



Electricity Market Commentary

July 2017

8 August 2017

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disclose

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Executive Summary

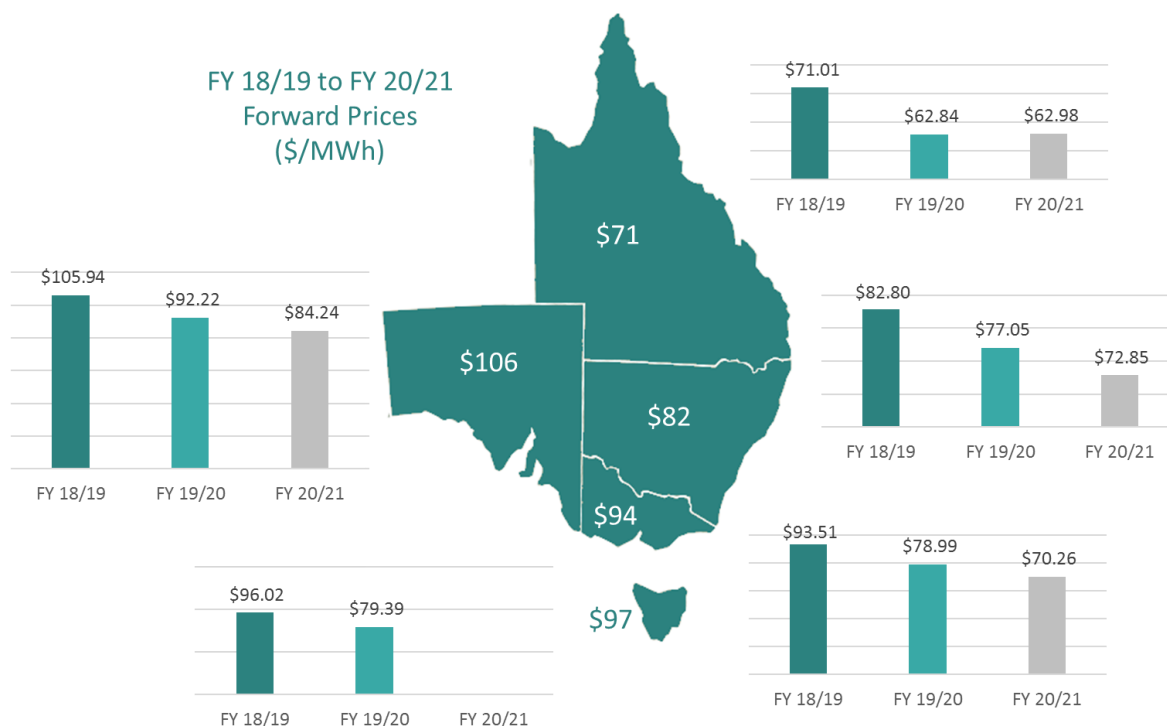
The energy market continues to set new records and travel through unprecedented waters. The highlights for the month are:

1. Since the start of July, forward market prices have tended to soften, but then in the last week or so rallied, but not yet reaching the levels at the start of the month.
2. Spot electricity prices continue to set new records for the month of July, and the southern States are constraining away from the northern States leading to consistently higher spot outcomes
3. Gas spot prices softened in the month, most notably in Queensland where the Origin consortium (APLNG), were operating the LNG processing facility at full capacity for 90 days under a test required by the lenders. It is suspected that this testing period, was one of the contributing factors for the softer gas prices.
4. For the first time since the sale of NSW generator assets, the largest set of generation assets in one State are on sale. In Victoria, Loy Yang B (1,100MW) is approaching the final stages of receiving final bids later in August, and it was announced that IFM Investors would be selling the old Ecogen assets of Newport and Jeeralang (about 800MW) gas turbine assets. Energy Australia inherited the foundation hedging contract with Ecogen which was established in the late 1990's with the old TXU Energy.
5. The joint initiative by ARENA and AEMO calling for demand side response closed during the month, and a spokesperson for ARENA had indicated that about 700MW of capacity was offered in the registration round for 2018, and 2,000MW for 2019.
6. The ACCC has been commissioned to review the behaviour of the Queensland generators for alleged price gouging, even though the AER reviews every case where the spot price exceeds \$5,000/MWh, and has found no wrong-doing.
7. The Prime Minister has called the large retailers to Canberra for a discussion in a similar way as the gas suppliers were called upon. The objective is to find a way to protect small consumers from energy price increases. This initiative was undertaken despite the ACCC enquiry into retail margins allegedly for price gouging which is not due to report on the findings until next year.
8. The Prime Minister's action is a reflection that the wholesale market increase that has been felt most vehemently by the large consumers, is now filtering through to the smaller consumers, as bundled tariffs have been reset in most States except for Victoria, on 1 July.
9. The Tasmanian Government has continued to undertake initiatives to protect Tasmanian consumers by announcing a \$15/MWh rebate for businesses that entered into contracts between 1 January 2017 and 30 June 2018. This rebate is in addition to the 20% reduction of wholesale prices in early May 2017.

Prices

Forward Prices

Except for SA, all other regions experienced a rising of the forward market in Cal-18 and FY-18/19. NSW and to a lesser extent Victoria, experienced an increase in Cal-19 and FY-19/20. In the outer years, prices tended to soften.

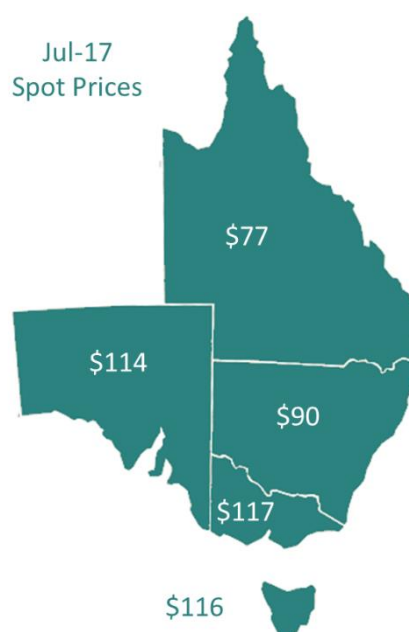


Spot Electricity Prices

The spot market prices for the southern States continue to separate from the northern States and deliver higher spot market outcomes.

The average monthly prices are shown in the figure, and Victoria set the highest average across all the States.

The month of July had the highest average price on record in NSW, Victoria and Tasmania; whilst SA and Queensland had the second highest July average on record.



Gas Spot Prices

Monthly average natural gas spot prices softened during the month and ranged between \$6.80/GJ in Brisbane to \$9.77 /GJ in Sydney.

Generation

In terms of generator behaviour:

1. In aggregate, no significant changes were noted in Queensland, although CS Energy did offer more low-priced capacity
2. For NSW, compared to last month there was an increase in capacity for the \$100/MWh to \$300/MWh price band, and less capacity in the \$50/MWh to \$100/MWh price band.
3. In Victoria:
 - a. Energy Australia offered less capacity in low price bands due to the Yallourn outage, and replaced the capacity with more expensive capacity
 - b. Origin and Snowy Hydro increased capacity in the \$100 to \$300/MWh band, by Origin shifting the capacity from low price bands, and Snowy shifting the capacity from higher price bands
4. In SA, Origin significantly changed their behaviour by moving capacity into extreme price bands and thereby reversing the May and June strategy.
5. In Tasmania, there was an increase of capacity in the \$100 to \$300/MWh price band which was drawn from lower price bands, and higher price bands.

In July 2017 across the NEM, black coal market share remained relatively similar, brown coal share decreased by 3.4% points, gas fired generation decreased by 1.4%, hydro market share slightly decreased; and wind increased by 4.63% compared to June 2017.

South Australian average generation increased significantly in July-17 as compared to June-17, its highest monthly average since 2014. In July, wind generation represented 44% of the energy generated in the State and was the highest on record.

Notable occurrences on the interconnector flows were:

1. the net energy exported to NSW from Queensland was the highest since August 2014
2. the net energy from NSW to Victoria was the highest in history.
3. Victoria became a net importer from South Australia for the first time, due to record wind generation in SA and outages in Victoria
4. Basslink net interconnector flows were low with Tasmania being a net importer

Renewables

Spot LGC prices rallied during the month of July, bringing the price closer to where it was in April earlier in the year. At the time of writing, LGC prices were \$84.63/MWh.

STC's continued to fall during the month of July reaching a low of \$29.00 with a net change of \$6.65 down since the start of July-17. Given the continual popularity of roof-top solar PV installations, the STC price is facing downward pressure in the short-term.

Weather

For August, the likelihood of exceeding maximum long-term medians for all capital cities is extremely high.

For September, the likelihood of exceeding maximum long-term medians for Darwin, Hobart and the major cities on the east coast remains high. But the likelihood of exceeding maximum long-term median for Adelaide has decreased and Perth to an even greater extent.

Carl Daley
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1 INTRODUCTION

This report provides an overview of the National Electricity Market, focussing on the month of July 2017. The structure of the report includes:

1. Key market news
2. Forward price movements
3. Spot markets analysis
4. Generation behaviour
5. Generation
6. Interconnector flows
7. Reserve shortfall outlook
8. Environmental certificates
9. Weather forecast

2 KEY MARKET NEWS

Key market news items for July have been:

2.1 FINKEL REPORT 2017

Shorten promises to implement all 50 Finkel energy policy recommendations, 18 July

Bill Shorten has sought to wedge the Turnbull government on energy policy, saying Labor will support all 50 of Chief Scientist Alan Finkel's recommendations and blaming the Coalition for policy uncertainty which has led to a doubling of wholesale electricity prices.

The Coalition party room has voted to implement 49 of Dr Finkel's 50 recommendations, but a consensus among MPs on a clean energy target remains elusive.

Labor's policy is for an emissions intensity scheme, an option that was ruled out by Prime Minister Malcolm Turnbull between the interim and final reports of the Government's Finkel review of energy.

In a speech to the Australian Clean Energy Summit in Sydney this morning, Mr Shorten said policy uncertainty was stapled to every Australian family's electricity bill.

Australia's \$10 billion wind and solar boom: But then what?, 18 July

Australia's clean energy industry warns that Australia's current \$10 billion splurge on large and small-scale renewable energy will not last unless the policy chasm that looms in 2020 is bridged.

Kane Thornton, the head of the Clean Energy Council, says its data shows there are some \$8 billion of large-scale renewables under construction or committed in 2017, and a further \$2 billion will be invested in rooftop solar by homes and businesses this calendar year.

"We are truly in the midst of an energy revolution," Thornton said, pointing to the halving of generation costs of wind and solar in recent years and the "digitisation" of the energy sector.

But he said 2020 – when the current renewable energy target that is driving this growth, at least in large-scale generation – "loomed large". The industry fears falling off another investment cliff, just as it did in 2013, after the Abbott government looked to scarp the renewable energy target.

Labor is seizing on the federal Coalition's resistance to the proposed clean energy target to once again "wedge" Malcolm Turnbull, just as it did in 2009 when the current prime minister was leader of the Opposition, but was ousted because of his support for the CPRS proposed by the then Rudd government.

Turnbull and energy minister Josh Frydenberg should be expected to embrace a CET, but can't because of the strength of the conservatives within the party. The Institute of Public Affairs this week said a survey it had conducted suggested more than half of Coalition MPs were climate skeptics.

But it seems that even economics are unable to win them over, and Labor is striking hard, with Opposition leader Bill Shorten on Tuesday declaring that his party was willing to meet

“Malcolm in the sensible middle” and embrace all 50 of Alan Finkel’s recommendations, including the CET.

2.2 POLICY, REGULATION AND RESEARCH

Wholesale power prices to stay above \$100/MWh without CET, 10 Jul 2017

Wind and solar projects remain competitively priced even after they are required to have battery storage to comply with tough new standards recommended in the Finkel Review, according to a new report. The report by Melbourne-based carbon consultancy, RepuTex, found wholesale prices would continue to rise unless there was a new climate policy such as the Finkel Review’s proposed Clean Energy Target (CET).

Wholesale prices are emerging as a major political headache for state and federal governments with a record increase in the second quarter of this year compared to 2016 – with the cost increase likely to be passed onto consumers before the end of the year.

While the Turnbull government has delayed a final decision on whether to back a CET, the report found a CET linked to Australia’s Paris climate targets of 28 per cent below 2005 levels by 2030 would result in a fall in wholesale electricity prices to \$60 per megawatt hour.

Under the business as usual scenario, wholesale power prices – which account for about 30 per cent of household electricity bills – would remain at more than \$100 per megawatt hour.

Queensland dismisses allegations state-owned generators behind high electricity prices, 9 Jul 2017

The Queensland Government has defended its role in electricity pricing amid allegations state-owned generators have been “gaming the system”. Federal Government analysis of the states’ energy markets found wholesale prices were 30 per cent higher in Queensland than in other states and territories. The Queensland Government said its consumers were still paying less than other jurisdictions where electricity is run by private operators.

But federal Energy Minister Josh Frydenberg said Queensland’s state-owned operators were to blame for the discrepancy. “In Queensland, your state-owned generators — and this is a very strong allegation based on the evidence — have been gaming the system,” Mr Frydenberg said. “What they’ve been doing is holding back their supply and then late into the period into which electricity prices are set, bidding in artificially high prices. Why in Queensland, when you’ve got state-owned utilities and generators, why are you paying so much for electricity?”

But Queensland’s Energy Minister, Mark Bailey, said the prices Mr Frydenberg referred to were not what consumers saw on their power bills. Mr Bailey said wholesale power costs in his state had been reduced under his Government’s recent energy reform plan. “What we did a month ago, is we released a whole range of energy reforms that dealt with attacking the wholesale price and getting it down,” Mr Bailey said. “It is now the lowest wholesales futures price on the eastern seaboard for the next three years in a row because our plan had a comprehensive strategy to deal with this.”

Queensland's power play 'is gaming the energy market', 10 Jul 2017

Wholesale electricity prices in Queensland have been the most expensive in the National Energy Market for most of this year as its state-owned generators more than doubled the dividends it paid to the debt-riven Palaszczuk Labor government. After the Queensland government last month ordered its largest generator to pursue less profit following growing industry pressure, a federal government analysis shows wholesale prices in Queensland have been on average 30 per cent higher than other states in the National Energy Market.

Federal Energy Minister Josh Frydenberg said the analysis also showed Queensland had almost double the number of spot-price spikes above \$5000 per megawatt hour of any other state in recent years. According to the analysis, wholesale electricity prices hit \$5000/MWh in Queensland 30 times, compared with 16 times in South Australia, 10 times in NSW, and twice in Victoria since mid-2014. "The reason for this is that generators in Queensland have been gaming the system," Mr Frydenberg writes in The Australian today. He said the state budget for 2017-18 forecast a \$1.5 billion windfall from the government-owned generators over the forward estimates, a 110 per cent increase on the dividend outlined in the 2015-16 budget.

Mr Frydenberg said the analysis showed that "volume weighted average" wholesale prices from January to May 31 showed Queensland led the country at \$157.18/MWh, with the national average being \$121.46/MWh. The January spike sparked allegations the Queensland generators were "gaming" the market through bidding behaviour on the volume and price of electricity supply that is determined over 30-minute intervals on the national market.

Energy regulator asked to probe Queensland's power prices, as 'political petty games' continue, 17 July

The Australian Energy Regulator (AER) has been asked to investigate Queensland power prices by Federal Energy Minister Josh Frydenberg, in a move slammed as blatantly political by the State Government.

In the latest exchange in a brawl between the Queensland and Federal governments over energy policy, Mr Frydenberg has written to the AER offering to increase its powers so it can investigate the strategic bidding practices of Queensland's Stanwell Corporation and CS Energy.

CS Energy and Stanwell Corporation have been accused of "gaming the system" giving Queensland the nation's most expensive electricity and costing jobs.

The companies have been accused of using the market to drive up power prices to meet State Government demands for higher dividends.

Mr Frydenberg said in the first five months of this year, electricity consumers in Queensland paid the highest wholesale prices at 30 per cent above the average.

"The former Queensland Labor government merged three generation companies into two, creating the concentration problem in the market," he said.

"The Queensland Government recently announced it was directing Stanwell to stop exploiting its market power.

"In response to this announcement, the electricity futures market saw the biggest single-day price drop for ASX traded baseload futures since 2007.

"The difference before and after the announcement is an indication of the excess profits the Queensland Government-owned generators were earning as a result of exploiting their market power."

State-owned power companies entrench high prices, says Australian Energy Regulator, 18 July

The Australian Energy Regulator chair Paula Conboy says high wholesale electricity prices will persist in Queensland while the two state-owned power generators continue to control two-thirds of market share in Australia's third largest state.

With federal Energy Minister Josh Frydenberg asking the energy regulator to look at the possibility of price-gouging in Queensland, the AER confirmed it had investigated multiple cases of price spikes involving the state-owned power companies CS Energy and Stanwell Corporation over the past few years.

Ms Conboy said the lack of competition in the Queensland generation market - which has also been raised by Australian Competition and Consumer Commission chairman Rod Sims - had the potential to entrench the power of the two state-owned companies in influencing prices.

"It is clear that 65 per cent of the capacity in Queensland rests with the Queensland government across two portfolios [CS Energy on 35 per cent and Stanwell 30 per cent]," Ms Conboy told The Australian Financial Review.

"The bidding and rebidding strategies of these generators will inevitably have a significant impact on outcomes in Queensland, at almost any level of demand. If the generators are incentivised to increase profit, without competitive tension in the region, they certainly have the capacity to do so."

Stanwell Corporation and Queensland Energy Minister Mark Bailey have denied the state-owned companies are price-gouging and using bidding strategies to reap more profits to be poured back into state coffers in the form of dividends.

The AER launches an investigation into the wholesale electricity market when wholesale prices top \$5000 per megawatt hour. This has happened on 30 occasions in Queensland since 2014, included seven times last summer.

In December last year, the Council of Australian Governments energy council gave the AER more powers to look into competition in the wholesale electricity market. It will deliver its first report to the COAG energy council in April 2018.

ACCC to investigate Queensland power prices, 20 July

The Australian Competition and Consumer Commission has confirmed it will investigate allegations of price-gouging by state-owned power companies in Queensland as part of its wider review into high power prices across the country.

With political pressure growing on the Palaszczuk Labor government over its virtual monopoly over power generation in Queensland, the ACCC said it would now be looking at

the bidding practices of the two state-owned companies, CS Energy and Stanwell Corporation, which have been accused of using strategic bidding to push up power prices.

ACCC chairman Rod Sims has long had concerns about the lack of competition in the Queensland electricity generation market, where the state government controls 65 per cent of the market.

"The Australian Competition and Consumer Commission's electricity supply and prices inquiry is looking at all drivers of electricity prices across the supply chain, including the wholesale market structure and conduct by generators," a spokesman for the ACCC said on Wednesday.

It comes as the state-owned power generator at the centre of allegations of price-gouging has hit back at criticism from the Australian Energy Regulator, saying wholesale electricity prices in Queensland would be higher under private ownership.

AusNet Services boss calls for leadership on power, end to partisan politics, 11 Jul 2017

The head of network operator AusNet Services has called the Finkel Review a once-in-a-generation chance to get the nation's energy policy back on track, and urged federal and state governments to push ahead with a clean energy target. Speaking at a lunch in Melbourne, AusNet managing director Nino Ficca said clear political leadership was needed to provide direction and certainty to investors and consumers.

He backed a CET, said a national approach was needed and that the industry was looking to the upcoming Council of Australian Governments energy council meeting for leadership. "An imperfect policy that is workable and stable is better than no policy at all, and that is where we are today," Mr Ficca said. "Partisan politics will lock in poor outcomes."

He pointed to comments from EnergyAustralia in The Australian today that implementation of the target would spur new gas-fired power investment. "This is a once-in-a-generational reform opportunity to get energy policy back on track," Mr Ficca, who is also chairman of the Energy Networks Association, said.

Will electricity price hikes drive inflation higher?, 25 July

It may take as long as a year to confirm whether recent dramatic double-digit hikes in electricity prices will permanently drive up inflation as households benefit from the offsetting effect of falling petrol prices and businesses struggle to pass on costs.

With Wednesday's consumer price index expected to show core inflation remained below the Reserve Bank of Australia's 2-3 per cent target range, questions are being asked about whether the current relative lack of price pressure is about to come to an end.

The CPI rose 0.4 per cent in the June quarter from the previous three months, when it gained 0.5 per cent, according to economists surveyed in a Reuters forecast for the coming official release.

Headline annual prices rose 2.2 per cent, while the Reserve Bank's two preferred measures of core inflation – which remove the impact of one-off or extreme changes in prices – gained 0.5 per cent in the quarter and between 1.7 per cent and 1.8 per cent from a year earlier.

A lack of strong price pressure, driven in part by the lowest wages growth on record in data going back to the late 1990s, has left the Reserve Bank with little option but to keep the cash rate steady at 1.5 per cent even as peer economies around the world begin the task of normalising ultra-stimulatory policy settings.

Price pressures remain subdued largely because of weak rental growth, and falls in petrol prices, which declined 2.6 per cent in the second quarter, and computing equipment, which dropped 3.9 per cent, according to analysts at National Australia Bank.

Energy retail prices are expected to have risen by 2.5 per cent, with gas up 3.8 per cent in the June quarter, according to the NAB team.

Those gains are set to escalate in the current quarter and beyond, especially if big increases in wholesale energy prices are passed on to households and consumers.

"Announced hefty increases in retail electricity prices will be a feature of the next CPI, but how much it features in underlying inflation depends on unknown second-round effects on retail prices," said NAB economist David deGaris.

ACCC's Rod Sims wants cheaper energy, more competition, 26 July

Competition regulator Rod Sims wants to ease the energy crisis by helping consumers to find "much cheaper" electricity offers and lowering barriers to new suppliers.

The Australian Competition and Consumer Commission chairman said the agency is concerned that the poor and elderly are often left on high-priced "standing offers" and the three dominant retailers have few incentives to bid keenly in the electricity market or make way for new entrants.

The Turnbull government asked the ACCC to inquire into electricity and gas affordability as retailers flagged price increases of up to 20 per cent and business users face crippling price hikes.

Mr Sims said it's early days for the inquiries but the ACCC is looking at the problems broadly. "We are basically saying there is market power in the retailers and there is market power in the generators – how do you lower barriers to entry and what might you want to do about market power?"

Victoria power retailers brace for price ruling after government-ordered review, 30 July

Victoria's electricity retailers are waiting nervously for a sign as early as this week from the state on potential measures to curb soaring retail prices, amid concern the state may intervene ahead of a broader inquiry by the national competition watchdog.

A government-ordered review into Victorian electricity and gas retail prices, headed by former Labor deputy premier John Thwaites, is due to report by the end of July and may already have handed recommendations to Victorian Energy Minister Lily d'Ambrosio.

Although a drastic re-regulation of retail prices is not expected, some sources suggest the review may recommend the government taking back some control at least, possibly by setting the fixed charge component of a bill.

"Naturally we are concerned about politicians using the current energy crisis to re-regulate," said Matthew Warren, chief executive of the Australian Energy Council, whose members include the big three retailing majors, AGL Energy, Origin Energy and EnergyAustralia.

"We welcome the ACCC [Australian Competition and Consumer Commission] inquiry because any recommendation or advice to increase competition is a good thing. [But] the concern we have is where governments choose to increase regulation as a way of ... managing a political perspective as opposed to doing the things that work for consumers."

Market worries about government intervention on energy prices has affected sentiment around AGL and Origin, whose share prices are off highs reached in April-May. After a second round of household power tariff hikes in July by some smaller retailers in Victoria, some households have seen increases of up to 43 per cent from last year.

Last week's report on retail competition by the Australian Energy Market Commission has added to concerns. While the AEMC found that competition was working, it pointed to much higher margins for three major retailers in Victoria than in other states and suggests the ACCC investigate.

The ACCC's broader inquiry into electricity supply and prices is meanwhile ramping up, with requests for detailed information having been issued to retailers. The first public forum was held in Brisbane last week, with forums to take place in Adelaide on Monday and Melbourne on Thursday.

ACCC chairman Rod Sims last week said put the whole electricity supply sector on notice, advising the regulator would "look closely at retailer behaviour and offers" to examine potential ways to help people find cheaper power, and would also examine the implications of high concentration in the industry, both in generation and retailing.

The ACCC is due to hand its preliminary report on electricity prices to Treasurer Scott Morrison by September 27.

\$20 million energy rebate for Tasmanian businesses

The Tasmanian Government announced an energy rebate scheme for businesses that entered into contracts between 1 January 2017 and 30 June 2018. The scheme offers a rebate of \$15/MWh for eligible business customers and is understood to be managed through the retailers on behalf of the Government.

The rebate scheme follows the Government's previous initiative with Hydro Tasmania to reduce the wholesale contract price by 20% in early May 2017 for the 2017/18 financial year.

2.3 GAS MARKET

Qatar won't let Australia take its LNG crown without a fight, 5 Jul 2017

Qatar just undermined Australia's efforts to overtake it as the world's biggest producer of liquefied natural gas.

While the gulf sheikhdom may soon slip to second place behind Australia as top supplier of the fuel, it's poised to retain the No.1 spot within the next seven years after Qatar Petroleum said it would raise output by 30 per cent. Such an increase would surpass Australia's planned expansion and reinforce Qatar's role as a major global supplier – even amid a regional dispute and commercial boycott by a Saudi-led coalition of countries.

Qatar's message to the rest of the LNG world is, "We are going to take a huge chunk of the incremental market," said Jonathan Stern, chairman and senior research fellow at the Natural Gas Research Programme of the Oxford Institute for Energy Studies. Qatar is also throwing down the gauntlet to Saudi Arabia, the world's largest oil exporter.

Qatar seeks to produce 100 million tons of LNG, or about 40 per cent of last year's global supply, up from its current level of 77 million tons, Saad Sherida Al Kaabi, chief executive officer of the state-run producer, said on Tuesday in Doha.

Australia, which has spent \$200 billion to build LNG-exporting plants, may surpass Qatar as the biggest shipper as early as next year, but lose its leadership by the middle of the next decade given Qatar's latest plans, according to data from Bloomberg New Energy Finance.

Qatar vows to regain LNG export crown, 5 Jul 2017

Global LNG giant Qatar has announced surprise plans to boost LNG exports to more than 100 million tonnes a year, in a move that would see it regain the mantle of world's biggest LNG exporter from Australia and put pressure on future LNG exports and projects like Woodside's proposed \$US25 billion (\$33bn) Browse development.

Last night (Australian time), the head of Qatar Petroleum told international wire services the emirate planned to raise production from current levels of about 77 million tonnes of LNG a year to 100 million tonnes by 2024.

Analysts had previously expected Qatar to hold exports fairly steady, although earlier this year it removed a self-imposed ban on expanding its giant North Field. "This new project will strengthen Qatar's leading position," Qatar Petroleum chief Saad Sherida Al-Kaabi said, - according to an AFP report. "We will remain the leader of LNG for a very long time."

Australia's LNG production is expected to plateau at about 80 million tonnes of LNG in the next year or so to become the world's leading exporter.

But the proposed Qatar ramp-up would easily regain the Persian Gulf sheikhdom's position as the world's biggest LNG exporter.

