Current status of the Electricity market

(a) Large sites (generally > 100 MWh p.a.) and Public Lighting

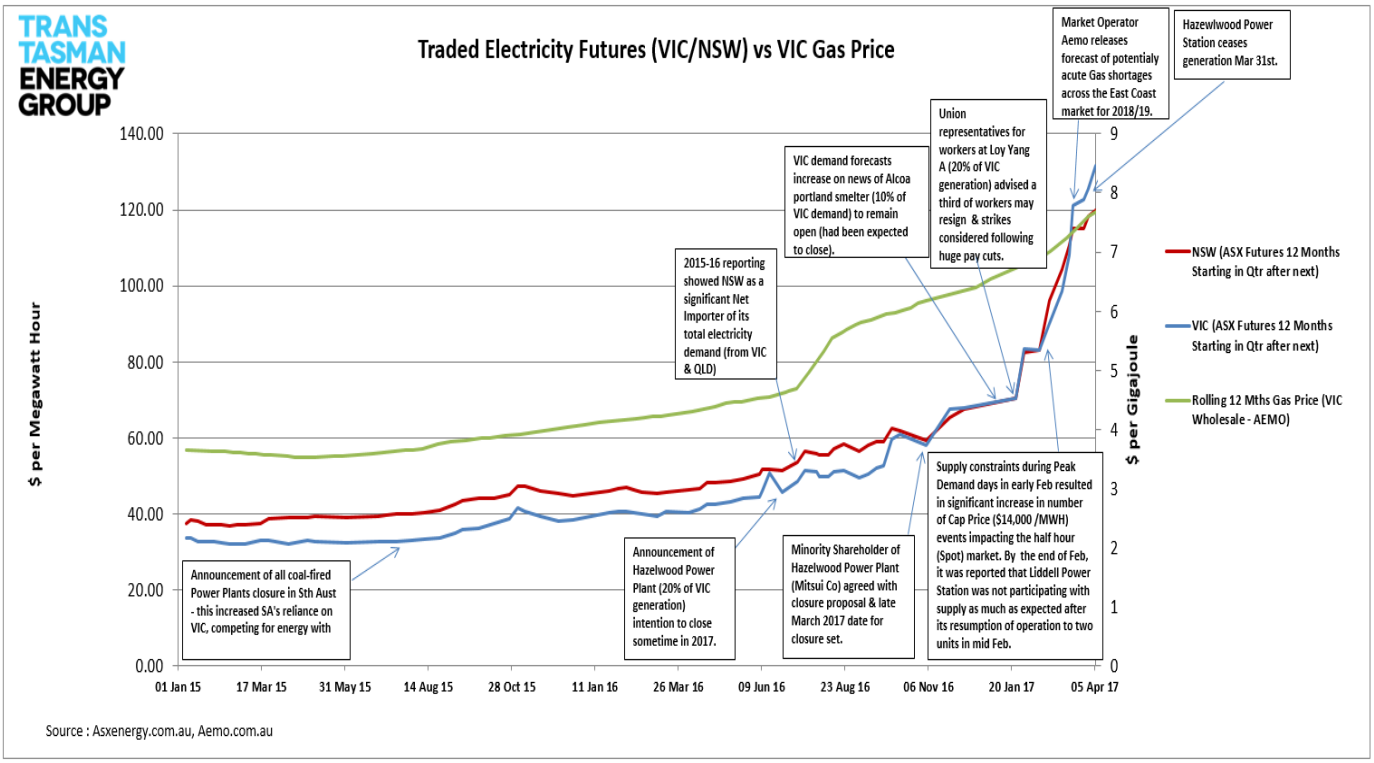
Electricity prices have been on the rise for quite some time now. Some of the major reasons for these rises are as follows:

- The current push by the Commonwealth Government to reduce carbon emissions;
- With the aim of reducing carbon emissions, renewable energy generation is being incentivised by the Commonwealth Government through the 'Large Renewable Energy Target Scheme' (LRETS) causing all states to reduced their reliance on coal fired electricity with VIC originally having 74% of its generation from coal in 2007 while today current projections are at only 42%.

