frequency, duration and amplitude of events.

This feeds into pre feasibility studies (**PFS**).

Also revenue potential from hedge products and network support.

Conclusion

South Australia faces severe Energy risks.

LCK ideally placed to bring **Reliable, Affordable Energy** to **SA**