Lack of gas transportation agreement with Hydro Tasmania compromises energy security in Tasmania and forces price increases for major industrial customers, 4 Jul 2017

The Tasmanian Gas Pipeline (TGP) has commenced communications with major industrial gas users to inform them of increased pricing for gas transportation after being unable to agree terms with Hydro Tasmania over a gas supply agreement for its Tamar Valley Power Station (TVPS).

The decision to offer pricing to major industrial gas users comes in the wake of fruitless discussions with Hydro Tasmania over some two years to determine a fair pricing mechanism for the transport of gas to Tasmania, and as a consequence will see significant increases of up to 95 per cent in charges to major industrial customers.

Hydro Tasmania currently represents some 75 per cent of revenue for gas transportation to Tasmania and effectively sets the price for all gas users in Tasmania.

By not responding to being offered a 45 per cent discount on the previous agreement with TGP for TVPS, Hydro Tasmania is effectively compromising energy security in Tasmania.

Had the offer to Hydro Tasmania been accepted, the increases to major industrials would have been minimal, but as it stands, it is likely Hydro Tasmania is attempting to force negotiations with TGP to arbitration, which is likely to be expensive, time consuming and create more uncertainty for Tasmanian industry and jobs.

Government to ensure Tasmania's industrials don't cop gas price hike, 6 Jul 2017

Financial assistance for Tasmania's major industrials will be on the table if gas negotiations continue to break down and result in massive price hikes, the Energy Minister says.

The contract for the transportation of gas across Bass Strait expires at the end of the year but discussions between Hydro Tasmania and the pipe's owners, Tasmanian Gas Pipeline (TGP), have broken down.

TGP chief executive Lindsay Ward hit out at Hydro, accusing it of being "disinterested" in negotiating and threatened to put up costs by 95 per cent if they cannot agree.

There are fears that could lead to mass job losses at the state's major industrials such as Bell Bay Aluminium and Nyrstar, which employ thousands of Tasmanians and are the biggest users of gas aside from the Tamar Valley Power Station.

State Energy Minister Matthew Groom said price hikes of 95 per cent would be unacceptable, and the Government would intervene.

AGL Energy delays decision on floating gas import terminal

AGL Energy has delayed a decision on a location for an up to \$300 million Australian gas import terminal that it hopes would act as a pressure valve for tight east coast gas markets.

The Sydney-based energy company is studying the economics of a floating LNG import terminal in NSW, Victoria or South Australia that it says would be economic as east coast gas prices surge as Queensland LNG exports ramp up.

As recently as last month, AGL had said it was on track to name a preferred site by the middle of this year, but it has not met the target.

At the time, it drew scepticism because of the absurdity of the prospect that Australia, soon to be the world's biggest LNG exporter from projects in Queensland, the Northern Territory and Western Australia, would need to import gas.

But with east coast gas prices tightening as three LNG plants in Gladstone increase capacity and triple east coast demand, and the cost of piping gas from Queensland to Victoria said to add up to 30 per cent to the price, the project is looking more viable.

It is hoping for construction to start in 2019, with the terminal in operation in 2020-21.

NT gas explorers 'encouraged' on initial fracking report, 17 July

Explorers sitting on vast quantities of undeveloped gas in the Northern Territory are cautiously optimistic that the territory may relax its moratorium on fracking despite an interim report on the controversial technology outlining several risks to water and land that need careful management.

The petroleum sector, which industry group APPEA says is ready to invest "billions" of dollars to develop unconventional resources in the NT if the moratorium is lifted, believes that the numerous issues outlined in the report should not be insurmountable, according to sources.

NT gas has come to the fore as a possible solution for the shortages plaguing the east coast market where prices for local users have soared as production has lagged behind rising demand from Queensland's LNG export sector. A new \$800 million gas pipeline is being built by Jemena to link the NT to Queensland and the east coast gas grid while the federal government is backing a feasibility study into a pipeline from the NT to South Australia.

But drilling in the NT was stopped in its tracks last September when the new government under Chief Minister Michael Gunner followed through on an election promise to slap a moratorium on fracking while further scientific studies were carried out.

The Australian Petroleum Production & Exploration Association said the gas industry believed the issues being examined had already been thoroughly investigated but still voiced support for the process.

APPEA has argued the inquiry must consider the public benefit to NT residents of gas development and NT director Matthew Doman said the body was pleased this work is now under way.

Oil Search, ExxonMobil and Total unveil PNG LNG expansion plans, 18 July

Oil Search and its partners ExxonMobil and French giant Total are pushing to have their new plan for the expansion of LNG production in Papua New Guinea ready for October, when the new PNG government should be in place.

Oil Search said on Tuesday that Exxon, which operates the PNG LNG project and the P'nyang field, and Total, which operates the Elk-Antelop project, examined "various development concepts for the Elk-Antelope and P'nyang gas fields" during the June quarter, where Oil Search's production slipped slightly due to programmed maintenance that shut down its two production facilities for 17 days.

"Oil Search believes the most likely development is based on the construction of two LNG expansion trains at the PNG LNG Project plant site, thereby utilising existing downstream infrastructure, using the existing gas resources in the Elk-Antelope and P'nyang fields," Oil Search chief executive Peter Botten said.

But with local and national election in full swing in PNG, the joint venture partners will be working towards presenting their "aligned view" to the new government late in the September quarter, or early in the December quarter.

Origin sitting on Beetaloo shale gas bonanza, 20 July

Off the outback Stuart Highway in the frack-free Northern Territory, it is looking increasingly likely that Origin Energy has discovered a world-class shale gas resource, comparable to those in the US, just east of Daly Waters.

And while it would take at least five years to develop, even if an NT fracking moratorium is eased, it could play a big part in balancing east coast gas supplies that are expected to struggle to meet demand over the next 20 years after the construction of export plants at Gladstone.

Known as the Beetaloo joint venture, Origin Energy estimates it has 6.6 trillion cubic feet (tcf) of contingent gas resources over 2000sq km of ground. This follows the hydraulic fracturing, or fracking, and testing of Australia's most successful shale well to date — the Amungee horizontal well. It was fracked just before the NT's Labor government took power in September and, at least temporarily, banned the practice.

That is a lot of gas in itself. But the shale play that was tested, known as the Velkerri formation and holding the world's oldest gas source rocks, extends over 17,000sq km on Origin's ground. This means the resources could be expanded to eight times its current size, or about 50 trillion cubic feet of gas.

And it gets better. Slightly shallower than the 2.4km deep, 1.4 billion year-old Velkerri, sits another, younger play, known as the Kyalla formation, at just 1.2 billion years old. It has not been horizontally drilled — the technique that made fracking shale in the US commercially viable — but recent testing of samples have given the surprise indication the liquids-shale has properties that can be fracked.

Exporter warning over gas shortfall, 24 July

Australia's major exporters of liquefied natural gas will be given formal notice today that the government is considering whether next year will qualify as a "gas shortfall year," allowing it to intervene in the market to shore up domestic supply.

Resources Minister Matt Canavan will warn LNG exporters today that he is seeking information on whether or not to intervene using the Australian Domestic Gas Security Mechanism, which was introduced on July 1.

A final decision is expected to be made by October, with Senator Canavan to consult with the Australian Energy Market Operator, Australian Competition & Consumer Commission, and major gas users and producers to assess whether there will be sufficient supply to meet demand next year.

“The ADGSM is a mechanism of last resort to be applied in accordance with our international trade obligations and will only be used if there will not be a sufficient supply of gas for Australian consumers,” Senator Canavan said.

“The mechanism will balance domestic gas market considerations with the operational and planning requirements of a globally integrated and highly competitive export industry.”

Senator Canavan said he was committed to working closely with gas suppliers to see if they could show that demand would be sufficiently met, as part of a genuine consultation process before any decision was made on whether to proceed with export restrictions.

The Turnbull government is urging the states and territories to ease some restrictions on onshore development, with Victoria having banned unconventional gas development and imposed a moratorium on conventional gas exploration until 2020.

LNG: Gorgon hits capacity as gas projects pick up steam, 31 July

Australia’s \$US200 billion (\$250bn) gas export construction boom over the past decade is starting to finally bear fruit, with Chevron declaring that the nation’s most expensive resources project, the \$US60bn Gorgon LNG, is running at full capacity and the start of the \$US34bn Wheatstone project is imminent.

The progress update on the two West Australian projects, announced on Friday in the US, comes as the floating Prelude LNG, the biggest ship ever built and estimated to have cost much more than \$US20bn, is being towed to WA’s offshore Browse Basin.

And last week, Origin Energy’s Australia-Pacific LNG project completed a lenders’ test that means all six LNG export trains built side-by-side on Gladstone’s Curtis Island are operational.

The question now is how much of Australia’s gas bounty will be harvested by the nation, with cost blowouts at all the projects providing big deductions, and lower LNG prices slashing expected cash flows and company profits.

Chevron’s head of exploration and production, Jay Johnson, said the three big trains at Gorgon, designed to export a combined 15 million tonnes of LNG a year, were up and running at nameplate capacity after glitches last year starting the first train.

A string of LNG approvals in Australia since 2007 is expected to see the nation become (at least briefly depending on Qatar and US expansion) the world’s biggest LNG exporter.

2.4 GENERATION

2.4.1 Solar and Wind

EnergyAustralia signs PPA for 150MW Neoen solar farm in NSW, 20 July

Major utility EnergyAustralia has signed a long-term deal to buy 100MW of the output from a yet to be built solar farm in New South Wales, marking the gen-tailer's fifth renewable energy PPA in just seven months.

The deal is yet another coup for French renewables developer Neoen, which is building the solar farm in Coleambally, in the NSW Riverina district, pending financial close of the project.

Just two weeks ago, Neoen was named as one of the winners – alongside Tesla – of the bid to build the world's biggest lithium-ion battery installation in South Australia, next to its 309MW Hornsdale wind farm.

The relatively new company is also building the 195MW wind farm and 20MW/34MWh battery array to supply Nectar Farms in Victoria, and is also building another three solar farms in western NSW, totalling 133MW, after winning grants in ARENA's large-scale solar tender.

It has also built a 10MW solar plant at the Degussa copper mine in WA, with 5MWh of battery storage.

Construction of the Riverina solar project is set to begin in late 2017, and will have an capacity of 150MW once completed.

The project is also expected to create around 300 jobs during the construction phase, with a further seven ongoing operational roles to be filled once construction is finished.

2.4.2 Storage

Sonnen battery storage plan to take utilities “out of business”, 5 Jul 2017

Christoph Ostermann, the founder and CEO of German battery storage developer Sonnenbatterie, could hardly believe his luck: Just as he prepared to announce a plan to take Australia's energy utilities “out of business”, the utilities announced – en masse – a near 20 per cent jump in the cost of grid power.

The Australia battery storage market – already seen by Sonnen as the most promising in the world – thanks to its excellent sunshine, its high penetration of rooftop solar, volatile energy markets and extremely high retail electricity prices – suddenly got even more attractive.

“It was perfect. We said: ‘Thankyou very much,’” Ostermann told journalists at the launch of the Sonnenflat battery storage retail product in Sydney on Wednesday night

Sonnen unveiled what it describes is a major assault on the traditional energy utility business model by introducing a unique offer that replicates the sort of deal consumers can get from a mobile phone company, and with a quick pay-back.

“That’s our goal, to take the traditional utility out of business,” Ostermann says. “What we do is provide grid power for free.”

Elon Musk’s Tesla to build giant battery for SA, 7 Jul 2017

US-based Tesla and French company Neoen will build the world’s largest lithium ion battery in South Australia with plans to complete construction before summer.

The 129 MW per hour plant will be built at Jamestown, expanding Neoen’s Hornsdsle Wind Farm, two hours north of Adelaide.

Tesla owner Elon Musk, who is worth more than \$US16 billion, arrived in Adelaide this morning for the announcement, where he pledged to build the battery storage facility within 100 days or provide it for free to the South Australian government. Mr Musk refused to say how much the battery system would cost.

“This is going to be the largest battery station in the world by a significant margin, this is 100MW battery, the next biggest battery system in the world is 30MW,” Mr Musk said.

The project is tipped to create hundreds of jobs in the construction phase, and it is planned to be completed by December 1.

In a statement, Tesla said: “This week, through a competitive bidding process, Tesla was selected to provide a 100 MW/129 MWh Powerpack system to be paired with global renewable energy provider Neoen’s Hornsdale Wind Farm near Jamestown, South Australia. Tesla was awarded the entire energy storage system component of the project.

Biggest battery rates for Moody’s, but only if it works, 14 Jul 2017

Ratings agency Moody’s says the construction of the world’s largest lithium-ion battery in South Australia will be “credit positive” for the state, which has suffered a confidence blow because of energy insecurity and the closure of car manufacturing.

Moody’s Investors Service vice-president John Manning said yesterday the 100 megawatt battery system, which US-based Tesla and French energy giant Neoen will build for about \$100 million, would be credit-positive if it could mitigate output volatility from wind farms, improve reliability and lower energy costs.

“Widespread adoption of a successful technology should improve business confidence in the state and accelerate investment,” Mr Manning said. “Such investment is important given that South Australia faces challenges from the closure of its auto manufacturing industry in late 2017.”

South Australia’s Tesla battery no silver bullet, says Josh Frydenberg, 12 Jul 2017

Environment and Energy Minister Josh Frydenberg has dismissed the fanfare surrounding South Australia’s deal with Tesla’s Elon Musk to build the world’s biggest lithium ion battery,

saying the facility will only provide 129 megawatt hours of storage, compared with 350,000 megawatt hours from the Turnbull government's Snowy Hydro 2.0 project.

Mr Frydenberg took a swipe at the Weatherill Labor government, saying the South Australian battery announcement needed to be seen in perspective.

"I absolutely welcome any investment in storage, and I've repeated that up hill and down dale, but the reality is the public shouldn't be tricked into thinking that this is a silver bullet," he told ABC radio.

"On any one day in South Australia, there is 13,000 megawatt hours of wind storage. This will save less than one per cent of that, so as long as the Weatherill government is upfront about the limitations of its own announcement, then we're fine."

Ahead of the COAG meeting, Australian Energy Market Operator CEO Audrey Zibelman has urged the ministers to "get on with it" and endorse the Finkel Review, saying the biggest challenge for the energy market at the moment is indecision.

Australia's first battery 'gigafactory' considered for Darwin, 11 Jul 2017

An Australian company has announced a bold plan to build Australia's first "gigafactory" in Darwin, producing custom-made lithium-ion batteries for large-scale energy storage.

Energy Renaissance said, if it were to go ahead, the huge manufacturing plant would supply commercial customers in telecommunications, defence and government sectors.

"Our focus is to build the world's best batteries for hot and humid climates," said Brian Craighead, the managing director of the company.

Energy Renaissance plans to use patented technology from US company 24M to build batteries that can withstand harsher conditions.

The Northern Territory Government confirmed it was in talks with the company about the facility, to be called Renaissance One, which it estimates could create dozens of jobs at first, and hundreds in the long term.

Tesla already has the world's largest gigafactory in the US state of Nevada, but Mr Craighead said the Darwin project would be on a smaller scale, targeting niche consumers with the capacity to produce bespoke batteries.

ZEN Energy, Sonnen plot solar/battery power project for rural NSW, 24 July

Local battery developer ZEN Energy has joined Europe's leading storage system supplier Sonnen to hatch a plan to cut power bills for rural Australia consumers who are being hit hardest by rising prices.

ZEN chairman Ross Garnaut said the project would be revealed within the next few months. "We've got a strategy to do a number of things to reduce power costs in rural and provincial Australia, and Sonnen will be providing one important input into that," Professor Garnaut said.

The project is understood to include the installation of solar and storage systems that would convert a town to run 100 per cent on renewable and clean energy, as happens in the village where Sonnen is headquartered, Wildpoldsried in Bavaria.

Twelve councils in southern NSW are among those have signed up for the project, which could be partly funded by low-interest loans from NSW Treasury Corporation, said Sonnen's managing director in Australia, Chris Parratt.

Meanwhile, Sonnen has held talks with NSW Trade and Investment Minister Niall Blair about preliminary plans to set up a local assembly plant for its storage systems in NSW. The plans may tie in with ambitions in the government to develop a renewable energy hub in a regional town such as Dubbo.

SA back-up power plan to become permanent, Jay Weatherill says, 31 July

A plan to obtain and install 200MW of back-up power generation in South Australia by December 1 has changed, with Premier Jay Weatherill today announcing the temporary power plant will become permanent.

Earlier this year the Premier announced that, as part of his \$550 million "self-sufficient" energy plan, there would be a fleet temporary generators shipped in by December 1 in a bid to prevent more blackouts over summer, before the next state election due in March.

The back-up plan was to be in place until a planned \$360m new gas-fired state-owned power plant is up and running.

Privately owned electricity distribution company SA Power Networks was contracted to undertake the ambitious project.

Today Mr Weatherill revealed further details of the controversial plan, announcing that rather than just procuring temporary generators, the state Labor government will purchase nine new GE TM2500 aero derivative turbines through APR Energy, providing up to 276 MW of generation to the grid when required.

2.4.3 Coal

Clean coal cheaper than previously thought, says Minerals Council, 3 Jul 2017

The cost of building a next-generation coal fired-power station is almost \$1 billion cheaper than previously thought, according to new reports commissioned by the Minerals Council of Australia.

Despite last month's Finkel Review warning investors were only interested in financing wind and solar projects - and Australia not building a new coal-fired power plant for the past 10 years - the Minerals Council said the reports by energy consultants Solstice Development Services and engineering company GHD showed a modern 1000 megawatt HELE (high-efficiency, low-emissions) or ultra supercritical power station could be built for \$2.2 billion.

The report found a smaller stand-alone 650 megawatt ultra supercritical coal-fired power station without cheaper equipment from China would cost about \$2.6 billion.

The Minerals Council, which has been rallying against the Clean Energy Target recommended by the Finkel Review if it excludes coal, said the new reports showed HELE coal plants were a viable part of providing base load power in the National Electricity Market for decades to come.

"This demonstrates that HELE coal plants - which would have operating lives of several decades - are viable and affordable options for replacing Australia's existing ageing coal-fired power stations," said Minerals Council of Australia executive director Greg Evans.

Clean-coal cheaper option than renewables, 3 Jul 2017

The construction of a new high-efficiency, low emissions coal-fired power station, being considered by the Turnbull government, would cost \$2.2 billion — considerably less than the \$3bn of subsidies handed out to renewable projects each year, a new technical study shows.

With Australians facing further hikes in their electricity and gas bills following moves by - energy companies over the weekend to increase bills by up to 20 per cent, Malcolm Turnbull is under pressure to deliver relief for households, small businesses and manufacturers.

New analysis, compiled by power and energy sector specialists GHD and Solstice Development Services, reveals it would cost \$2.2bn to build a 1000MW ultra-supercritical (USC) coal-power plant and that it would deliver the cheapest electricity on the market.

The HELE coal plant, which the Turnbull government has not ruled out funding, would produce electricity at \$40-\$78 per megawatt hour, compared with gas at \$69-\$115/MWh and solar at \$90-\$171. The 550-page technical study, commissioned by the Minerals Council of Australia and the COAL21 Fund, reveals that clean-coal plants would drive down energy prices, and offers the Prime Minister an economic blueprint on the viability of new coal-fired stations.

Industry chiefs and Coalition MPs concerned about the retirement of coal plants in NSW and Victoria have identified opportunities for new investment in coal plants, using low-emissions technology including viable carbon capture and storage options.

With up to 1200 HELE plants being planned or built in Asia, and similar technology anchoring electricity production in Japan and Germany, senior government MPs, including Mr Abbott, have backed investment in coal-fired energy. Mr Turnbull said last month his government remained open to using cleaner-coal technology to replace existing generators, in what he said would be a "long-term commitment".

The Minerals Council of Australia says the nation faces an energy shortfall, with 8GW of coal plants to retire by 2030, and a total of 25GW by 2040, and that if all existing plants in Australia were upgraded to modern HELE technology, it would reduce emissions by 45 million tonnes a year.

Don't buy the Minerals Council costings of coal power, 6 Jul 2017

If you are an investor, you won't want to rely on the Minerals Council of Australia's costings of new coal fired power plants.

How do we know this? Well, for a start, the engineering firm that modelled the costings for the Minerals Council, GHD, warns you not to, copiously, in more than a page of disclaimers.

It has not had access to the US PEACE database it uses for the modelling, the database has "recognised limitations on accuracy" and is not intended to produce "robust final cost figures for project execution". GHD's report is only for the purpose of "informing debate", is a preliminary estimate only, with no detailed quotation having been obtained.

In short, "GHD does not represent, warrant, or guarantee that the works or project can or will be undertaken at a cost which is the same or less".

The Minerals Council is using the costings to argue that you, the taxpayer, should fund the construction of a new coal-fired power station and that the government could even buy the power from the new taxpayer funded plant to make the numbers work a little better.

The costings for the new coal fired plant are so much lower than previous costings - and the comparative cost estimates for wind and solar power so much higher - as to make the assumptions behind the modelling look heroic.

If they were robust, power companies and private investors would be flocking to build new coal fired power stations in Australia and there would be no need for the Minerals Council, the Queensland Resources Council or ex-PM Tony Abbott to try to foist the deal on unsuspecting taxpayers.

Instead, the natural investors in new generation - power companies - are running in the opposite direction, and investing in wind farms, solar farms, gas plants and storage.

New coal plant in Victoria 'highly unlikely'

The Andrews government has sounded the end of new coal-fired power generation in Victoria with a coal policy and emissions restrictions that all but rule out building even the cleanest coal-fired power plants.

Victorians banking on high-efficiency, low emissions (HELE) coal technology to boost the state's ailing energy supply and to reduce soaring power prices have had their hopes dashed with the release of the government's "Statement on Brown Coal".

In the statement, the government opens the door for investment in alternative uses of brown coal, but effectively stamps out opportunities to use it as new power source by setting an emissions cap that is almost 50 per cent lower than what the cleanest HELE plants can deliver.

Energy Minister Wade Noonan said Victoria's energy mix was shifting irrevocably away from coal to new, renewable sources.

"It is highly unlikely that we will see a new coal-fire power station built in Victoria," Mr Noonan said.

The opposition has slammed the policy, which it believes will trigger higher energy prices for consumers at a time when the state's power supply is already under threat of blackouts during peak periods. It also said it would damage job security throughout regional Victoria.

"The Premier's new coal policy will make new investment in brown coal-related industries much harder, and that means lost jobs for the Latrobe Valley," opposition energy and resources spokesman David Southwick said.

"This is another sad reminder the Andrews government is more concerned about inner-city Greens voters than hardworking Victorian families and businesses."

Mr Noonan conceded that Victorians were facing stiff pricing as the result of the country's energy supply entering a "period of transition" but was insistent that prices would flatten out as new investment built up the supply of renewable energy.

Adani could cost NSW \$10bn in royalties, shut mines: report, 17 July

A new report has urged the NSW government to oppose federal subsidies for a proposed coal mine in Queensland's Galilee Basin as it could cost the state \$10 billion in royalties and force mines to close.

The proposed development of Adani's mine in the Galilee Basin could directly impact the price of coal and reduce NSW coal royalties by \$10.2bn between 2023 and 2035, according to a report released by the Australia Institute on Monday.

The report, based on industry analysis commissioned by the Port of Newcastle, suggested that the fall in coal price would force NSW miners to cut back on production and could see some to close.

The analysis, by Wood Mackenzie, estimated the Queensland mine could reduce coal prices by 25 per cent and cut NSW exports by 80 million tonnes a year. Without the Galilee Basin mega mine, the report predicted a rise in NSW coal production along with an increase in coal's value.

2.4.4 Hydrogen

Hydrogen fuel edges closer as Siemens says don't exclude anything, 5 Jul 2017

Siemens, the German power engineering giant, is talking to Australian wind and solar energy firms and state governments about hydrogen storage as the technology edges closer to becoming a commercial energy source.

Some large solar and wind farm developers want to use their surplus power to turn water into hydrogen and even ammonia - which is easier to transport - for conversion to fertiliser or back to hydrogen for energy at another location, such as a city.

Development of hydrogen after years of frustration adds to a crowded field of energy technologies that can help balance variable wind and solar power in the electricity grid, Siemens chief technology officer Michael Weinhold said.

Professor Weinhold said hydrogen could also be mixed with natural gas in gas turbines - with the mix ranging from a few per cent to 20 per cent - if it can be produced cheaply, providing a carbon dioxide-free alternative to natural gas.

French wind farm developer Neoen bought the first Siemens SYLIZER - a device for separating water into hydrogen and oxygen - sold outside Germany to refuel a small fleet of Hyundai hydrogen vehicles purchased by the ACT government.

Germany has built some new brown coal fired power stations to fill the gap left by the closure of its nuclear fleet - a move decided after Japan's Fukushima nuclear disaster - but wind and solar power now supply more than 30 per cent of the nation's electricity and will continue to grow.

2.5 OTHER

AEMC delays 5-minute ruling again after protests from incumbents, 5 Jul 2017

The country's main energy rule maker has once again delayed a decision on the so-called 5-minute rule – a critical change that could help reduce electricity prices and encourage new technologies such as battery storage – after facing intense new opposition from incumbent utilities fearful of losing their pricing power.

The Australian Energy Market Commission says it needs more time to work through the complaints from the incumbent generators, who either want the proposed change delayed or scrapped altogether, claiming the costs will outweigh the benefits.

There has been a bitter battle fought over the proposed rule change since zinc refiner Sun Metals first proposed it nearly two years ago in response to the bidding patterns which it says – and many other studies agree – are leading to market manipulation and pushing up prices unfairly and un-necessarily.

The AEMC, despite admitting that prices were being distorted, appeared set to drop the idea after intense pressure from the fossil fuel generators, but announced a more detailed study.

In April it gave its tentative support in a draft ruling, suggesting a three-year transition for what many believe will be a fundamental change in the way markets operate, and a shift from old, lumbering technologies to new smarter and faster controls.

One high bid in a single 5-minute period – often caused by the deliberate withdrawal of capacity – can guarantee high prices for the whole 30 minute settlement, often sparking an unseemingly rush of new capacity suddenly “available” to cash in on the goodies.

The submissions to the AEMC since its preliminary decision show an extraordinary amount of push-back from the incumbent utilities, but the most vociferous opponents were the Queensland government-owned entities, the grid owner Queensland Energy, and the owner of the biggest coal-fired generators, Stanwell Corp.

The Australian Energy Council, which represents most fossil fuel generators, said the proposed three-year transition period would be “manifestly inadequate” for the unbudgeted IT system changes, warned of security risks because gas peaking plants will exit the market, and said battery owners may exploit pricing in the same way that fossil fuel generators did.