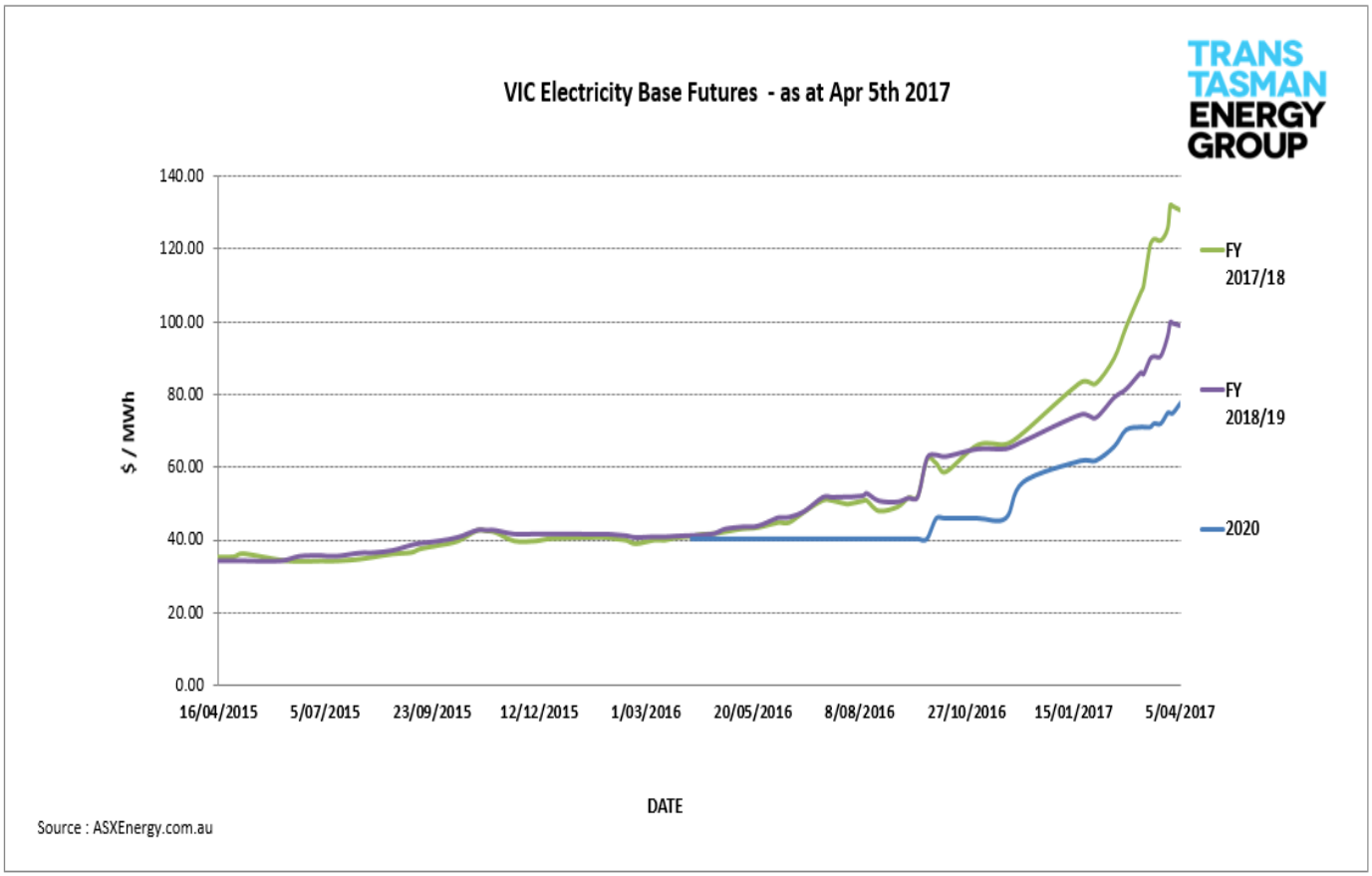
	Capacity Mix Percentage	Coal	*CCGT	**OCGT	Gas other	Solar	Wind	Water	Bio-mass	Other	Total
VIC	2007 Generation capacity mix percentage	74%	0%	15%	6%	0%	0%	5%	0%	0%	100%
	2012 Generation capacity mix percentage	56%	0%	16%	4%	0%	4%	19%	0%	0%	100%
	Current Generation capacity mix percentage	51%	0%	16%	4%	0%	10%	19%	0%	0%	100%
	Projected Generation capacity mix percentage	42%	0%	17%	5%	0%	14%	21%	0%	0%	100%
NSW	2007 Generation capacity mix percentage	92%	4%	0%	0%	0%	0%	3%	0%	0%	100%
	2012 Generation capacity mix percentage	69%	0%	8%	7%	0%	1%	15%	0%	0%	100%
	Current Generation capacity mix percentage	63%	4%	9%	1%	1%	4%	17%	1%	0%	100%
	Projected Generation capacity mix percentage	58%	3%	10%	1%	2%	6%	19%	1%	0%	100%
QLD	2007 Generation capacity mix percentage	78%	5%	11%	0%	0%	0%	6%	0%	0%	100%
	2012 Generation capacity mix percentage	68%	11%	15%	0%	0%	0%	5%	0%	0%	100%
	Current Generation capacity mix percentage	66%	10%	15%	1%	0%	0%	5%	3%	0%	100%
	Projected Generation capacity mix percentage	65%	10%	15%	1%	0%	0%	5%	3%	0%	100%
SA	2007 Generation capacity mix percentage	22%	19%	20%	38%	0%	0%	0%	0%	1%	100%
	2012 Generation capacity mix percentage	17%	15%	20%	29%	0%	18%	0%	0%	1%	100%
	Current Generation capacity mix percentage	0%	10%	22%	30%	0%	35%	0%	0%	3%	100%
	Projected Generation capacity mix percentage	0%	9%	20%	29%	0%	38%	0%	0%	3%	100%