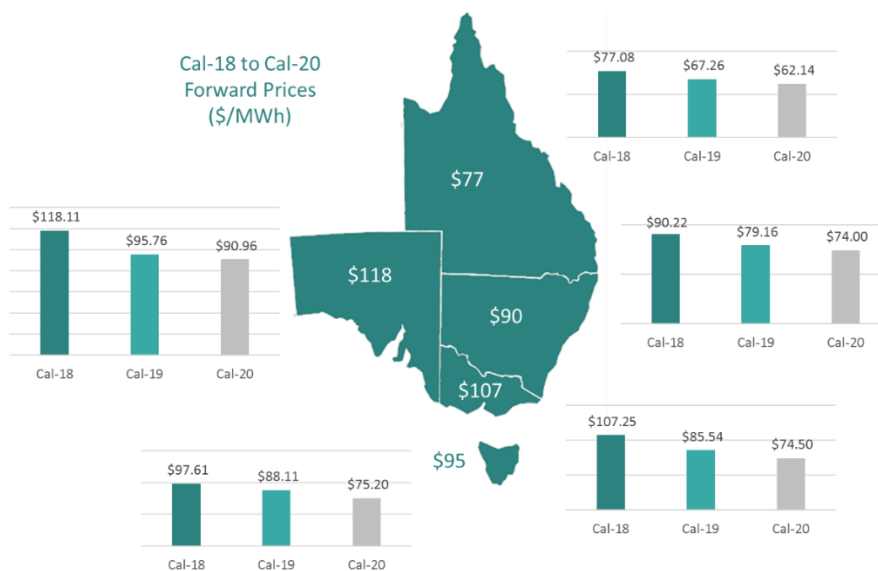
The big three played for my time, although they agreed a change was “inevitable”. AGL wanted to be sure that it was introduced efficiently, and Origin Energy was along the same lines, wanting more time, as did Energy Australia, which wanted a 5 year transition commencing only after it was clear what the response would be to the Finkel Review.

3 FORWARD PRICE MOVEMENTS

Except for SA, all other regions experienced a rising of the forward market in Cal-18 and FY-18/19. NSW and to a lesser extent Victoria, experienced an increase in Cal-19 and FY-19/20. In the outer years, prices tended to soften.

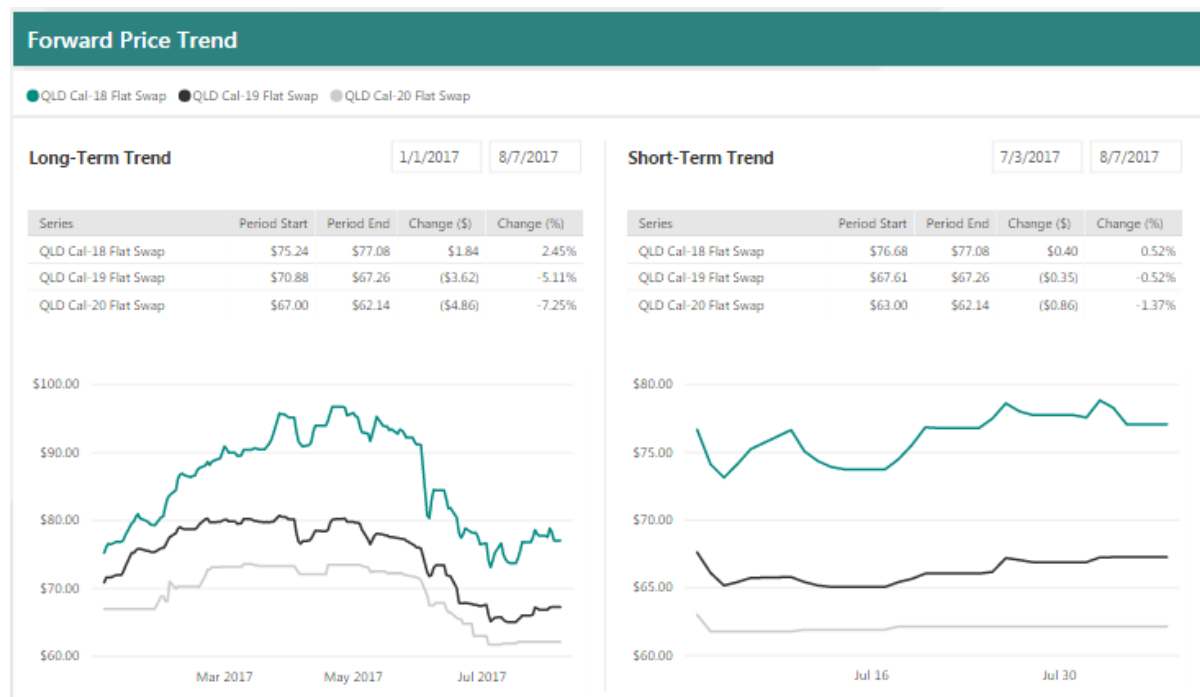
3.1 CALENDAR YEAR OVERVIEW

The current calendar years 2018 to 2020 forward prices are summarised below.



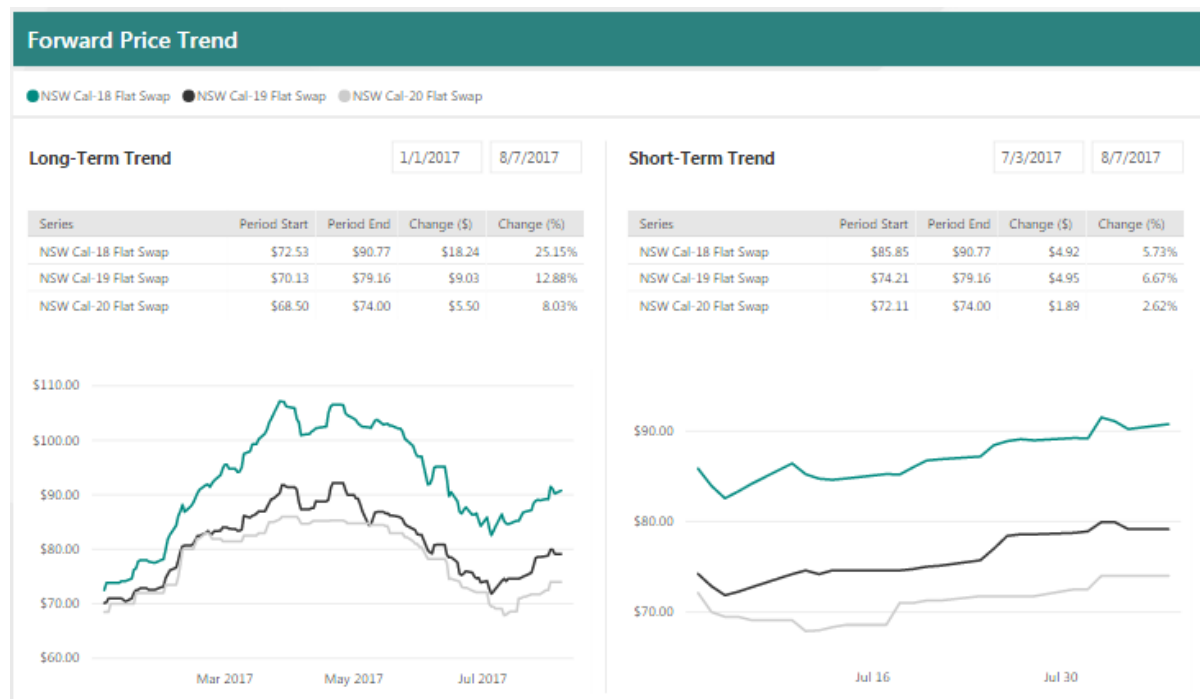
3.1.1 Queensland

The Queensland Cal-18 has risen slightly since the 1 July, and the next two calendar years have softened slightly.



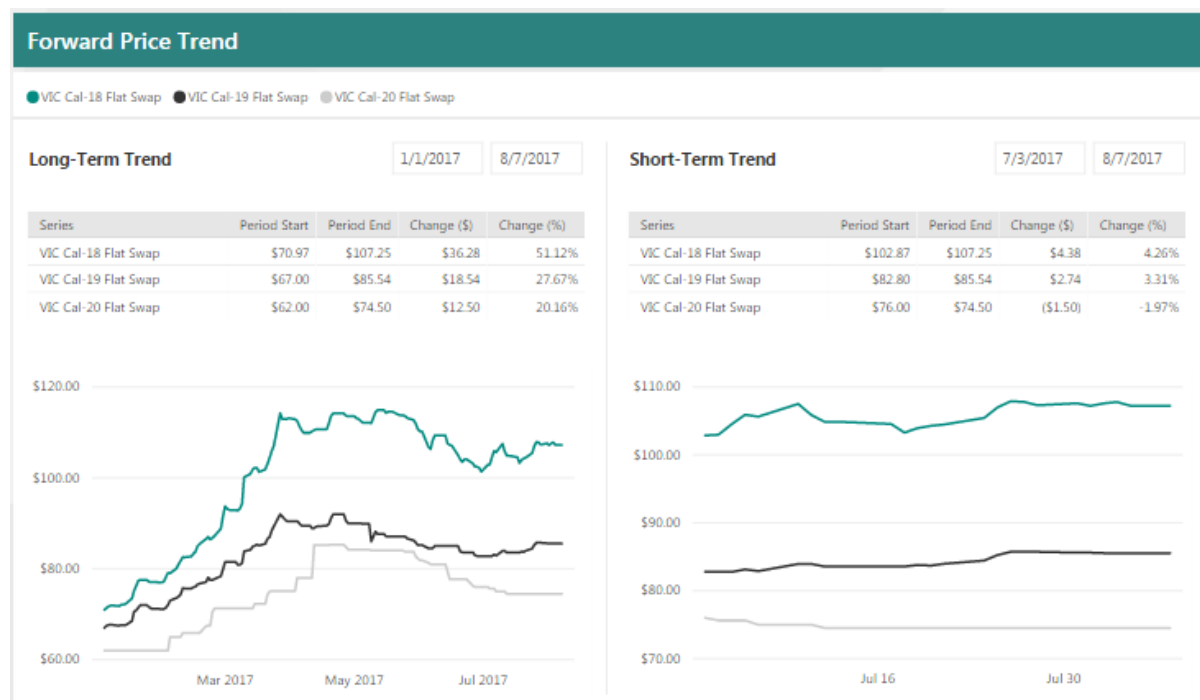
3.1.2 New South Wales

The NSW Cal-18 and Cal-19 forward prices have risen by about \$5/MWh since the start of July, and the Cal-20 rose, but not as much.



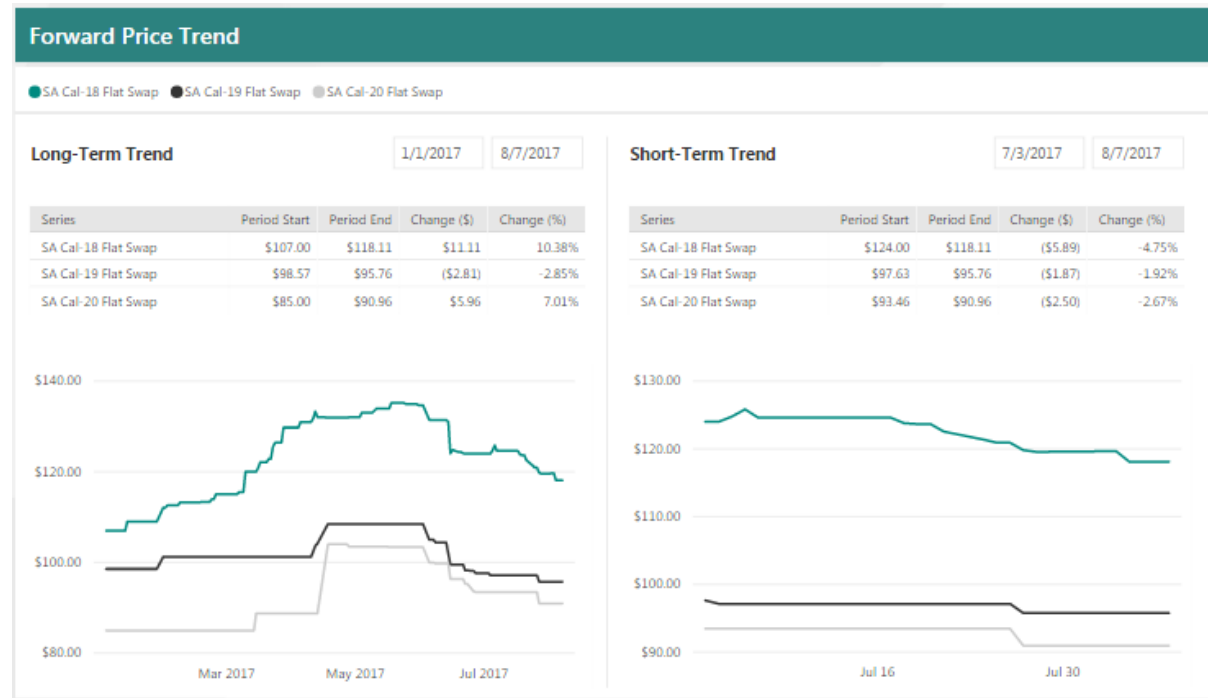
3.1.3 Victoria

The Victorian Cal-18 forward prices rose by about \$4.40/MWh, nearly twice as much as Cal-19. On the other hand, Cal-20 softened.



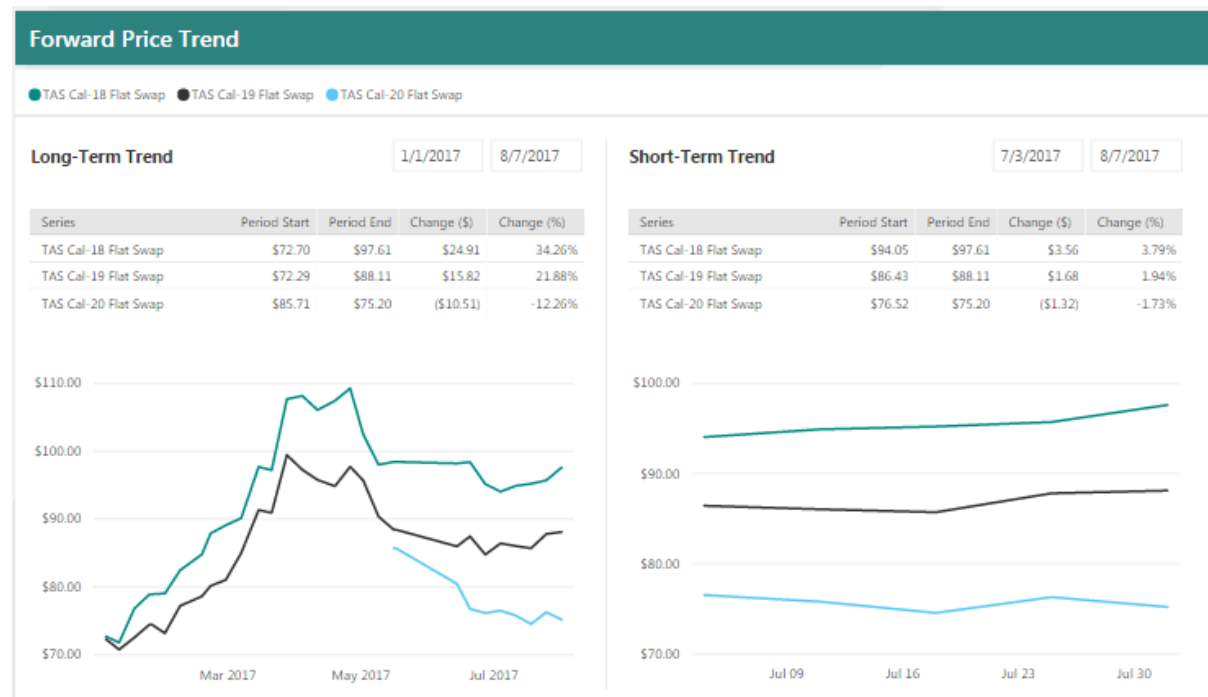
3.1.4 South Australia

South Australia calendar year prices soften for the next 3 years since 1 July.



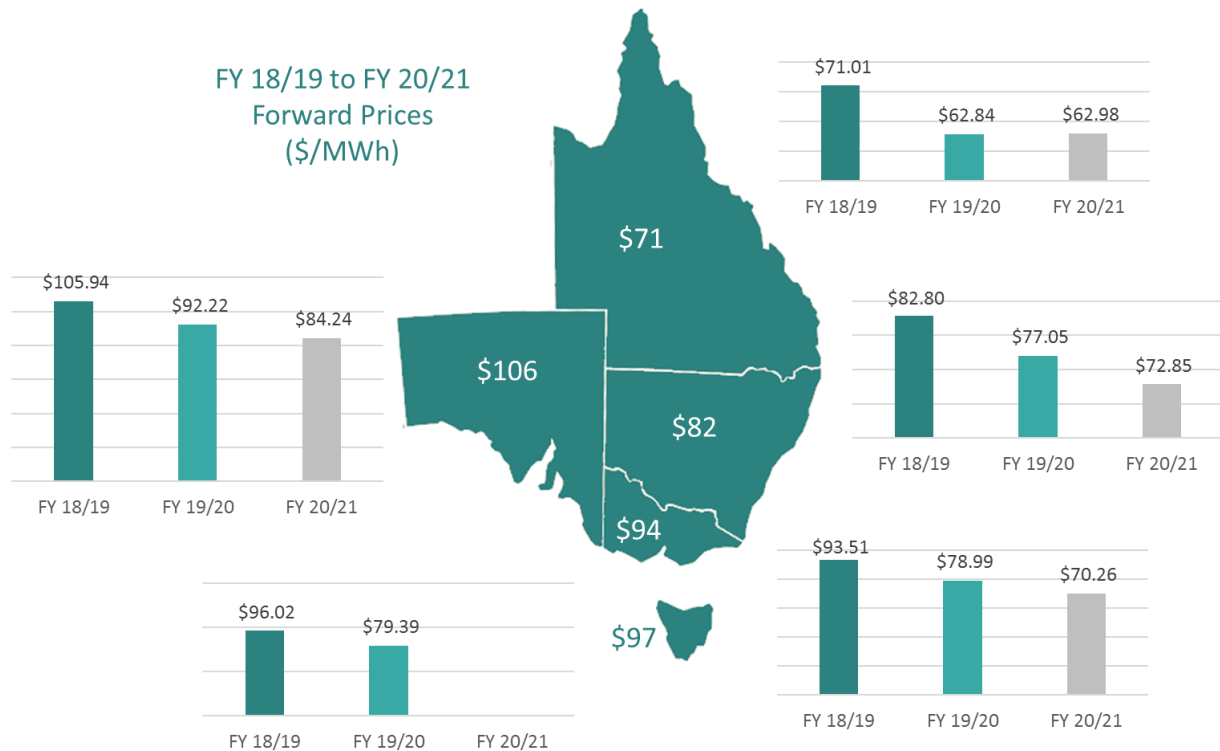
3.1.5 Tasmania

Tasmania calendar year prices rise for Cal-18 and Cal-19, but Cal-20 softened.



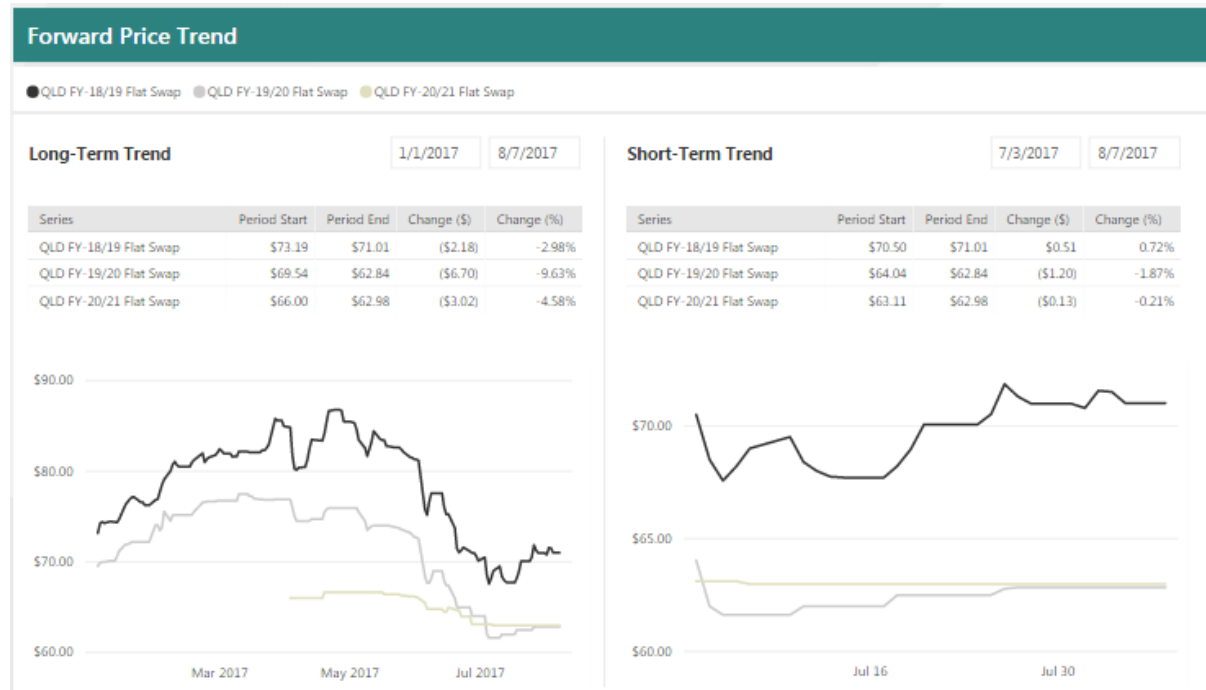
3.2 FINANCIAL YEAR OVERVIEW

The financial year forward prices are presented below in the figure:



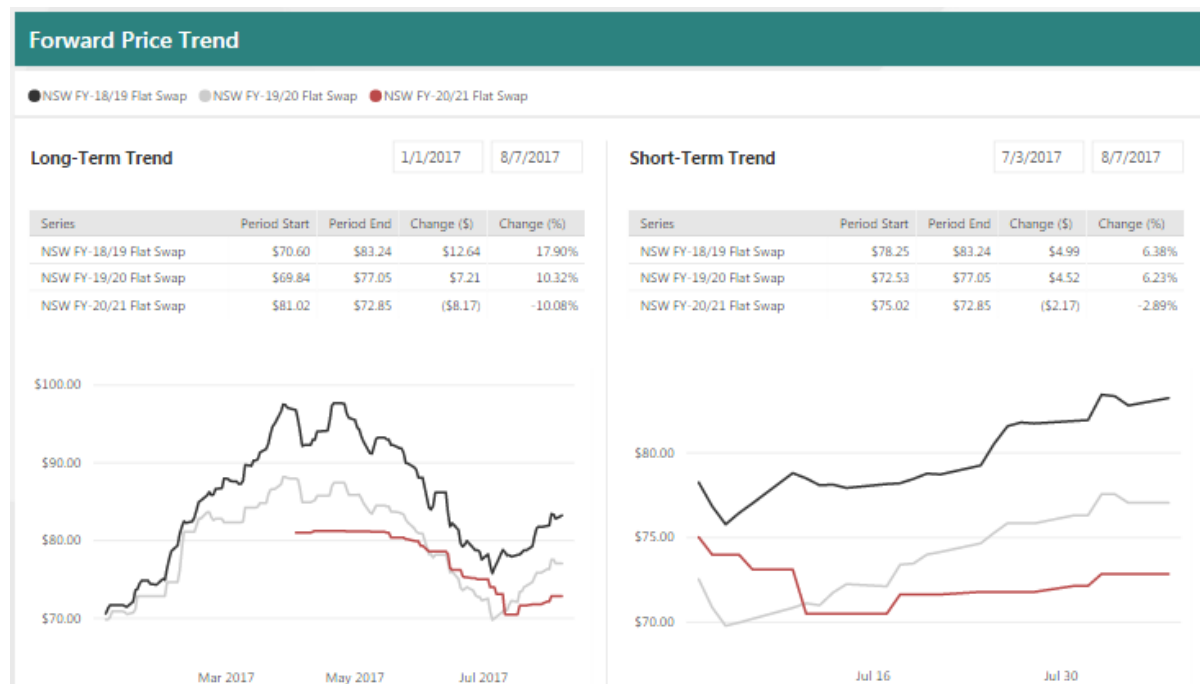
3.2.1 Queensland

Since 1 July, the QLD FY 18/19 forward prices, softened and then rallied from about mid-month. The next 2 financial years remained reasonably stable.



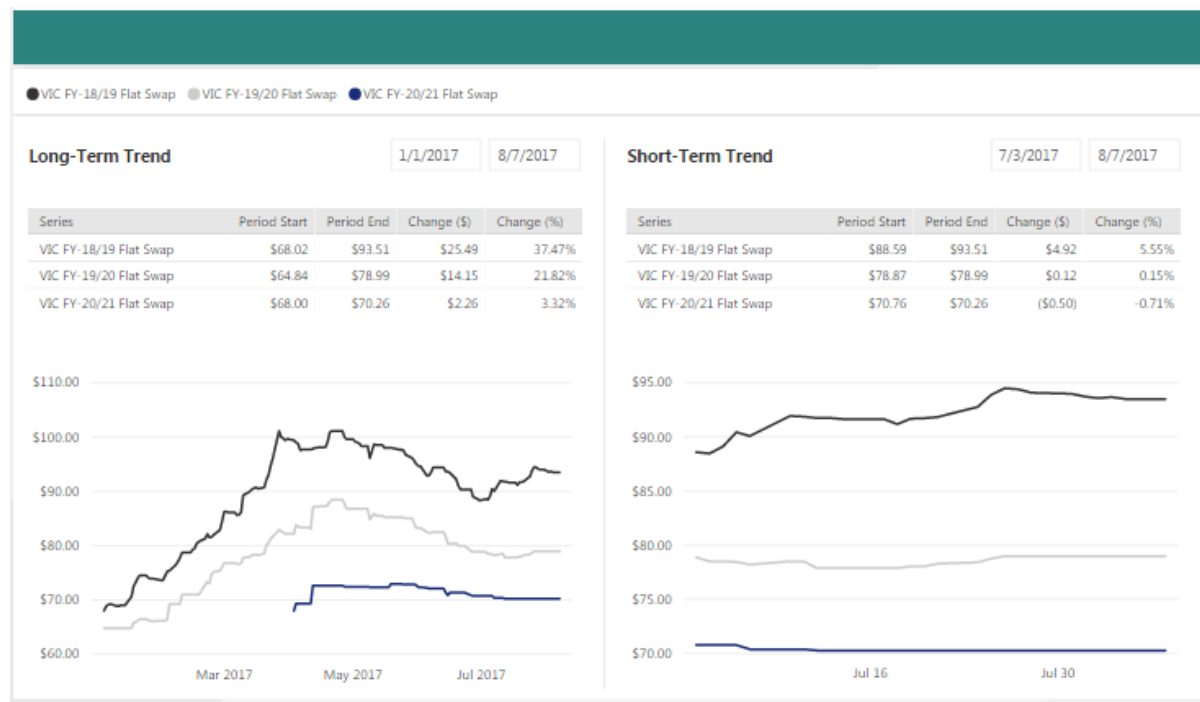
3.2.2 NSW

The NSW forward prices have rallied since 1 July, in particular the FY-18/19 and FY-19/20, after reaching local minima in early July.



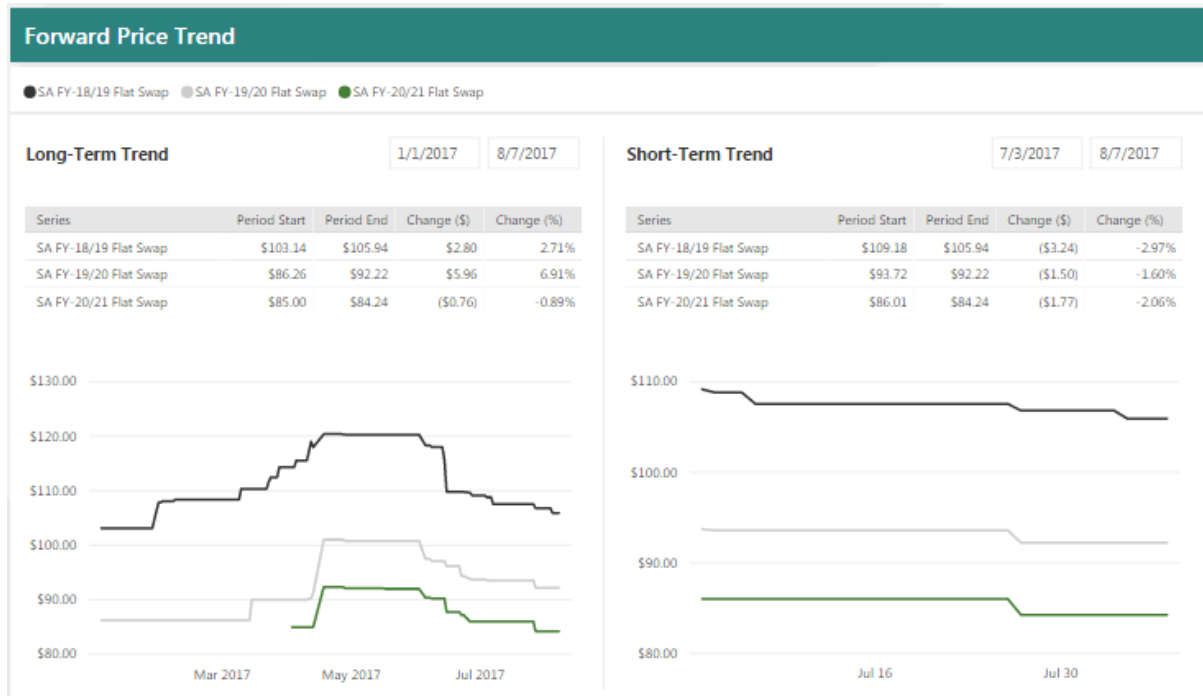
3.2.3 Victoria

The Victorian FY-18/19 forward price also rallied, increasing by almost \$5/MWh since 1 July. The next two financial years remained relatively stable.



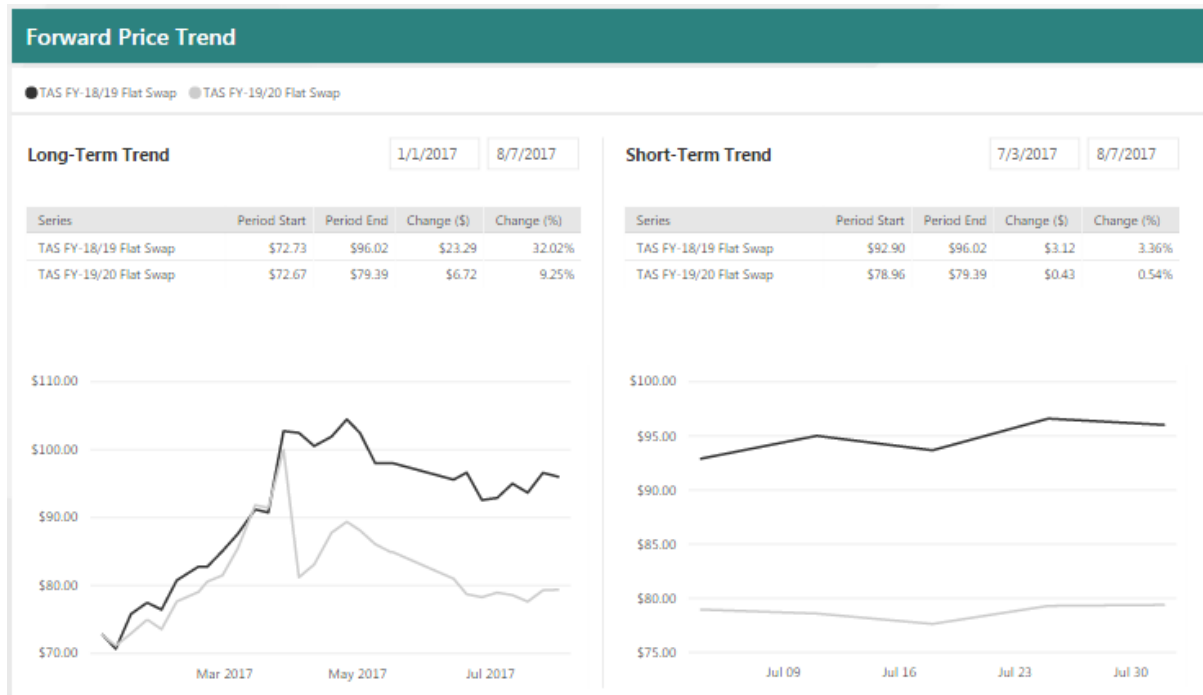
3.2.4 South Australia

The SA forward prices have softened since the start of July.



3.2.5 Tasmania

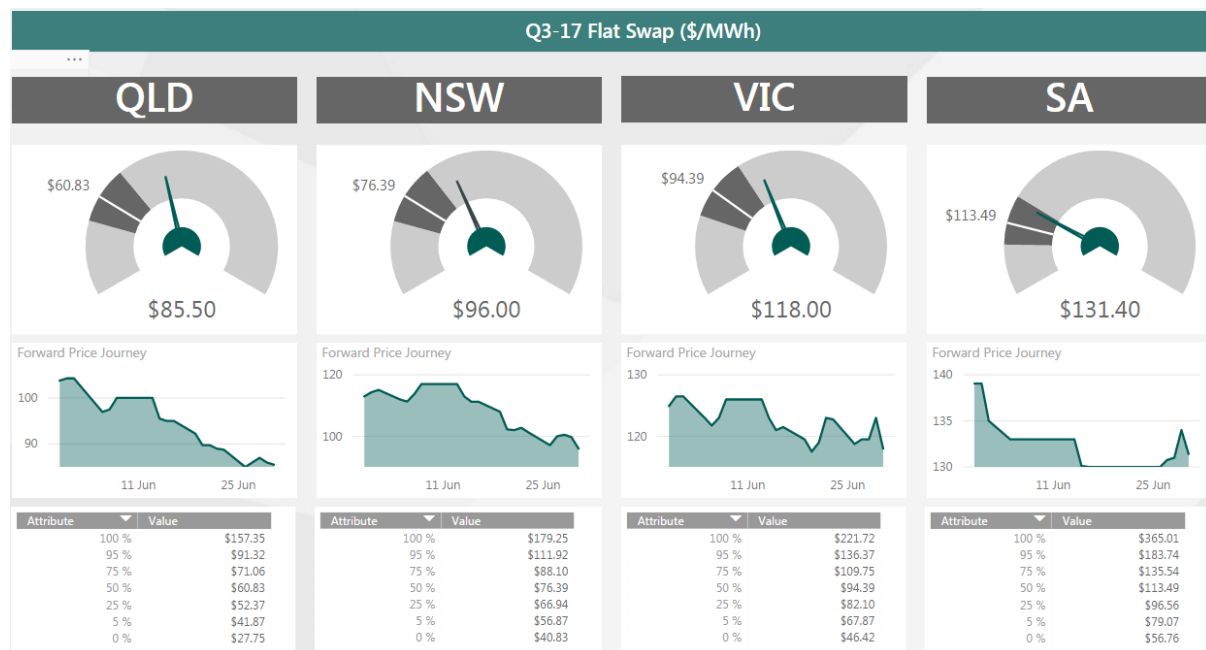
The Tasmanian forward prices have increased slightly since 1 July 2017.



3.3 Q3-17 TRENDS

As the Q3 quarter rolls-out, the forward price softened during the month. The figure below shows our probabilistic spot forecast for the quarter and the needle on the dial image shows where the current quarter forward price resides on the distribution. The dark area segment of the dial represents the 25th to 75th percentile, with the white break indicating the median. The earlier grey segment represents the minimum to 25th percentile, and the following light grey area represents the 75th to maximum simulation.

The results show the forward market prices have softened, however are trading above the 75th percentile for Queensland, NSW and Victoria. South Australia is tracking within our mid 50% of the simulations.

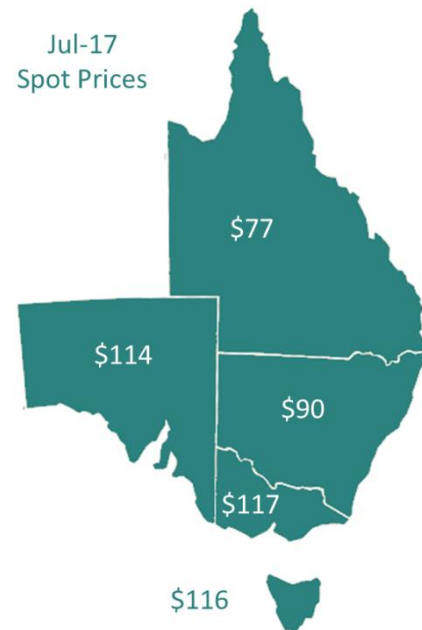


4 SPOT MARKET

The spot market prices for the southern States continue to separate from the northern States and deliver higher spot market outcomes.

The average monthly prices are shown in the figure, and Victoria set the highest average across all the States.

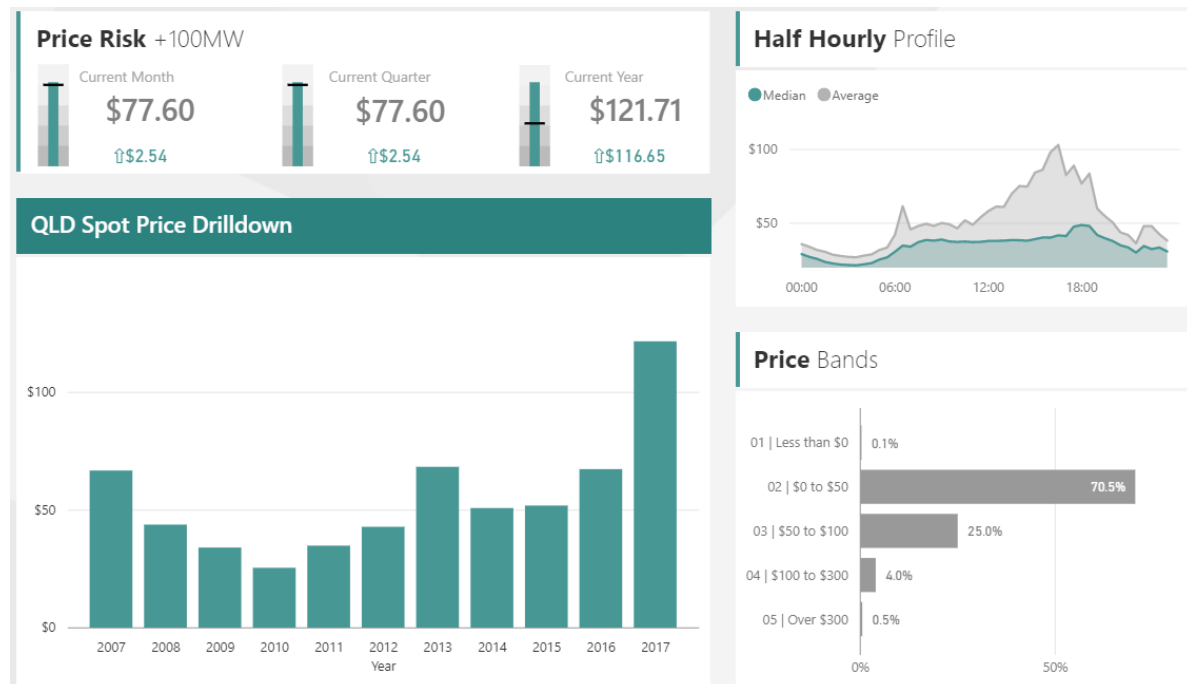
For the month of July had the highest average price in in NSW, Victoria and Tasmania; whilst SA and Queensland had the second highest July average on record.



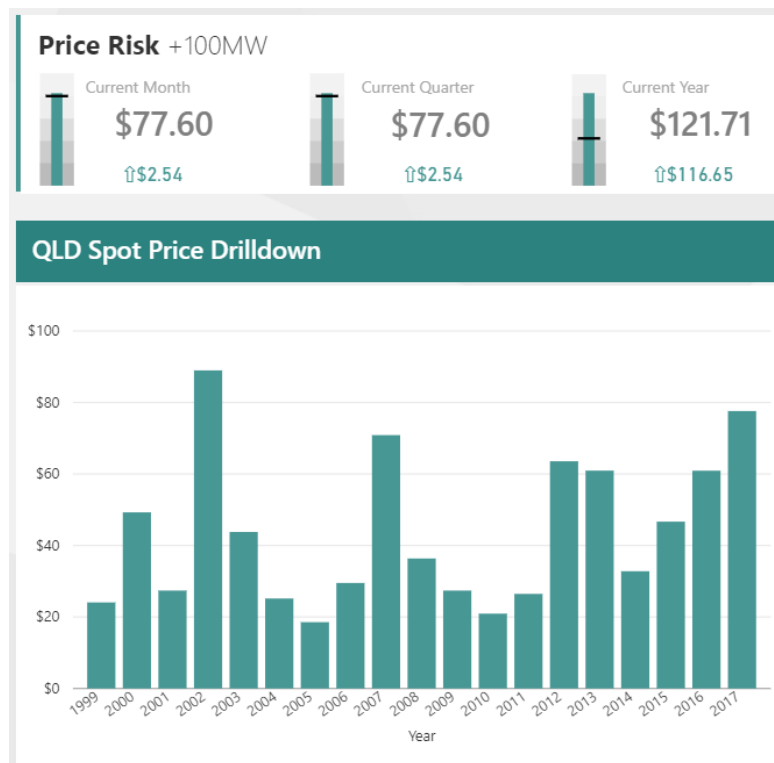
4.1 MONTHLY SPOT PRICES

4.1.1 Queensland

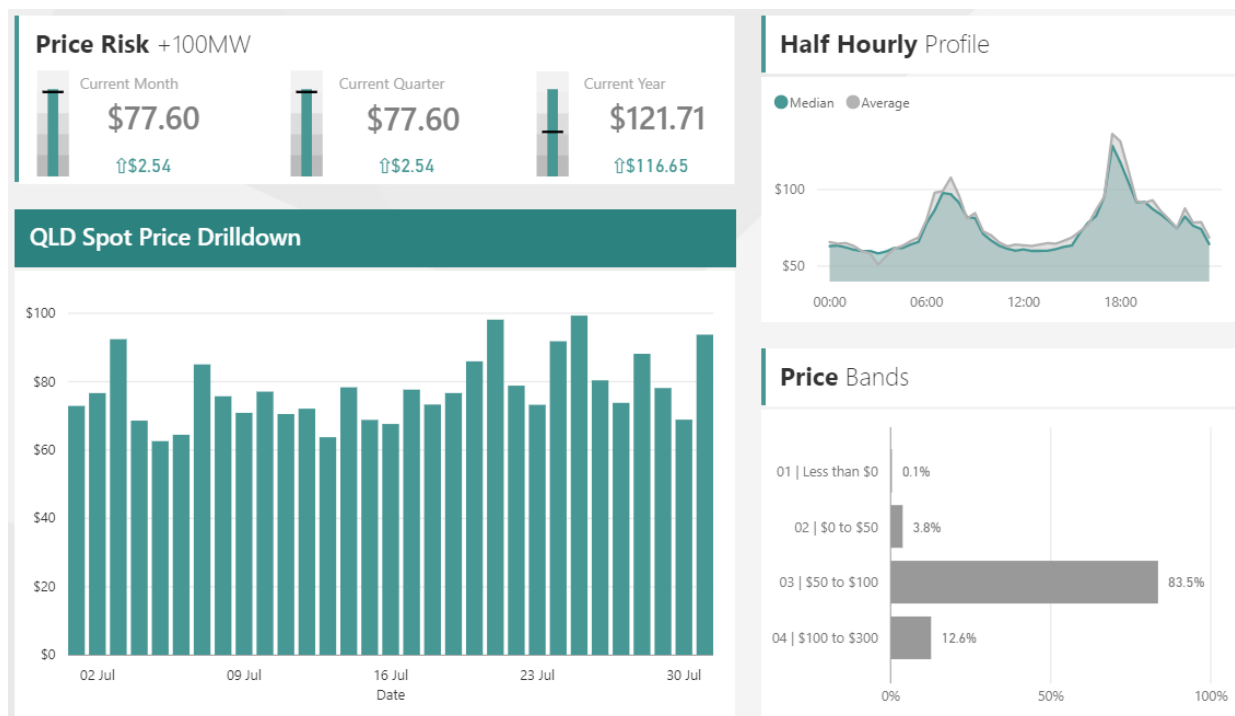
Queensland's 2017 year to date price is at the end of July was \$121.71/MWh, which continues to track to be the highest average annual price in the last 10 years.



The July average price was \$77.60/MWh, the second highest on record.

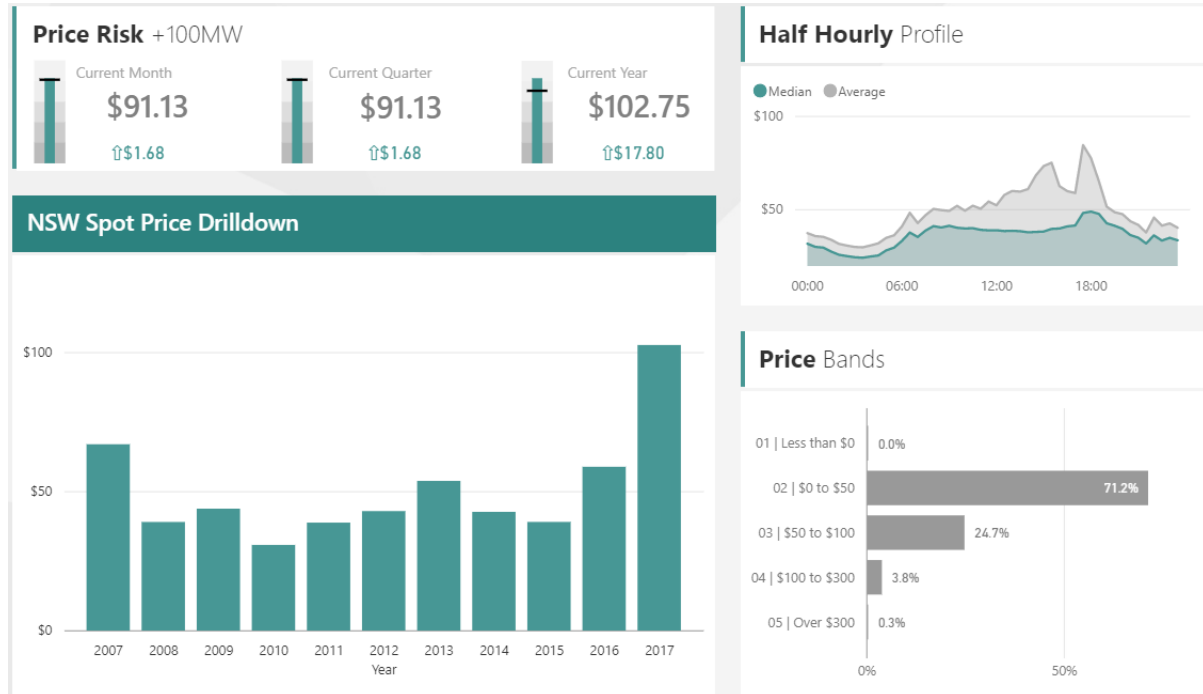


During the month, the daily prices were relatively consistent.

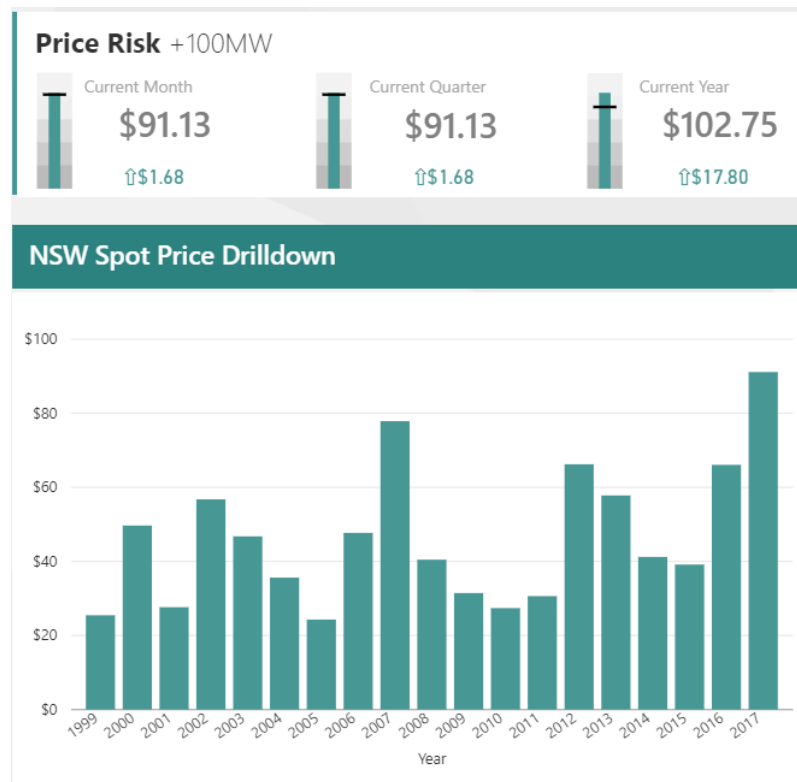


4.1.2 NSW

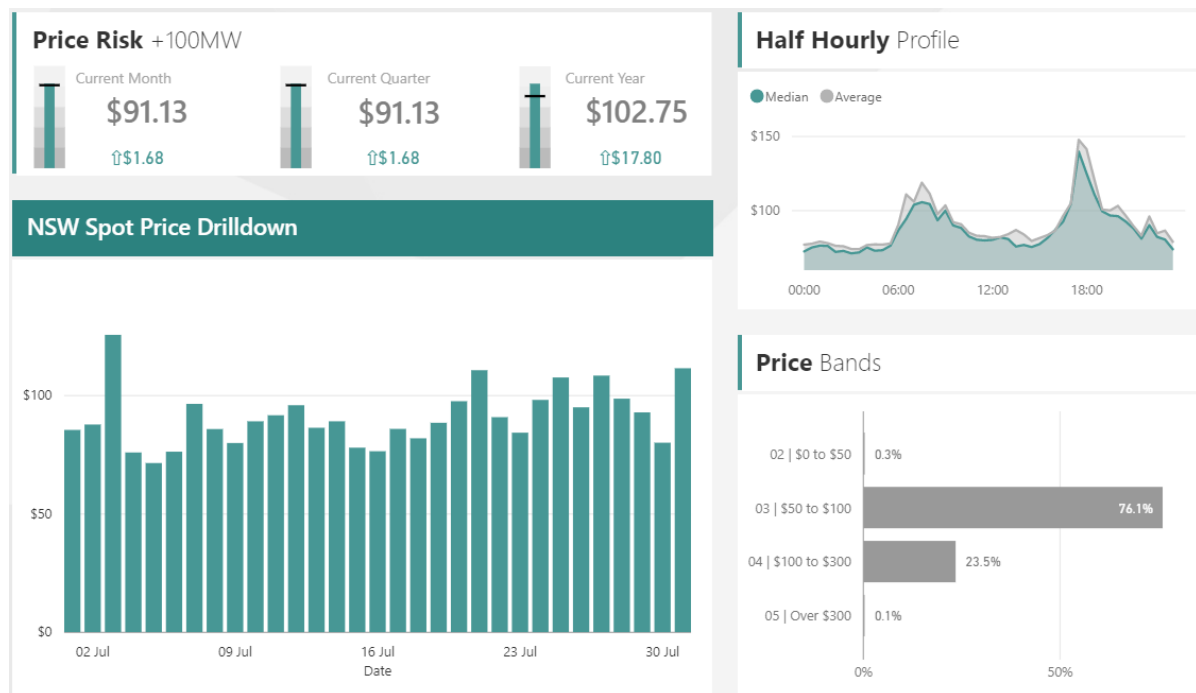
The year-to-date NSW average is \$102.75/MWh, slightly down from the previous month, but still remains substantially more than all other historical years and about twice 2016.



The NSW monthly average was the highest on record.

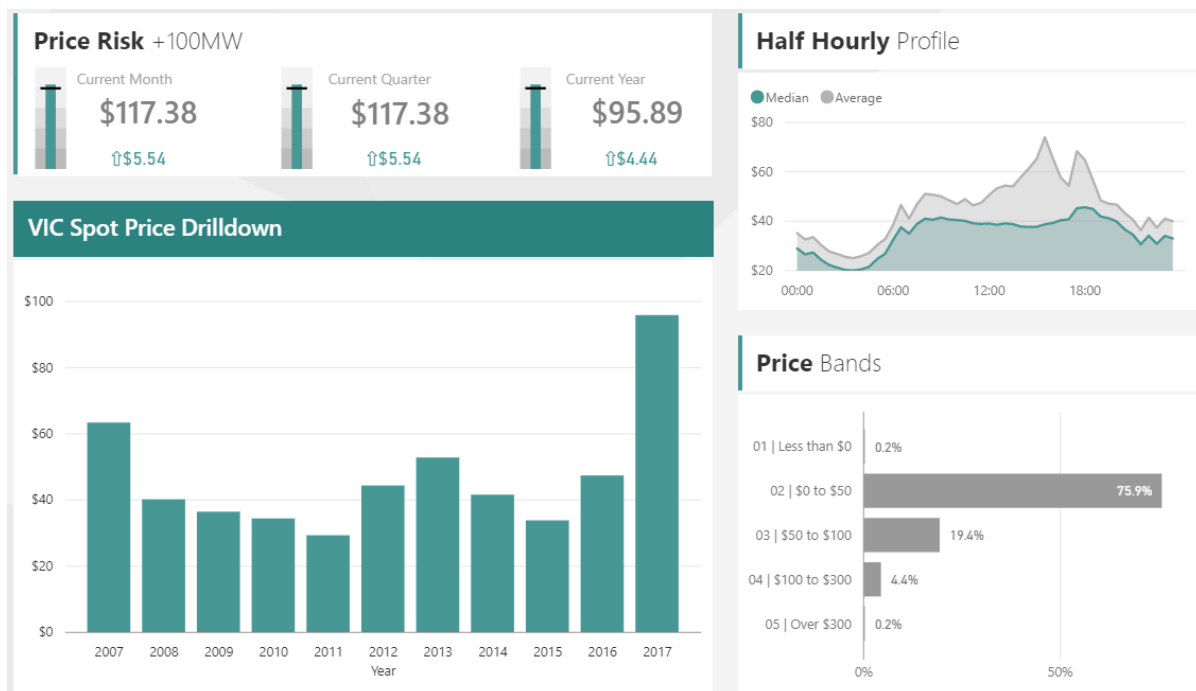


The daily prices during the month were relatively consistent for NSW.