*Combined-cycle gas turbine.
**Open-cycle gas turbine

- Amongst many coal power generators closing, Hazelwood (Victoria's largest power plant originally contributing up to 25% of Victoria's consumption) has now closed with workers finishing their final shift at 7:00am on April 1st 2017. This closure has simply allowed other base electricity generators to sell their electricity in Victoria at a much higher prices in order to meet the same required Victoria's demand. This in turn has already driven up electricity futures in Victoria - strongly correlating to today's high electricity prices.
- Due to the intermittency of these generation sources all states are becoming more reliant on gas fired energy generation for base load with gas becoming increasingly expensive. Although there has been a stronger focus on Wind and Solar Generation, unfortunately they are not as reliable for constant required base load as they are depended on wind status and sun exposure.
- Gas prices have more than doubled since December 2014 when Australia started to export LNG (Liquefied Natural Gas) overseas from the Eastern board of Australia.



- In addition to the above January and February 2017 ranked among the hottest months on record for southeast Australia. The key feature has been the number and frequency of extreme days - significantly adding further strains to already high electricity prices.



- Recently an assessment from the Australian Energy Market Operator (AEMO) has warned without a swift response a major gas shortage looms for Australia from next year, posing a risk to electricity supply and security in several states

  Source: http://www.abc.net.au/news/2017-03-09/looming-gas-shortage-will-threaten-nations-power-supplies/8337204

With all the events that has led to the current state of the electricity market some retailers are currently providing offer validity periods of only 24 hours.

(b) Small tariff Sites (generally <100 MWh)

Although Electricity Small Tariff sites are priced differently to large market contracts, offer validity periods are expected to be much longer than large market contracts, however the current raw energy rates in today's electricity market will have some impact on the overall result.

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Gas supply shortage will threaten nation's power supplies, AEMO forecasts

By political reporter Nick Harmsen

Updated yesterday at 4:34pm

A major gas shortage looms for Australia from next year, posing a risk to electricity supply and security in several states.

An assessment from the Australian Energy Market Operator (AEMO) is warning that, without a swift response, Australia could face a difficult choice — keeping the power on versus cutting gas supplies to residential and business customers.

"If we do nothing, we're going to see shortfalls in gas, we're going to see shortfalls in electricity," AEMO chief operating officer Mike Cleary said.

The analysis said without new development to support more gas-powered electricity generation, modelling showed supply shortfalls of between 80 gigawatt hours and 363 gigawatt hours could be expected from summer 2018/19 until 2020/21.