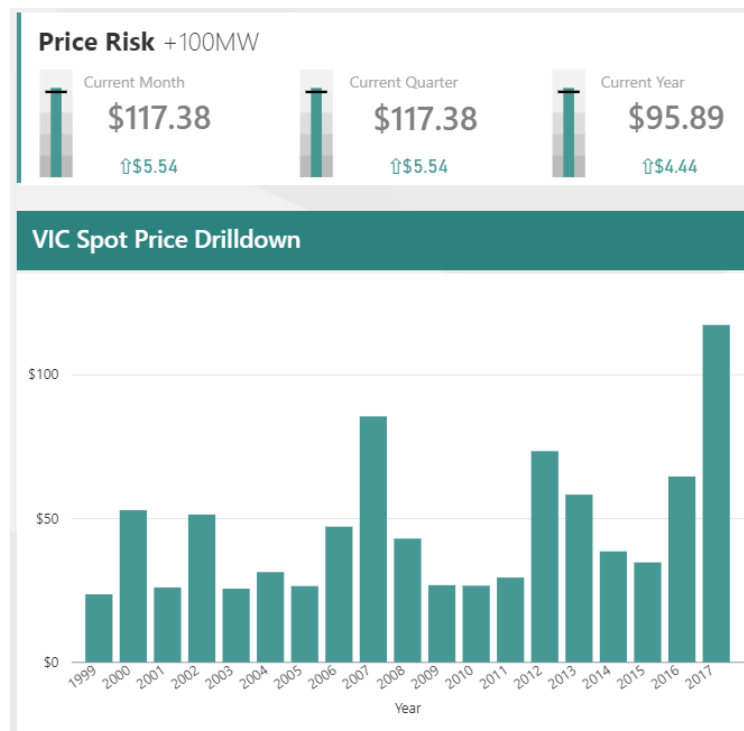


4.1.3 Victoria

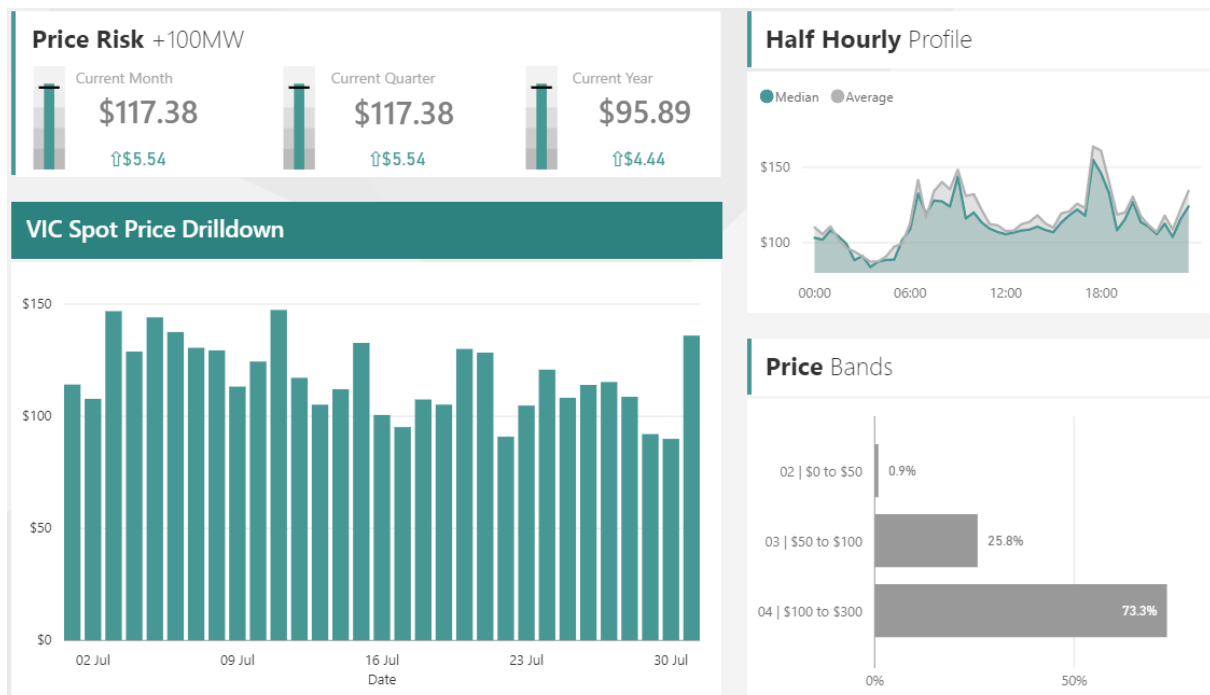
Victoria's 2017 year-to-date average price rose to \$95.89/MWh and remains the highest over the last 10 years. During the same time in 2016 the price was \$45.81/MWh which is half of the 2017 year-to-date average price.



Since 1999, the Victorian 2017 July average price was the highest on record.

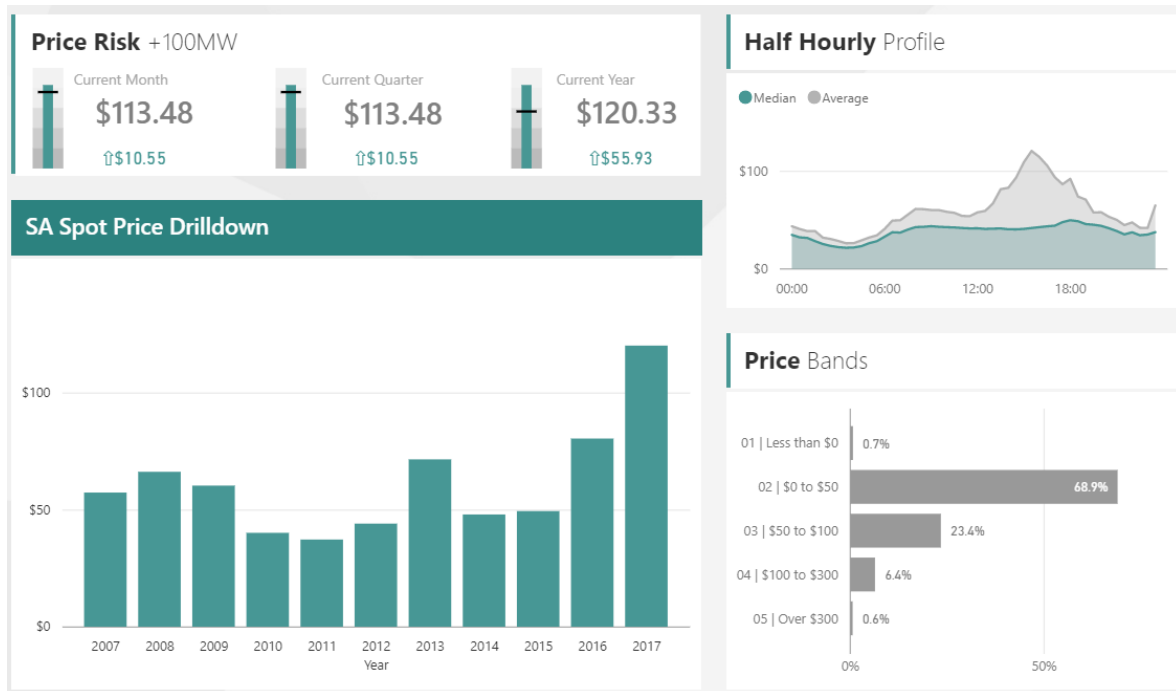


The daily average prices for July, had more variability than the northern States.

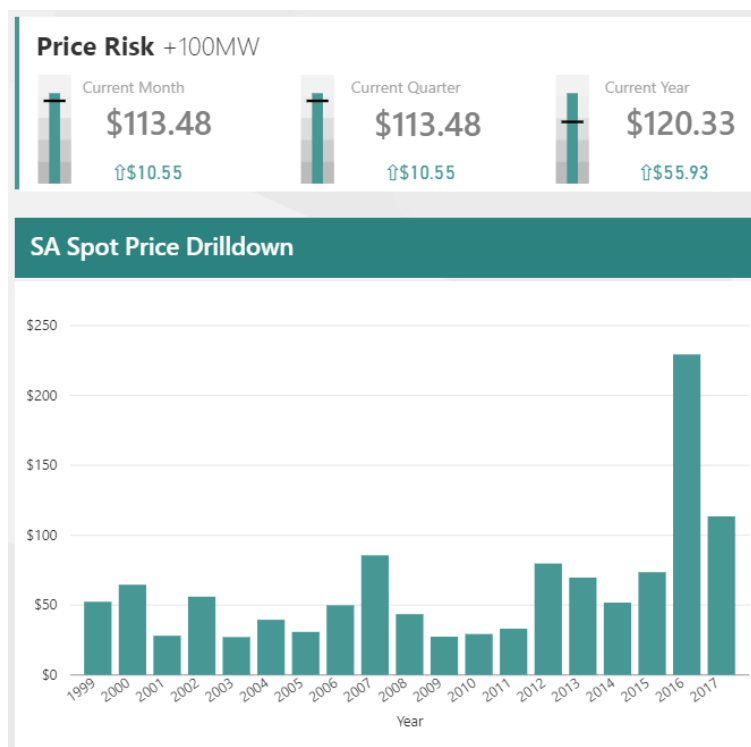


4.1.4 South Australia

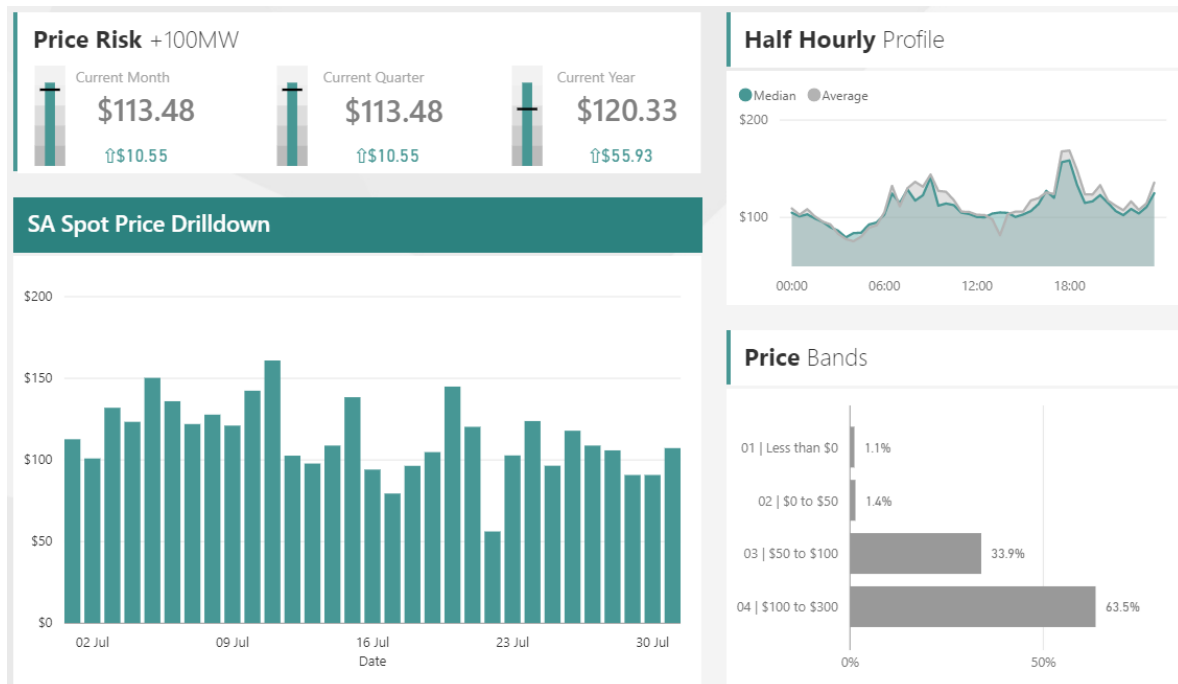
South Australia's 2017 year-to-date average price is at the end of July, \$120.33/MWh, which continues to track to be the highest average annual price in the last 10 years.



The July average price of \$113.48/MWh, was the second highest on record.



Daily prices for SA during the month of July were fairly volatile for most of the month settling down around \$100/MWh for the last nine days of the month.



4.1.5 Tasmania

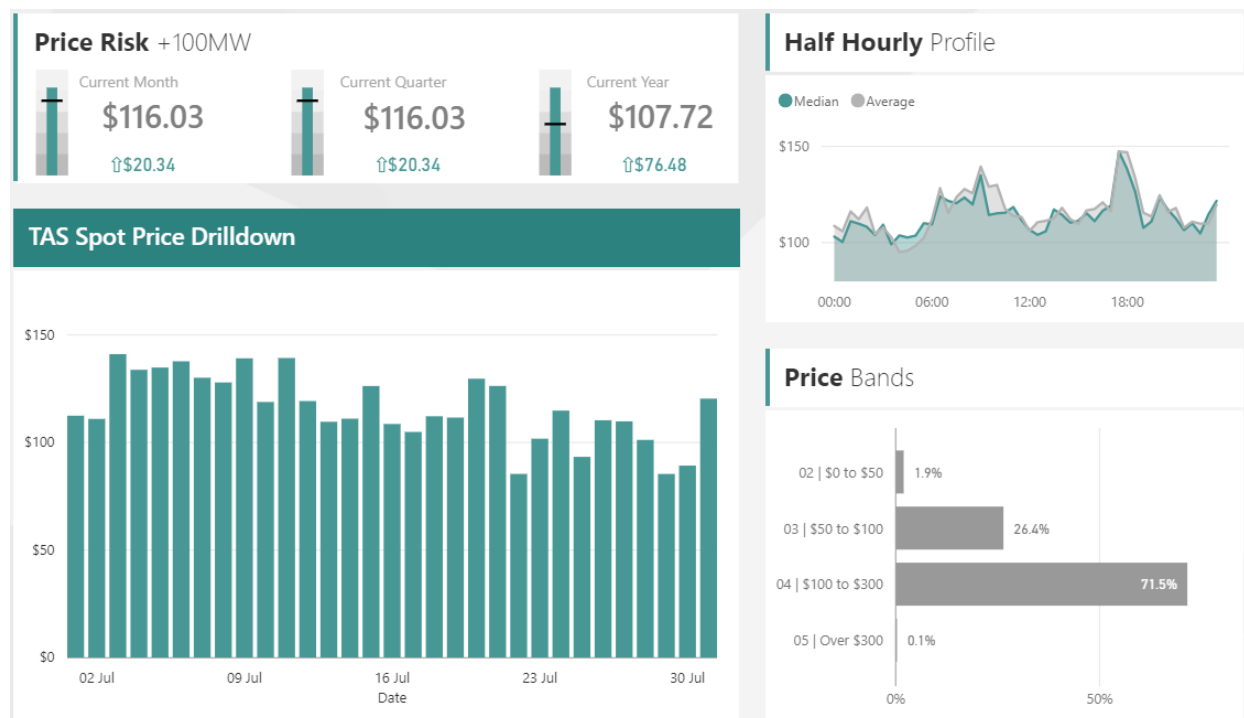
Tasmania's 2017 year-to-date price at the end of July was \$107.72/MWh, which is the highest on record



The July average price was \$116.03/MWh, which was the highest on record.



Daily price averages for Tasmania remained fairly constant for the month of July and gradually declined throughout the month.

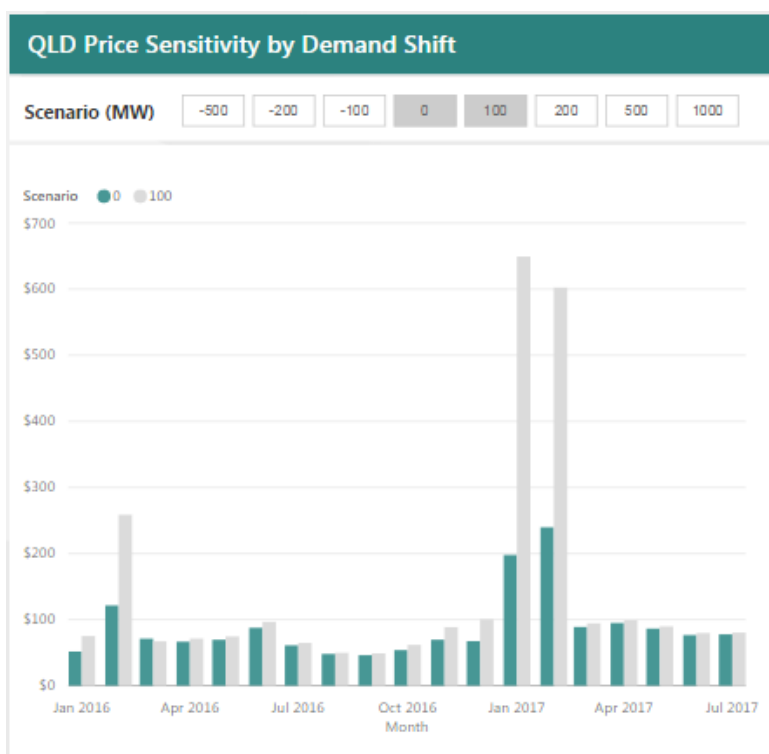


4.2 SPOT PRICE RISK-OF-CHANGE

This section of the report assesses the risk that the spot market could change easily. The metric adopted is to use the change in reserve of 100MW, or for the smaller States of SA and Tasmania, a 50MW variation.

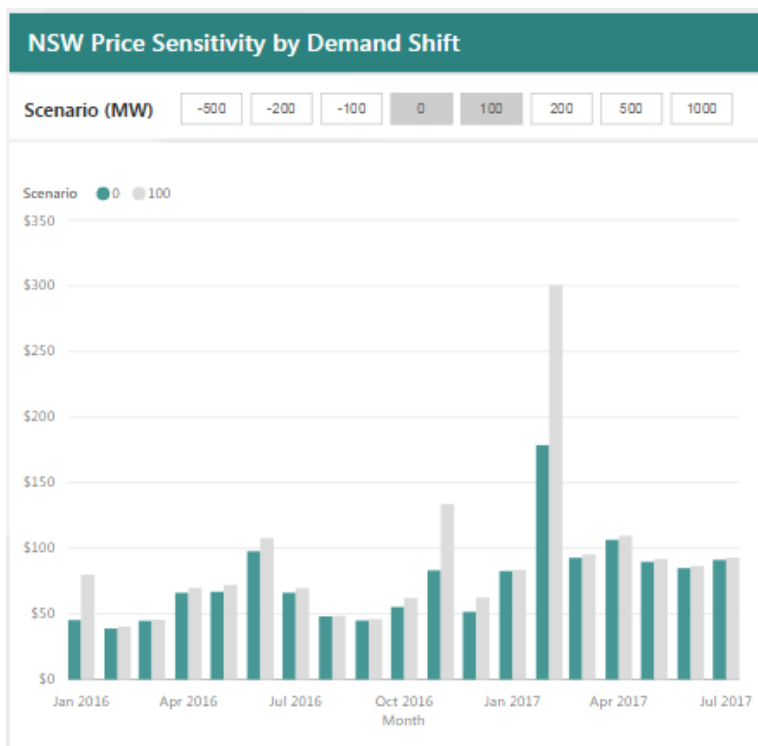
4.2.1 Queensland

The Queensland risk-of-change for the month was relatively calm after the stratospheric Jan-17 and Feb-17.



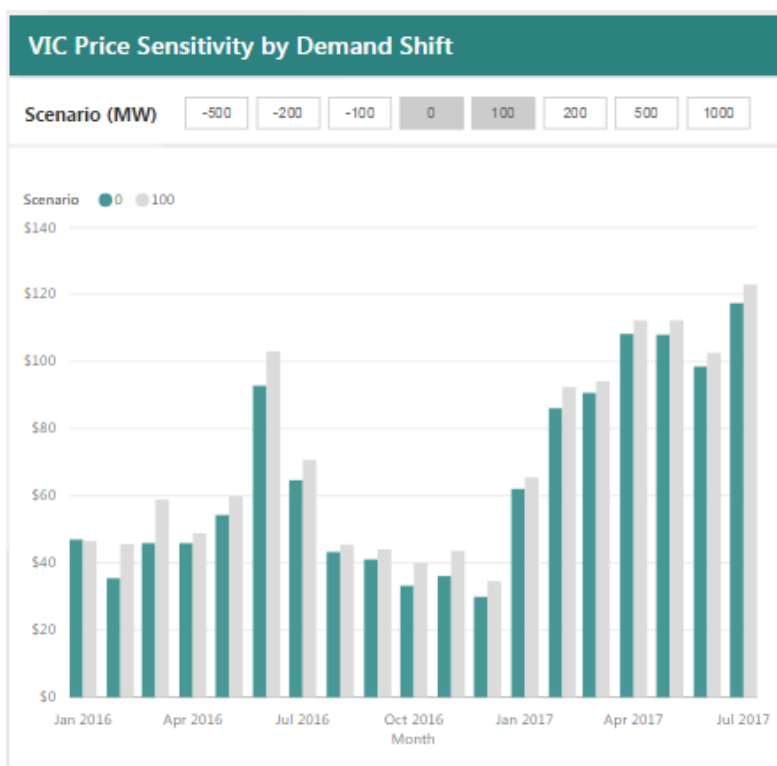
4.2.2 NSW

The NSW upward risk-of-change remains at levels similar to previous months since February.



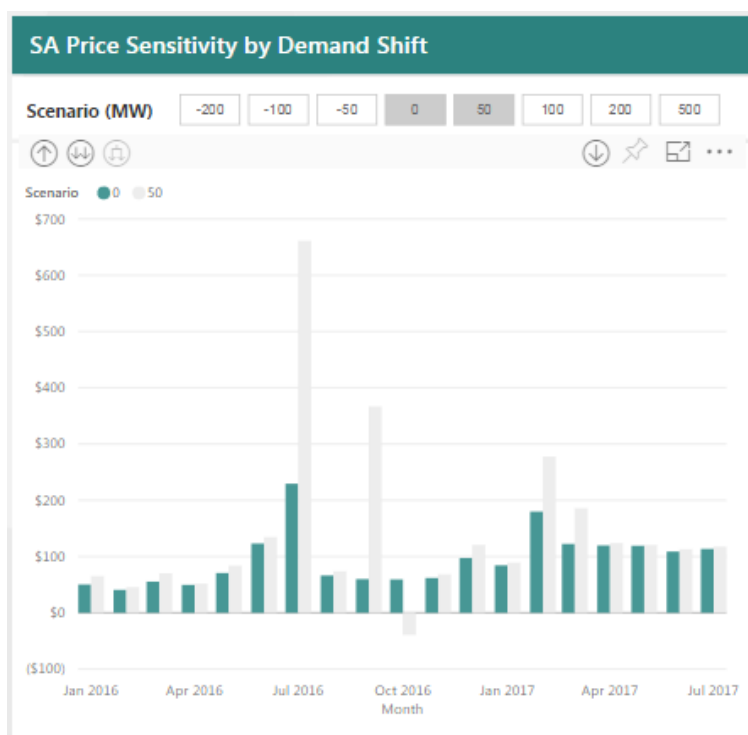
4.2.3 Victoria

The Victorian upward risk-of-change has risen again and remains higher than other states.



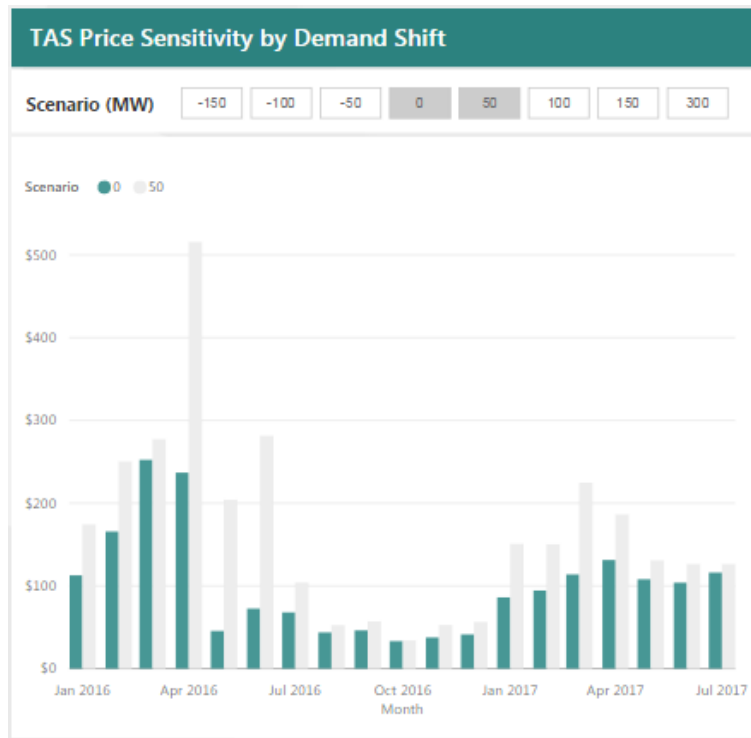
4.2.4 South Australia

The risk-of-change in South Australia has remained at similar levels over the last few months.



4.2.5 Tasmania

The risk-of-change in Tasmania has reduced.



4.3 GAS SPOT PRICES

This section provides a brief analysis of the gas prices across the different States.

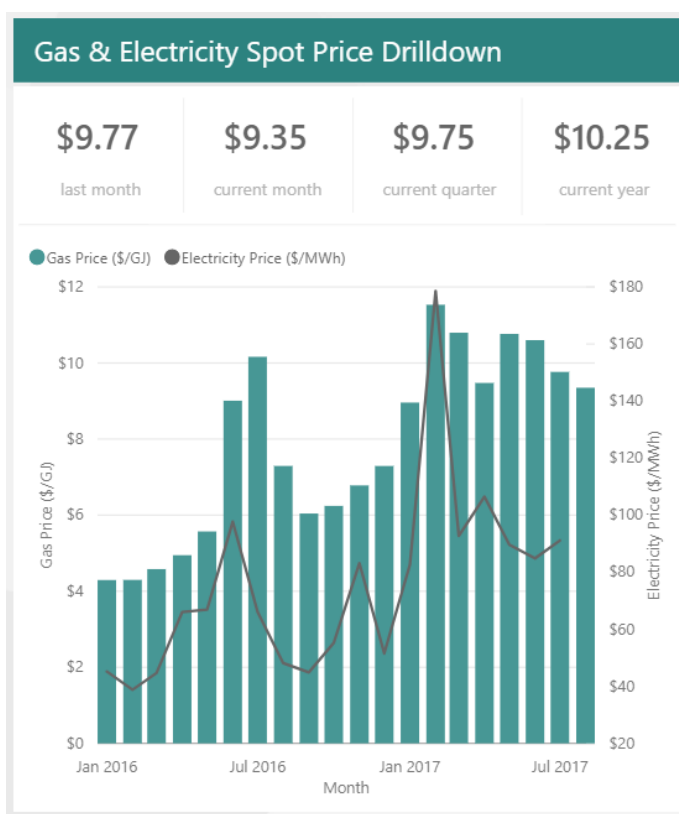
4.3.1 Brisbane

The Brisbane gas prices for July was the lowest October 2016. The APLNG project was operating at full capacity to pass the 90 day test imposed by the lenders.



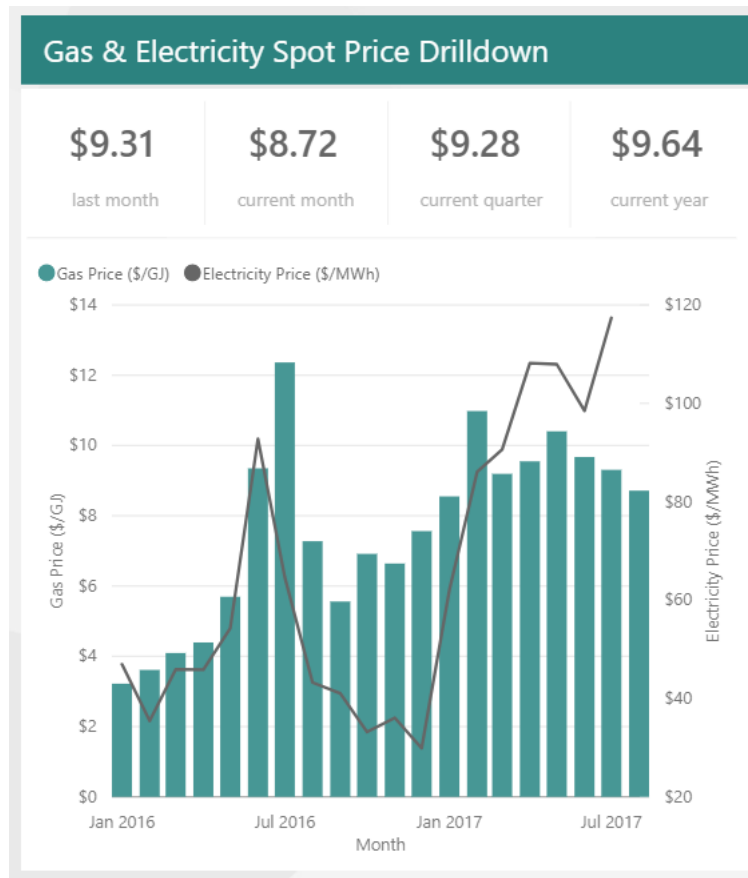
4.3.2 Sydney

The Sydney gas price continued its downward trend, averaging \$9.77/GJ for the month of July.



4.3.3 Victoria

The Victorian gas price has decreased for the month of July, with an average price of \$9.31/GJ.



4.3.4 Adelaide

The gas price for Adelaide has also decreased from the previous month, averaging \$8.93/GJ for the month of July.



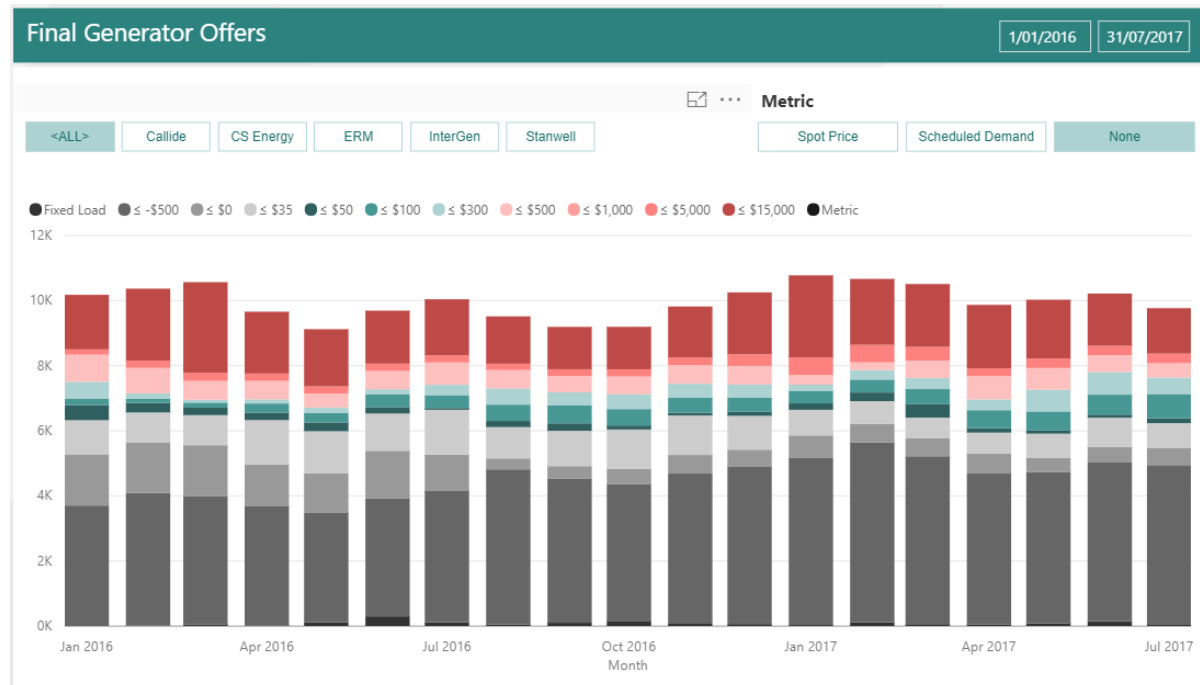
5 GENERATOR BEHAVIOUR

In terms of generator behaviour:

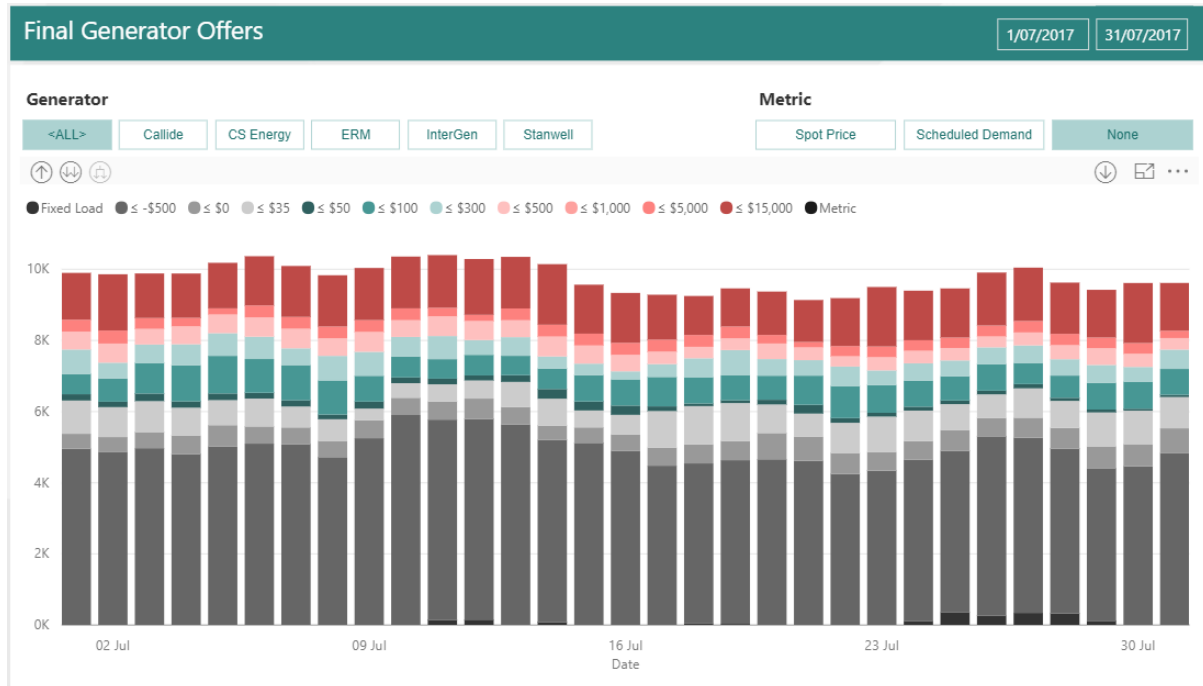
6. In aggregate, no significant changes were noted in Queensland, although CS Energy did offer more low-priced capacity
7. For NSW, compared to last month there was an increase in the \$100/MWh to \$300/MWh price band capacity and less capacity in the \$50/MWh to \$100/MWh price band.
8. In Victoria:
 - a. Energy Australia offered less capacity in low price bands due to the Yallourn outage, and replaced the capacity with more expensive capacity
 - b. Origin and Snowy Hydro increased capacity in the \$100 to \$300/MWh band, by Origin shifting the capacity from low price bands, and Snowy shifting the capacity from higher price bands
9. In SA, Origin significantly changed their behaviour by moving capacity into extreme price bands and thereby reversing the May and June strategy.
10. In Tasmania, there was an increase of capacity in the \$100 to \$300/MWh price band which was drawn from lower price bands, and higher price bands.

5.1 QUEENSLAND

At a monthly resolution, there is no significant change in the generator behaviour in Queensland for July compared to previous months.

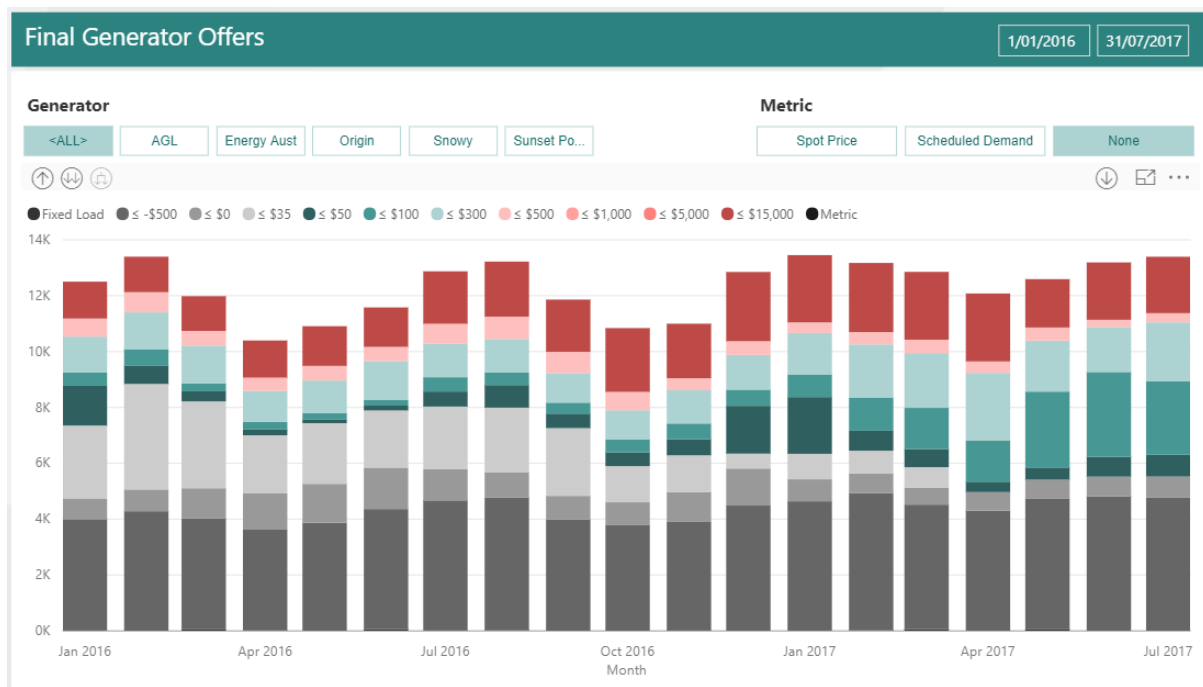


The daily generator offers in Queensland below show that the fixed load decreased but would have had little impact on the spot price.

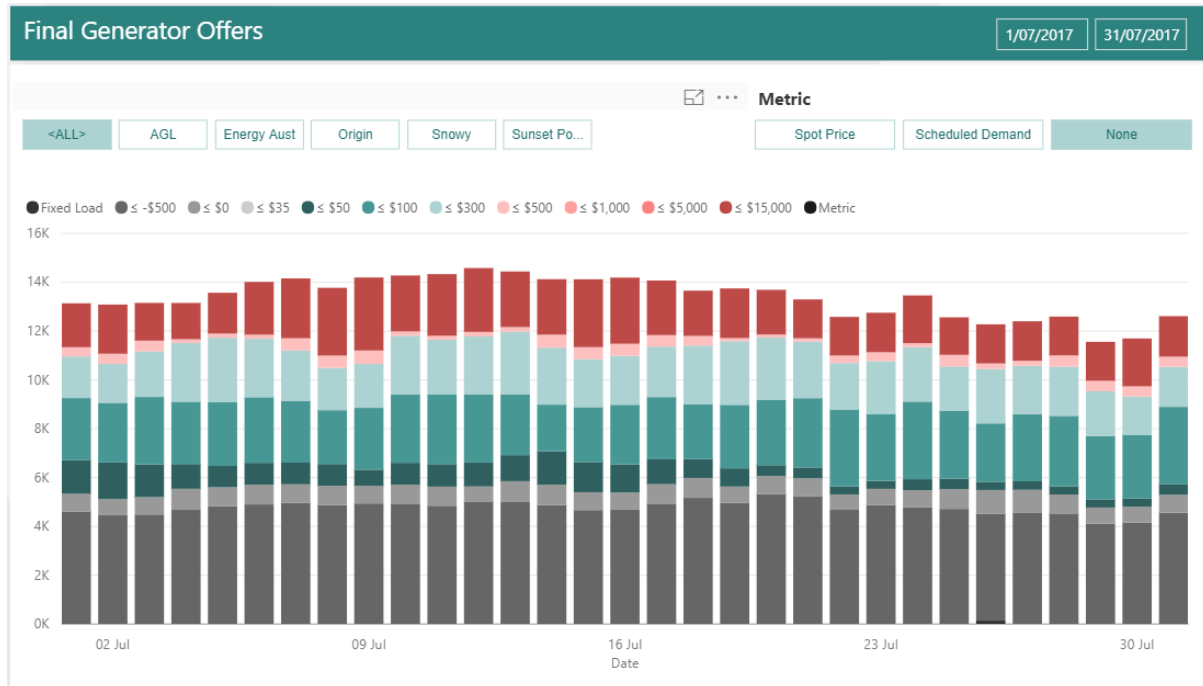


5.2 NSW

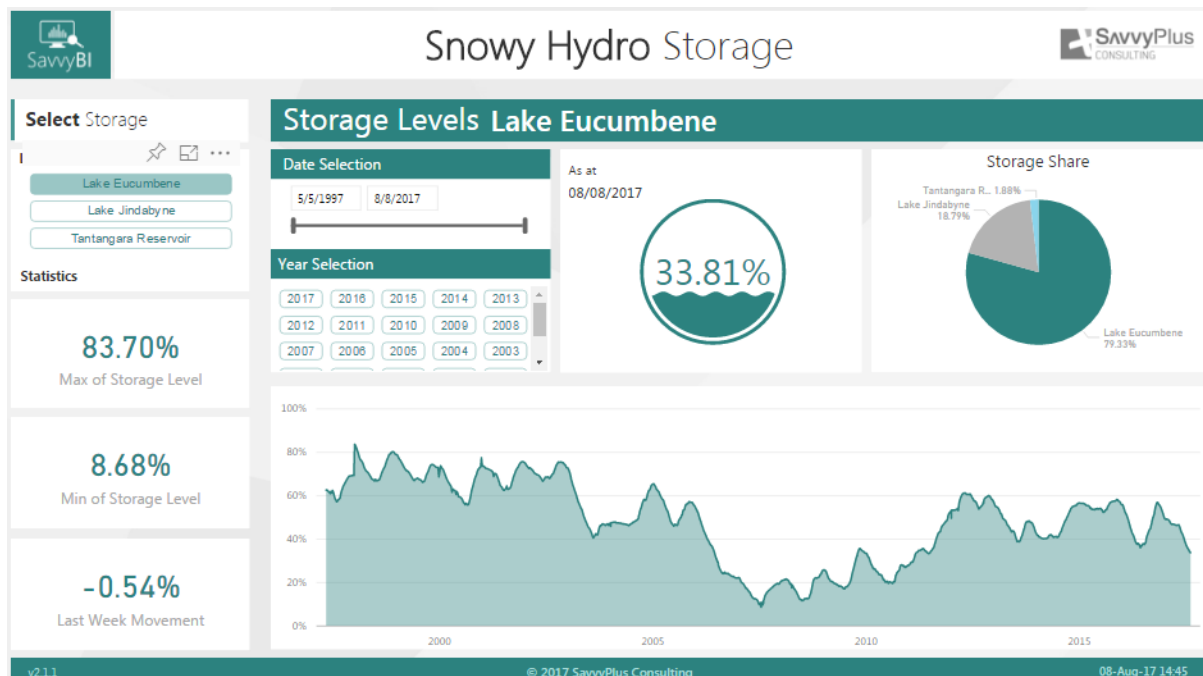
For NSW, there was an increase in the up to \$300/MWh price band and less capacity in the up to \$100/MWh price band compared to last month.



The daily generator offers in NSW below show that the capacity in the below \$50/MWh band (dark green), disappeared as the total capacity reduced.



The main storage facility at Snowy Hydro is 33.81% of capacity.



5.3 VICTORIA

Victoria slightly reduced its available capacity for the month of July compared to the previous month due to outages at Loy Yang A and Yallourn. Consequently, capacity was removed from low price bands, and replaced with up to \$300/MWh capacity.



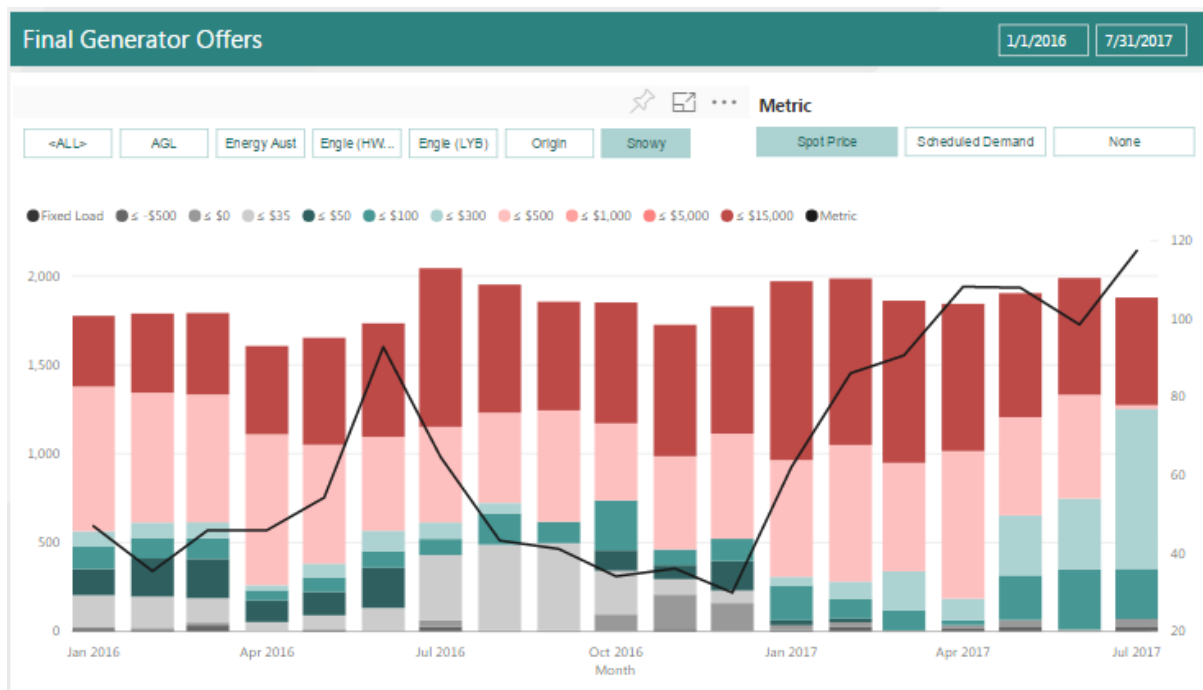
There were significant behavioural changes with Energy Australia offering less capacity in low price bands due to the Yallourn outage, and replaced the capacity with more expensive capacity.



Compared to June, Origin reduced capacity in the below \$100/MWh band, and offered the capacity in the below \$300/MWh price band.

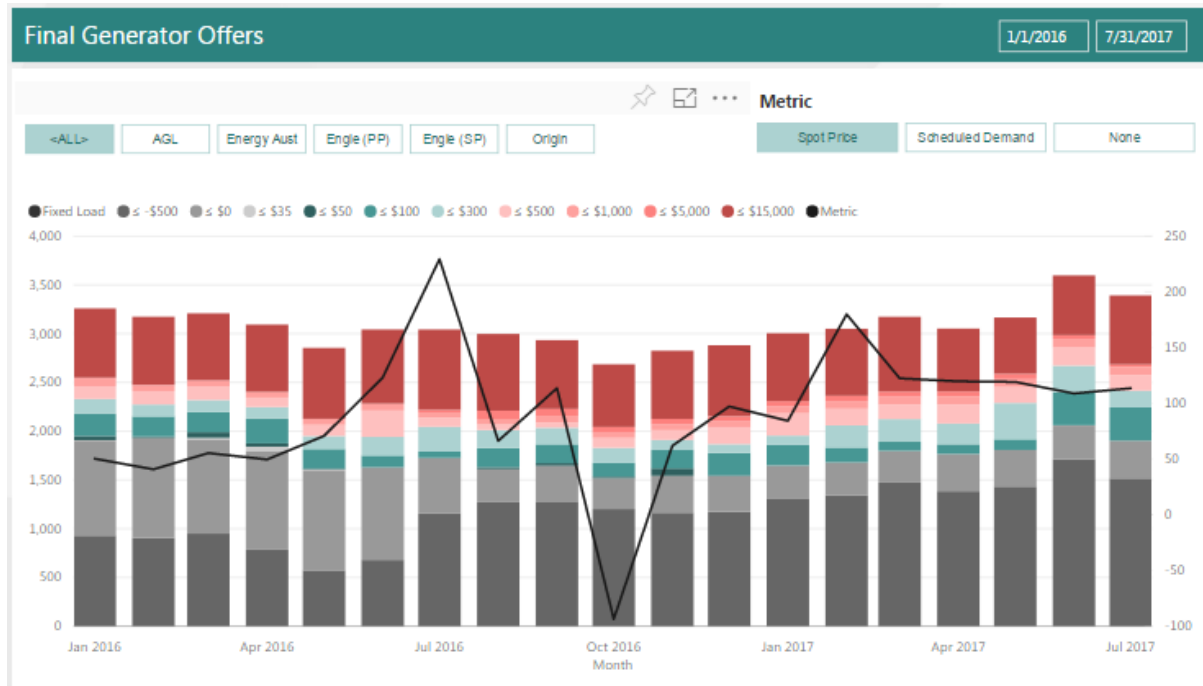


Snowy Hydro joined Origin but had a different starting position. Snowy moved capacity from the below \$500/MWh band and offered the capacity in the below \$300/MWh price band.

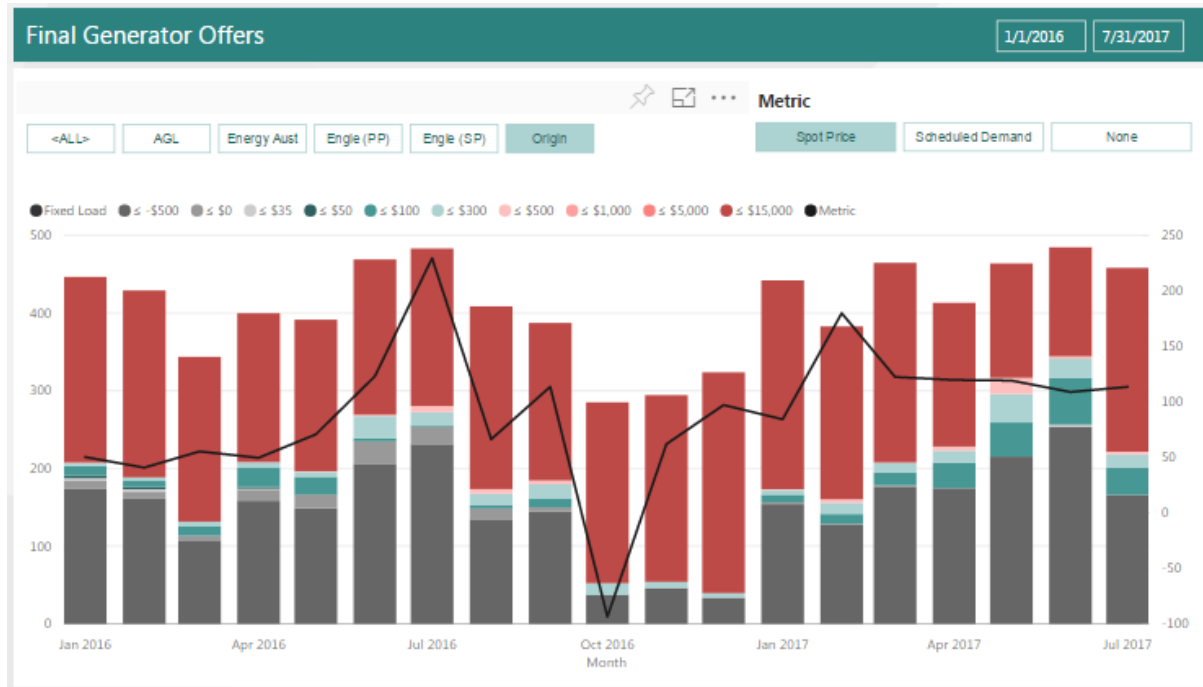


5.4 SOUTH AUSTRALIA

The South Australian offers changed in July, mainly due to Origin Energy.

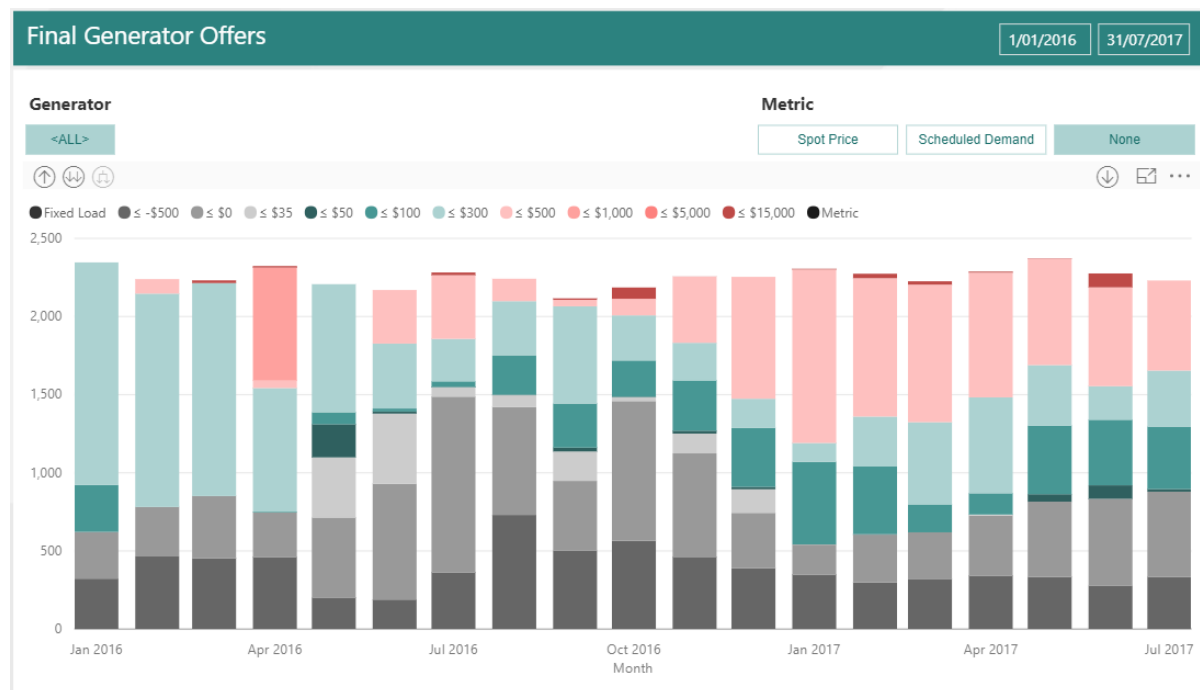


Origin significantly changed their behaviour by moving capacity into extreme price bands and thereby reversing the strategy that has been evident over May and June.