Widespread shortages are predicted to hit New South Wales and South Australia first, then Victoria in 2021, and Queensland between 2030 and 2036.

PHOTO: Not only gas customers will feel the pinch, with a forecast impact on power generation. (Flickr: Daniele Civello)

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Key points:

AEMO said the anticipated shortfalls would breach its reliability standard, which was an aim to supply at least 99.99 per cent of electricity demand.

The report warns AEMO could be forced to curtail gas supplies to big users in winter next year to prevent a shortage in Victoria and South Australia, unless a pipeline upgrade can be fast-tracked.

Key points:

- AEMO says NSW and SA face power supply risks from 2018
- Liquefied natural gas export is a significant market challenge, it says
- More gas production or quick alternative energy options are urged

An upgrade of the south-west pipeline is required to refill an underground gas storage facility at Iona in Victoria, which is used to help meet peak winter demand.

Less gas risks more blackouts

The AEMO report makes clear Australia's energy mix is facing big challenges, with export of liquefied natural gas now a dominant factor for the eastern states, production from existing gas fields in decline, and electricity demand rising.

It said some state governments were prohibiting onshore gas development with bans or moratoriums on fracking.

"To meet electricity supply needs, the NEM [national electricity market] requires either increases in gas production ... or a rapid implementation of alternative non-gas electricity generation sources," the assessment said.

"Gas-powered generation [GPG] is required ... to provide operational flexibility, by increasing and decreasing generation relatively quickly to meet changing demand when wind and solar generation [are] unavailable.

"The risk of short-term interruptions of electricity demand will increase when there is not enough GPG available to increase generation fast enough to meet demand."

Should you turn off your gas?

Instead of switching away from gas, consumer groups advise householders to research competitive offers and consider other ways to save on energy bills.

"The risk of short-term interruptions of electricity demand will increase when there is not enough GPG available to increase generation fast enough to meet demand."

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Brief rolling blackouts, when load-shedding was ordered by AEMO, occurred in South Australia last month, as a mothballed gas-fired power generator was unable to swing into operation quickly enough to help meet demand during hot weather.

AEMO also noted South Australia, which suffered a crippling state-wide blackout last September, was now heavily reliant on gas generation "to provide the minimal level of thermal generation the system needs to manage frequency changes".

"Otherwise widespread outages may be experienced, should the region become separated from the rest of the NEM," the report said.

The assessment factored in closure of the Hazelwood brown coal power station in Victoria's La Trobe Valley at the end of this month, and assumed South Australia's partially-mothballed Pelican Point generator would return to full service as a response to that Victorian closure.

Why was South Australia's power shut off during the heatwave?

We take a look at the process of load shedding and why it takes place.

Both plants are majority-owned by French company Engie.

Difficult choice looming

Mr Cleary said hard choices could confront Australia unless there was new gas production.

"If we use the gas for electricity, the potential for shortfalls are in the domestic and the industrial [supplies]. If we use it in industrial and domestic, the shortfalls will be in electricity," he said.

"No longer can we look at gas and electricity independently. They are now totally integrated to the point where we need national planning to understand how we're going to operate these fuels going forward, given that any decision we make in gas or electricity will have an impact on the other."

AEMO said it expected "continued upward pressure on pricing", which could "threaten the financial viability of some commercial and industrial customers".

Energy crisis looms

The report said new gas supplies might help with reliability and security in energy markets, but would be unlikely to lead to much price relief due to rising gas production costs.

The powers that be are stumbling in the dark to prevent a looming energy crisis, as the grid seeks to balance competing demands — both environmental and economic.

Is there a solution?

AEMO said it hoped policy makers and energy markets would respond to the findings of its assessment.

"We can either redirect some of the LNG from the international markets into the domestic market, assuming that the price allows that to happen, we can increase production from the existing fields, we can explore and develop new fields or we can have investment in the pipelines," Mr Cleary said.

"So there is time and there [are] options within the market to react and that's what we want the report to do."

Source: http://www.abc.net.au/news/2017-03-09/looming-gas-shortage-will-threaten-nations-power-supplies/8337204