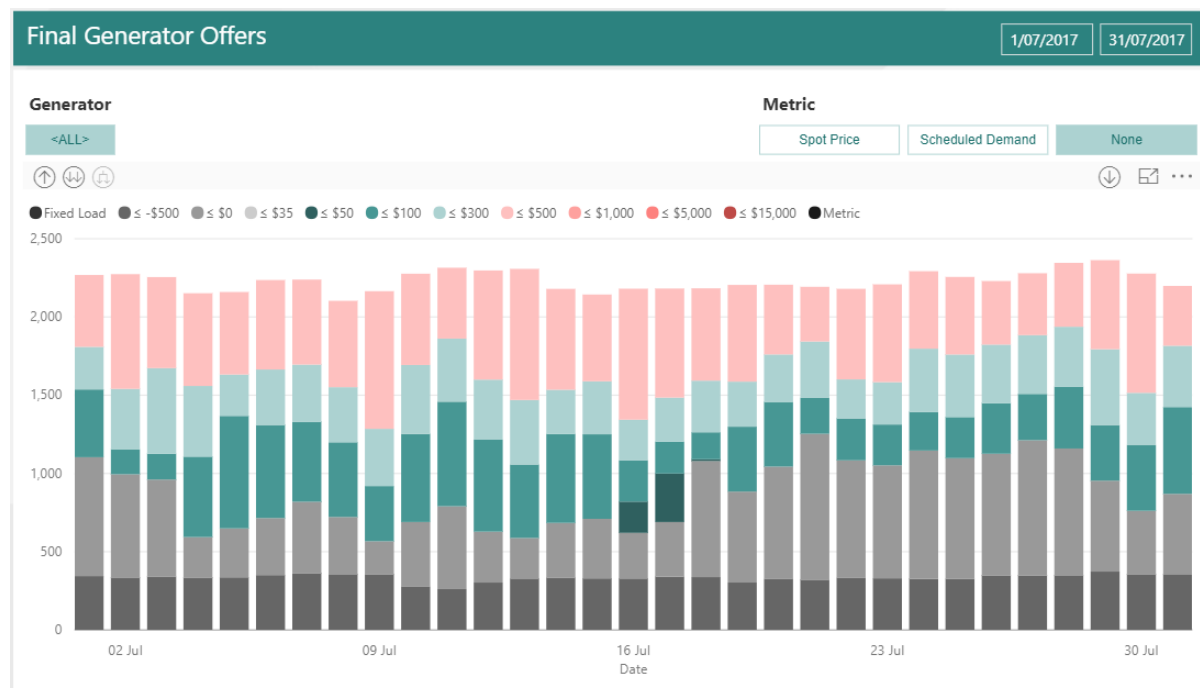


5.5 TASMANIA

Tasmania slightly reduced its capacity for the month of July, with a greater offering in the \$100/MWh to \$300/MWh price band and a decrease in the offering over \$5000/MWh and below \$50/MWh band.

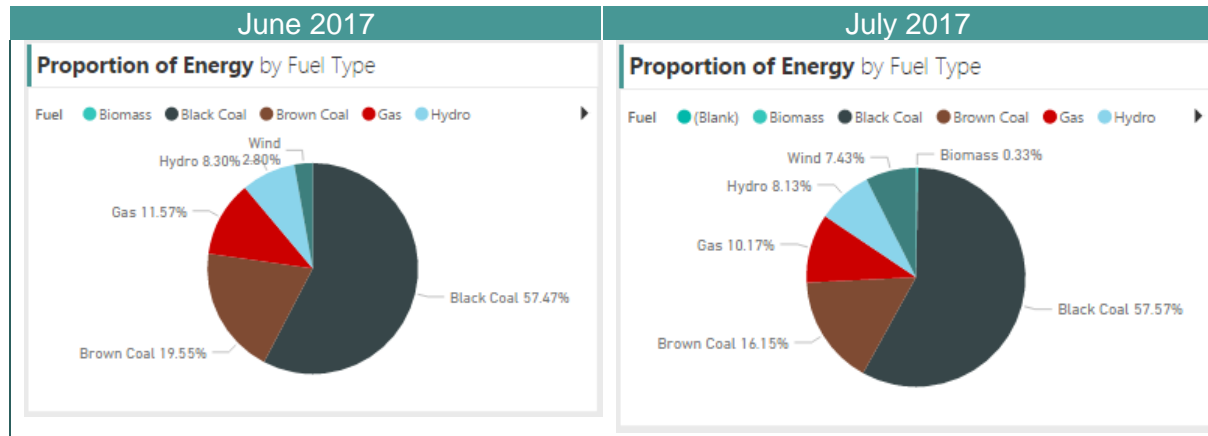


The daily generator offers in Tasmania showed the low price capacity was increased during the month, and the above \$300/MWh capacity was reduced.

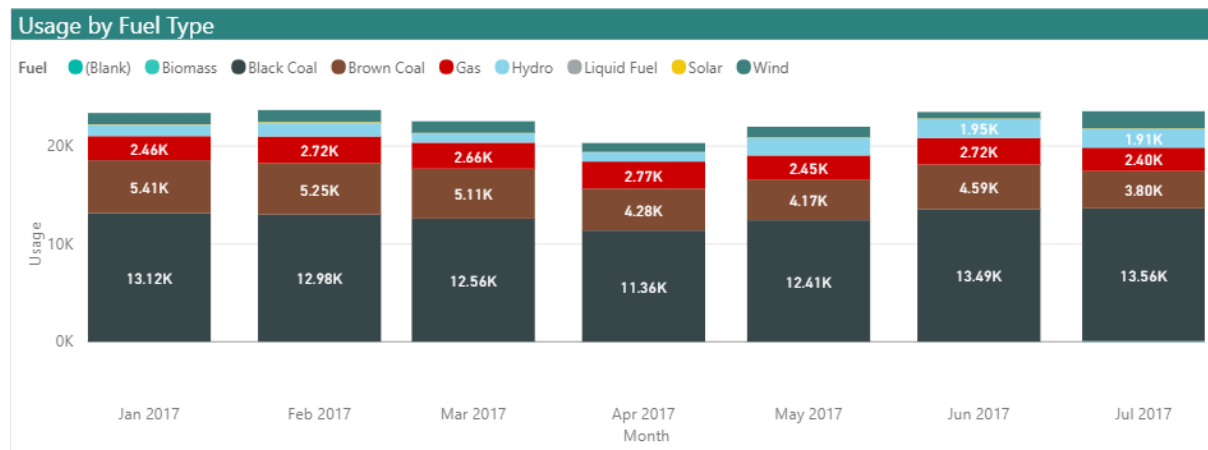


6 GENERATION

In July 2017 across the NEM, black coal market share remained relatively similar, brown coal share decreased by 3.4% points, gas fired generation decreased by 1.4%, hydro market share slightly decreased; and wind increased by 4.63% compared to June 2017.

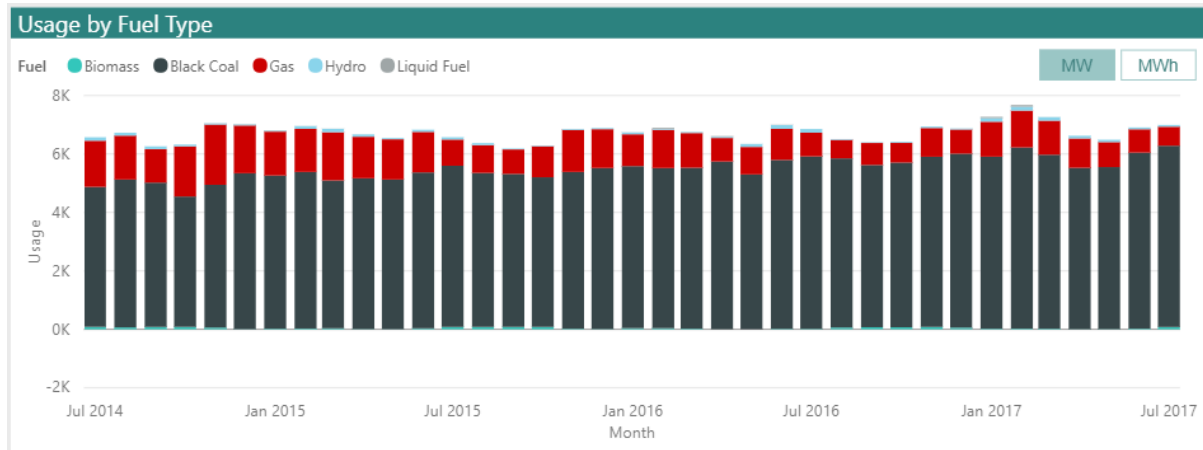


The daily fuel mix since 1 January across the NEM is shown below and a decline in brown coal can be observed from March post Hazelwood. A decline in Gas was also observed with hydro and black coal generation remaining constant from the previous month, while Hydro generation in July was at its highest for the year to date.

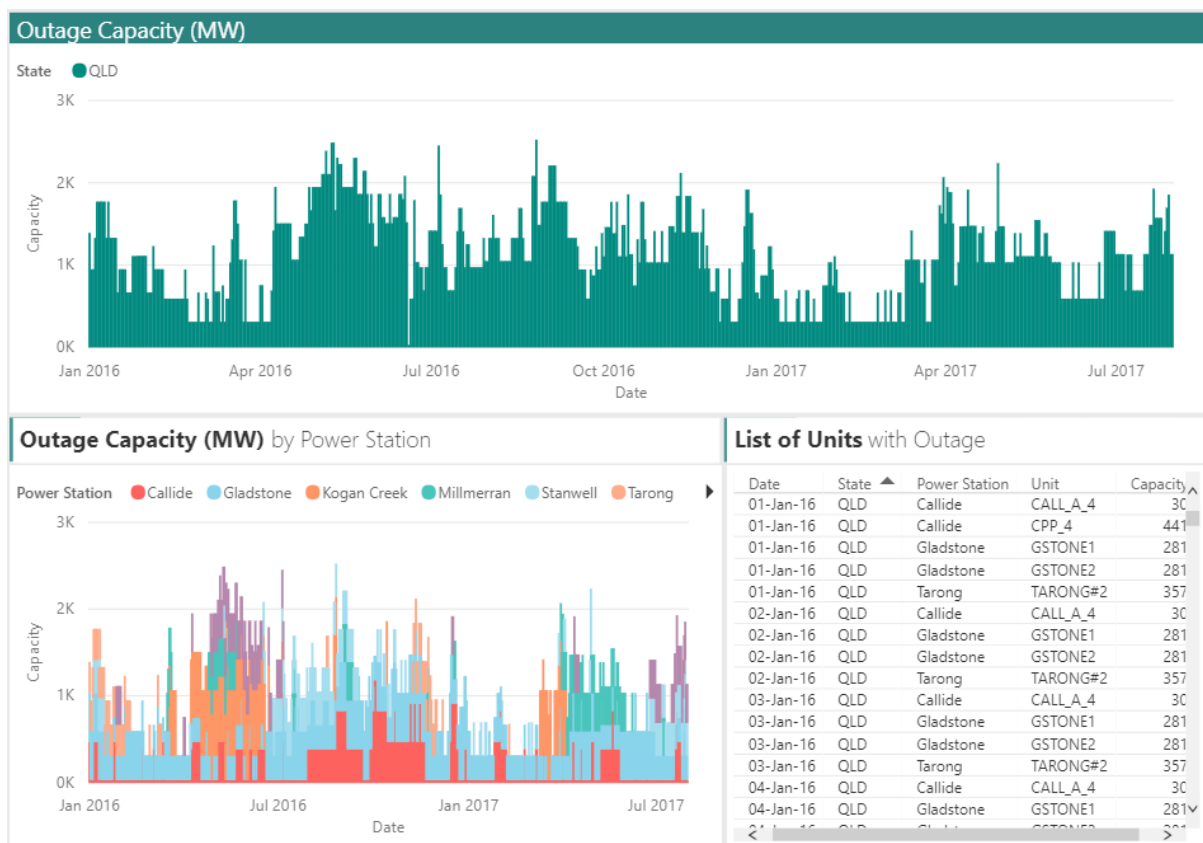


6.1 QUEENSLAND

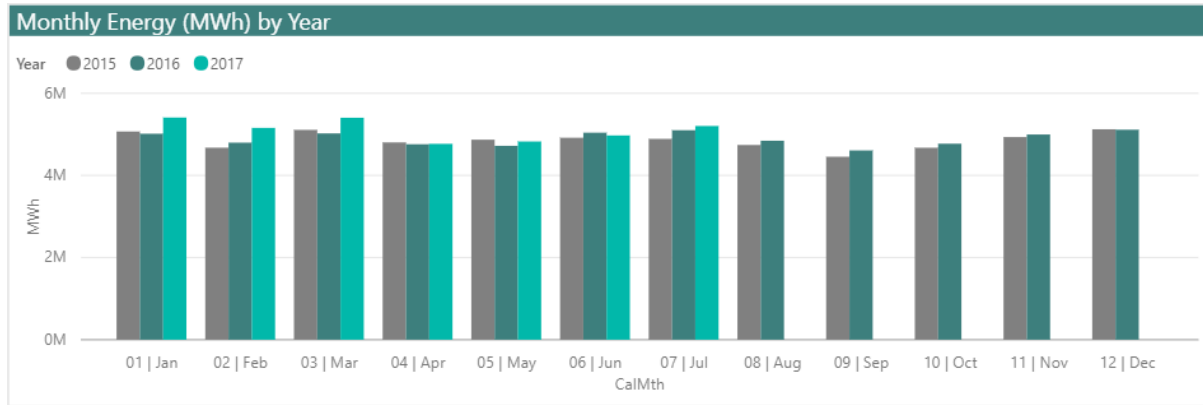
The monthly mix of energy from various fuel sources is shown below with black coal and gas fuel dominating. July followed the month of June with the continuation the trend that black coal was generating at a historically high levels, at the expense of gas even though spot gas prices were the lowest for 7 months.



The base load outage activity is shown below which is dominated by Stanwell, Gladstone, Tarong North and Callide and these outages in July-17 follow a very similar pattern to the outages in July-16 where the same stations had outages.

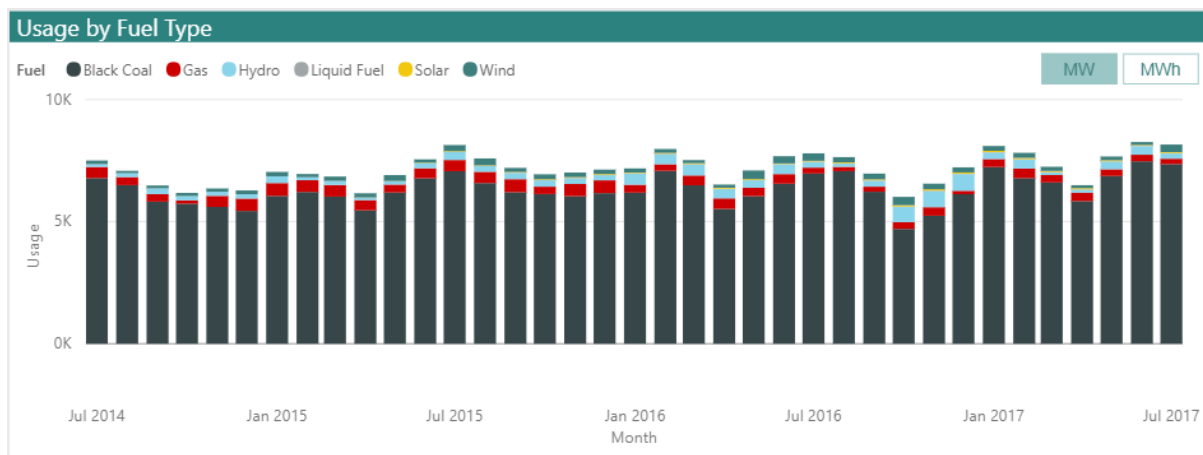


Queensland scheduled generation for July-17 exceeded previous year levels and was the highest since March 2017, and was the highest net exporter to NSW since August 2014.

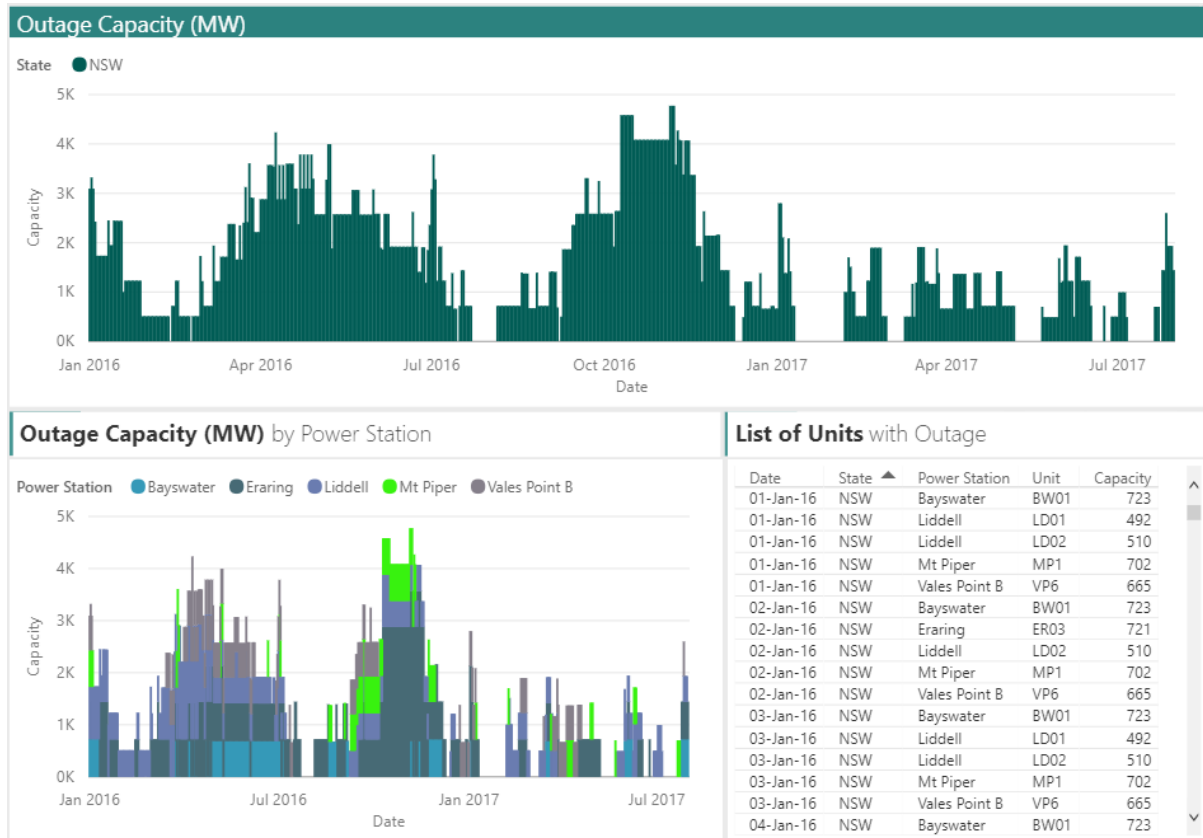


6.2 NSW

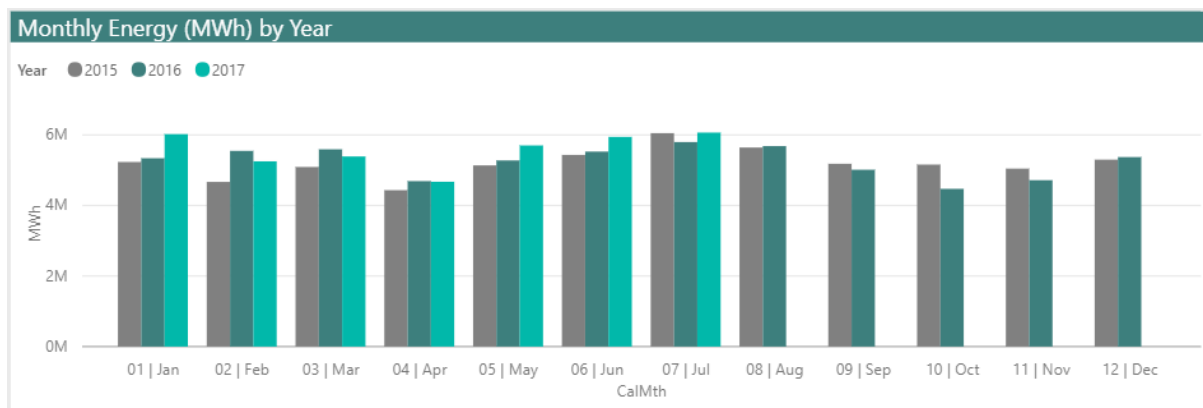
The monthly power generation mix in NSW is shown below and demonstrates a decrease in hydro and an increase in wind generation compared to the previous two months.



Base load outages in NSW remained historically low for the month of July.

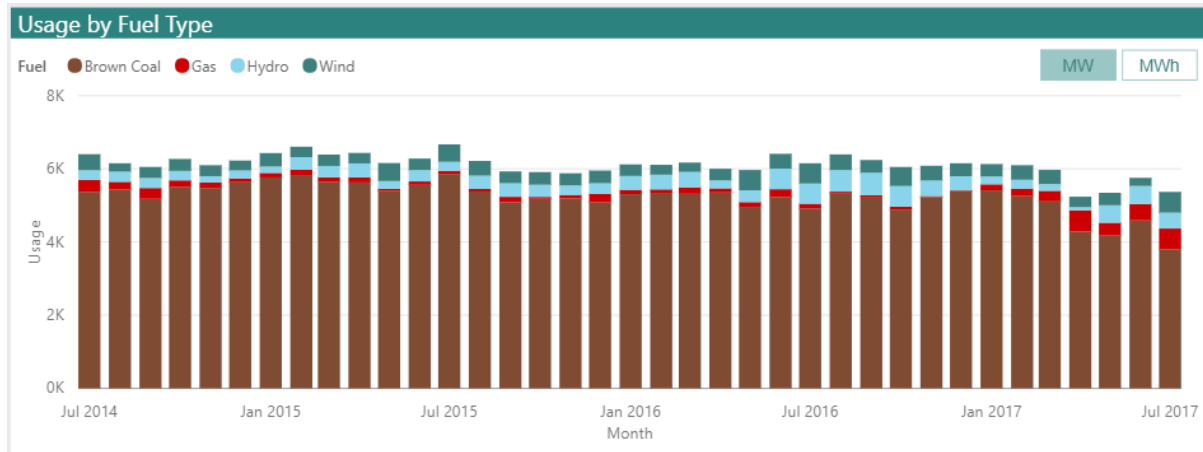


NSW scheduled generation for July-17 was the highest since January 2017; setting relatively high levels since January 2015.

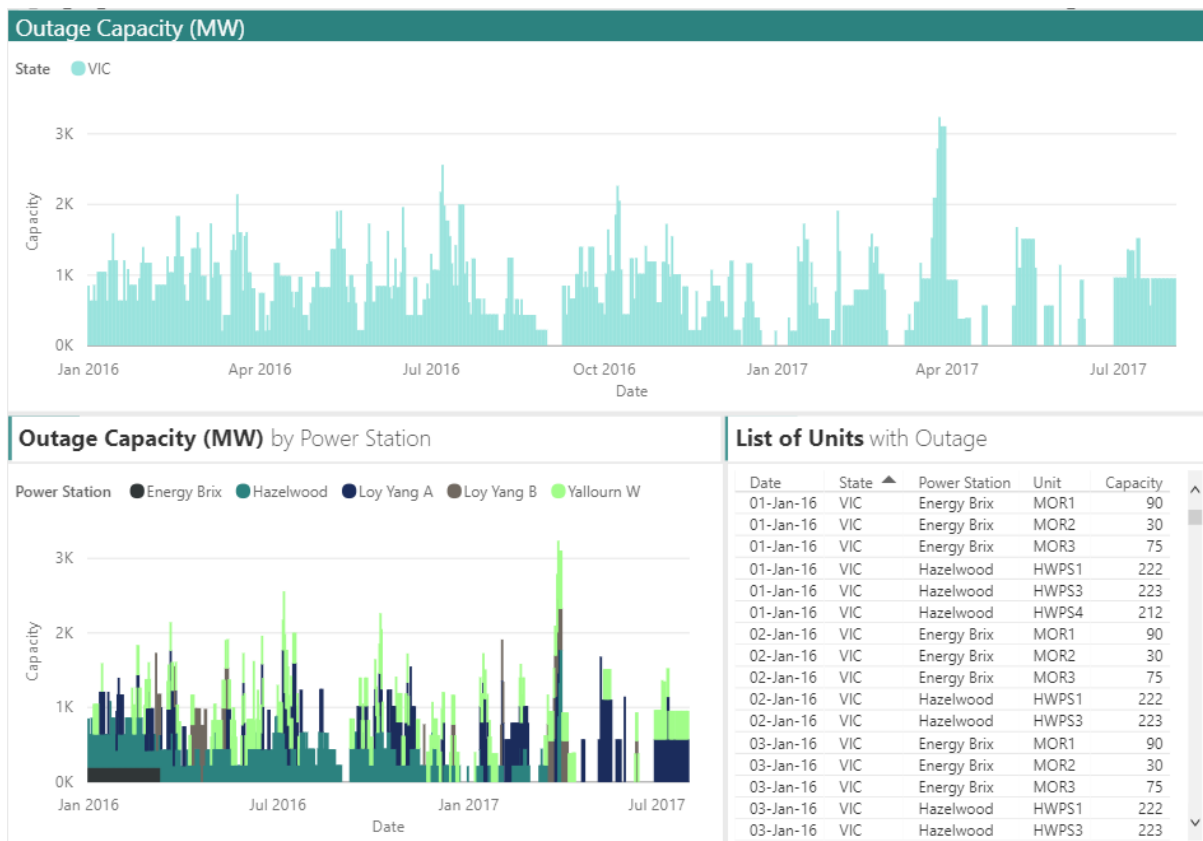


6.3 VICTORIA

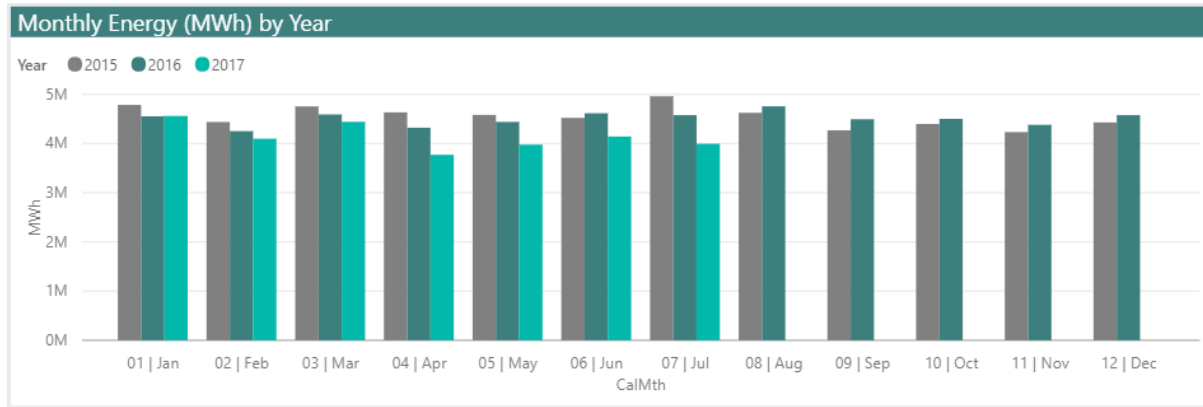
The brown coal generation in July-17 has dropped significantly from June-17 and remains low compared to July-16 due to Hazelwood closure. Wind generation was highest for the year.



Outages for July-17 were predominantly from Loy Yang A and Yallourn.

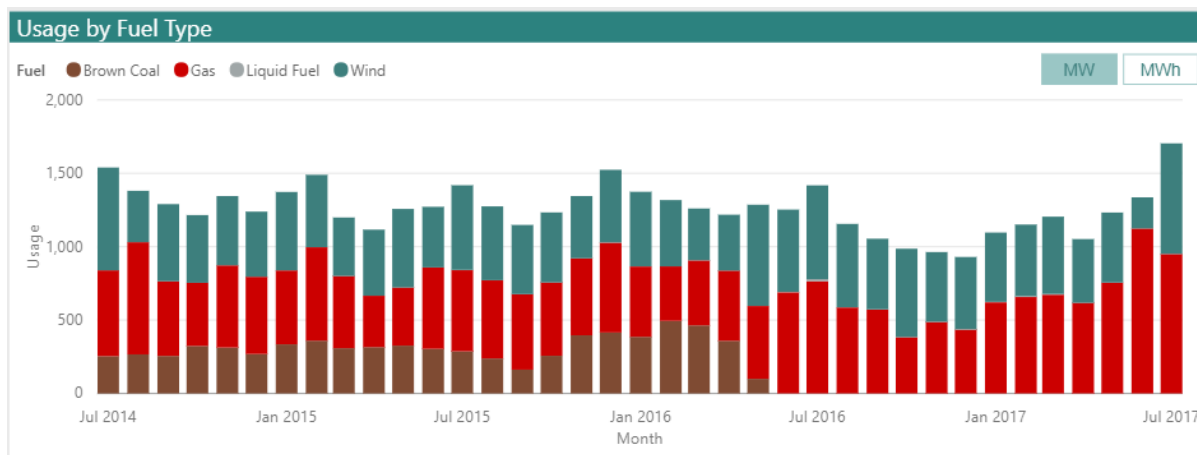


Total Victorian scheduled generation decreased from the previous month due to the outages and Victoria continues to import more energy from other States.

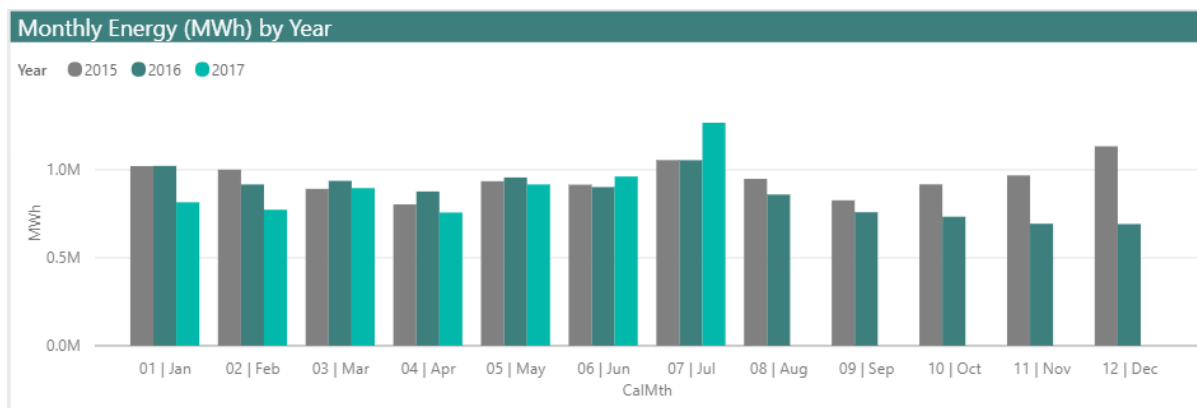


6.4 SOUTH AUSTRALIA

South Australian average generation increased significantly in July-17 as compared to June-17, its highest monthly average since 2014. In July, wind generation represented 44% of the energy generated in the State and was the highest on record.

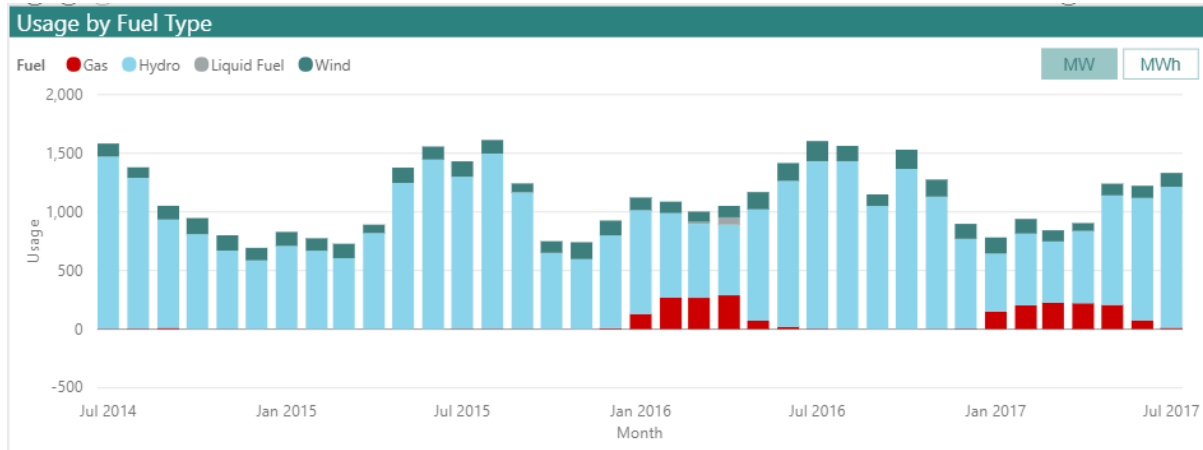


Total SA generation for July-17 has increased considerably compared to the same time last year and was the highest month since Jan-15.

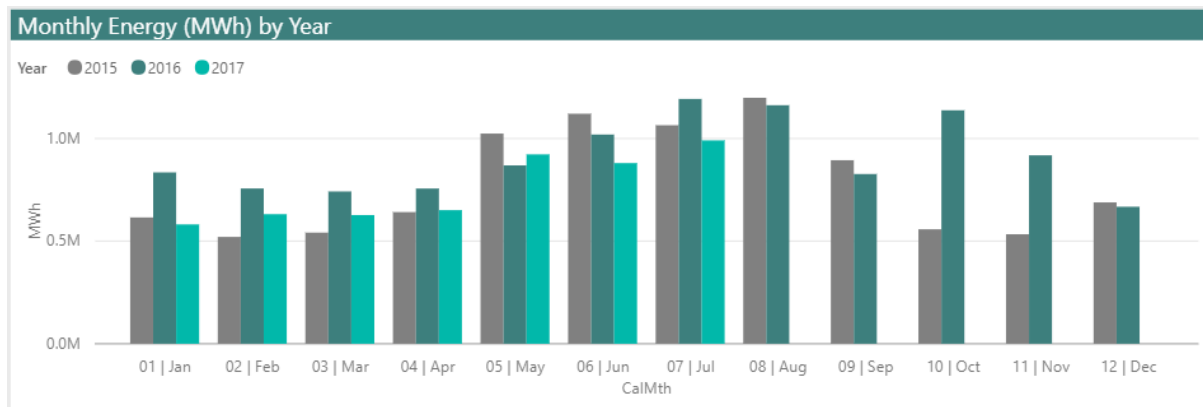


6.5 TASMANIA

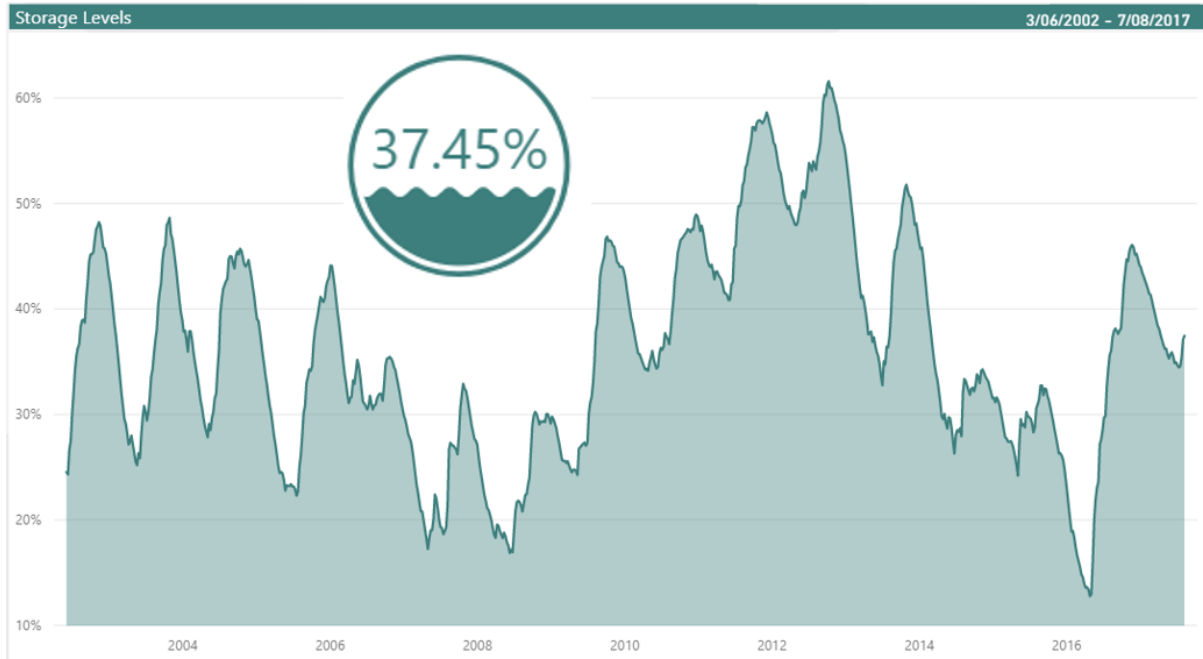
Tasmanian overall average monthly generation has increased, the generation is highest for 2017. This increase in overall generation was boosted by an increase in Hydro generation as has been the trend during the winter months in previous years. Gas generation for the month of July-17 has dropped off almost completely.



Total Tasmanian generation for July-17 has increase from the previous month, but is significantly down from the previous year following the Basslink's restoration in mid June 2016.

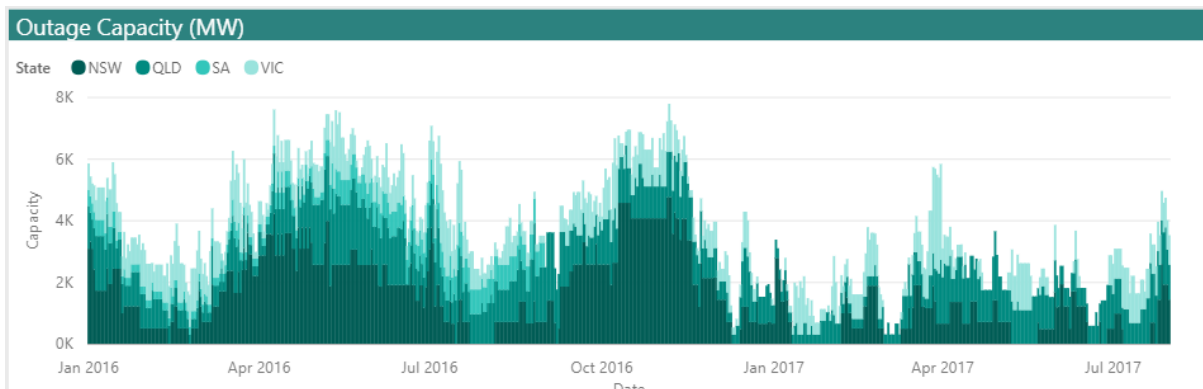


The water storage levels for Hydro Tasmania is 37.45% remain above 30% for the month of July-17.



6.6 BASELOAD OUTAGES

Collectively across the NEM, baseload outages remain lower compared to the same time last year.



7 INTERCONNECTOR FLOWS

7.1 QUEENSLAND-NSW

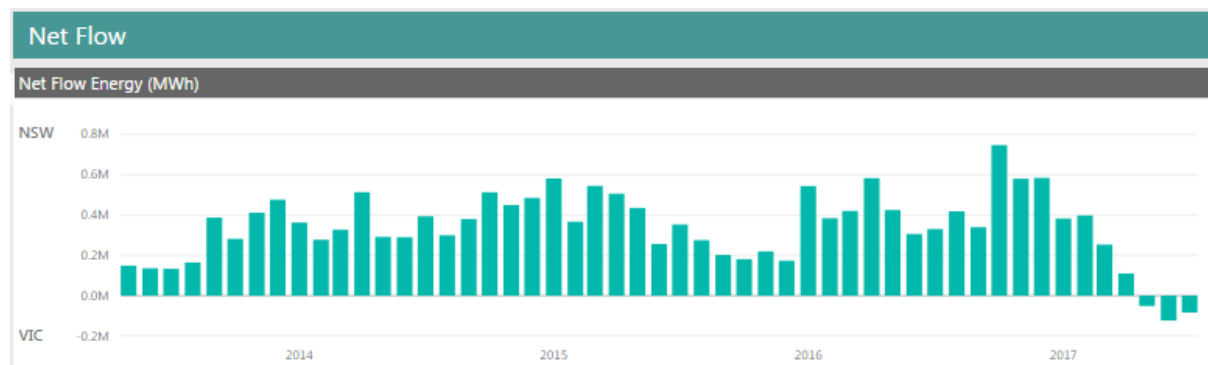
The chart below highlights the number of times QLD-NSW interconnector (QNI) was constrained and shows Queensland continues to be a net exporter most of the time to NSW. The net energy exported to NSW was the highest since August 2014.



7.2 Vic-NSW

The VIC-NSW interconnector had a significant impact during July-17 due to outages of AGL's Loy Yang A plant and Energy Australia Yallourn plant at the same time.

During the month, the imported energy from NSW represented 76% of the time. The net energy from NSW was the highest in history.

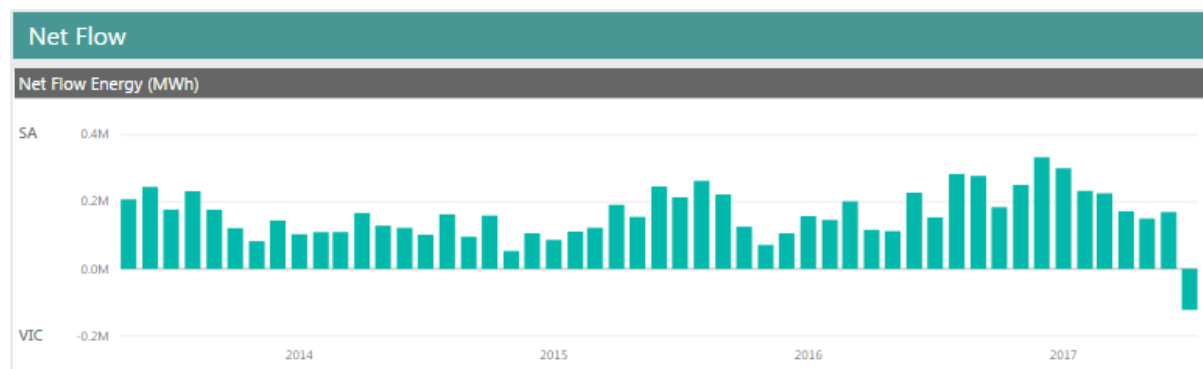


During the month, the number of times the interconnector was constrained, increased, the highest in the last two years. As a result, the Victoria continues to have a higher spot price than NSW.



7.3 SOUTH AUSTRALIA-VIC

For the month of Jul-17, Victoria became a net importer from South Australia for the first time, due to record wind generation in SA and outages in VIC.

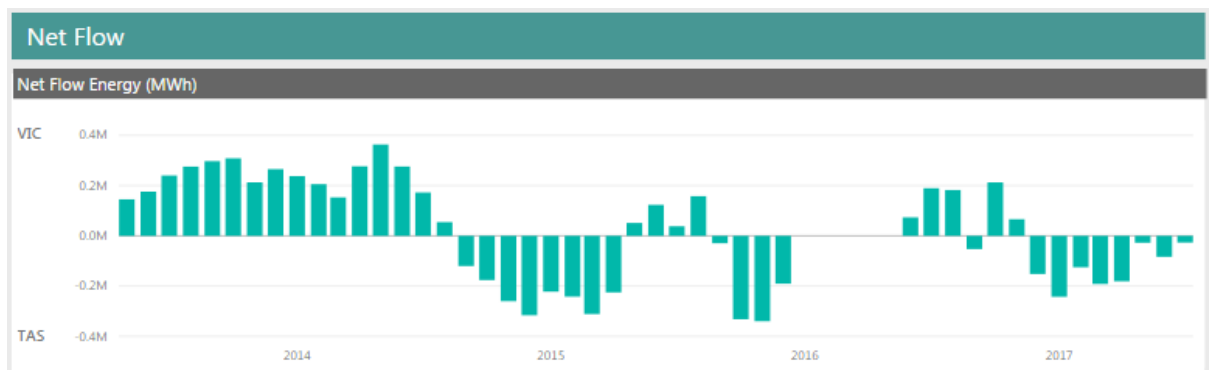


The number of times the interconnector was constrained was once again very low, leading to Vic and SA having similar price outcomes after adjusting for transmission losses.



7.4 BASSLINK

Basslink net interconnector flows were low with Tasmania being a net importer.



The Basslink interconnector had relatively few constraining periods, and therefore Tasmania monthly spot prices were similar to Victoria and South Australia, after adjusting for transmission losses.

Import/Export Generation

Import/Export Time

From:

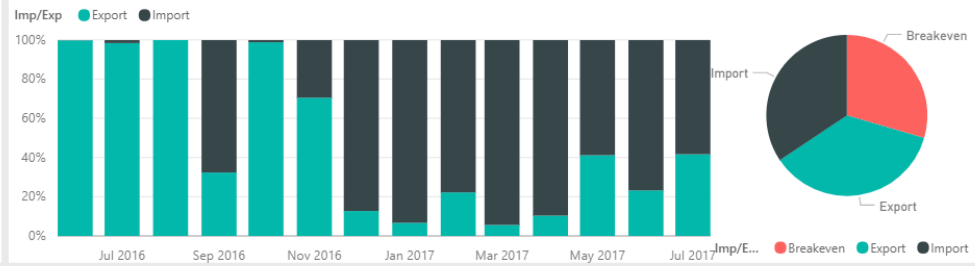
TAS

To:

VIC

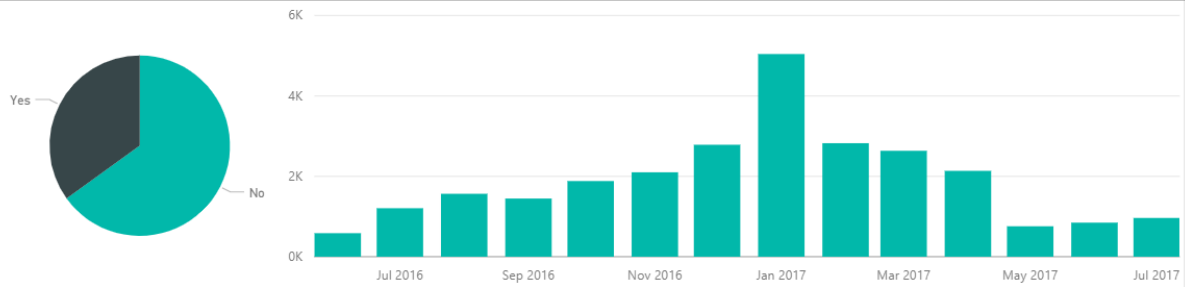
Total MWh:

-360K



Constraint Occurrence

5-min Reading

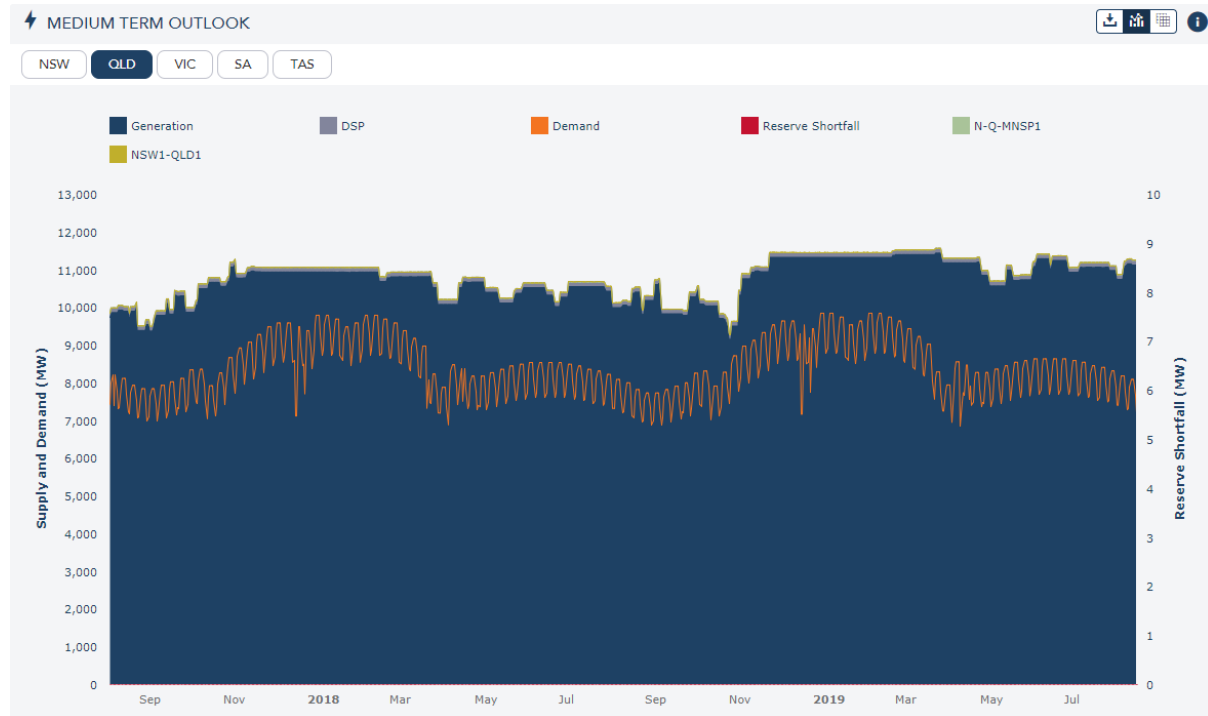


Powered by SavvyPlus Consulting

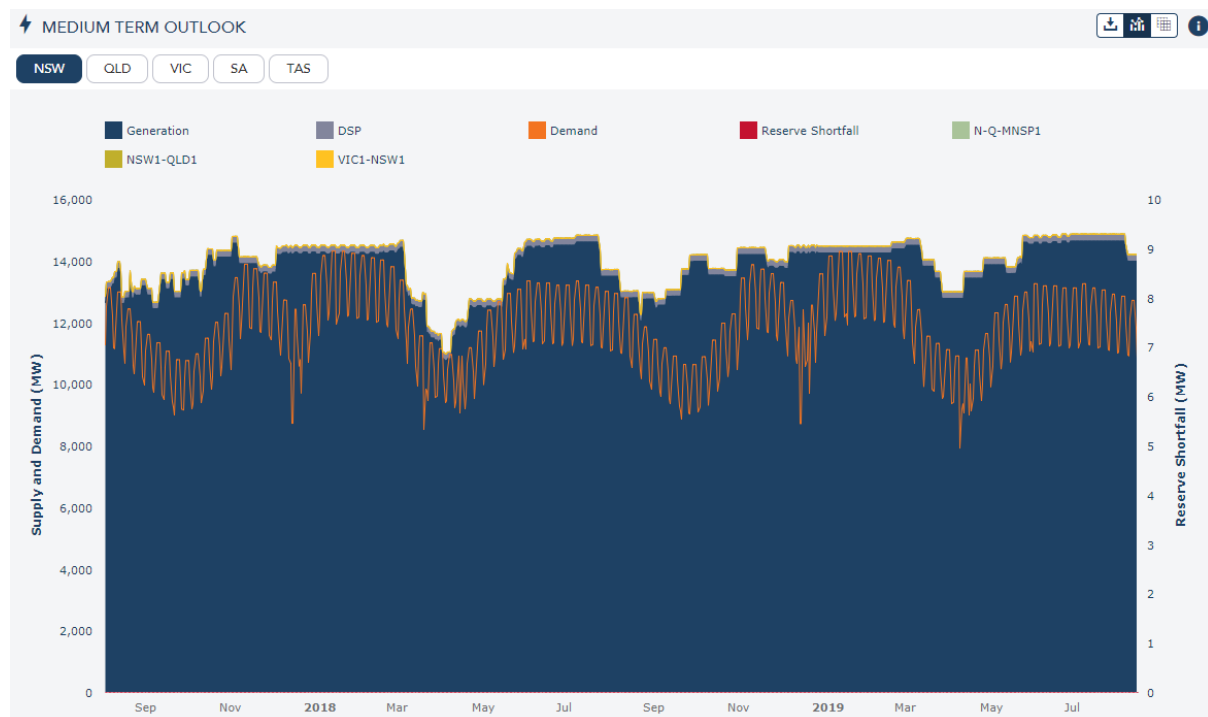
8 RESERVE SHORTFALL OUTLOOK

No change to the Reserve Outlook has occurred with Victoria and South Australia facing potential shortfalls in summers of 2017/18 and 2018/19.

8.1 QUEENSLAND

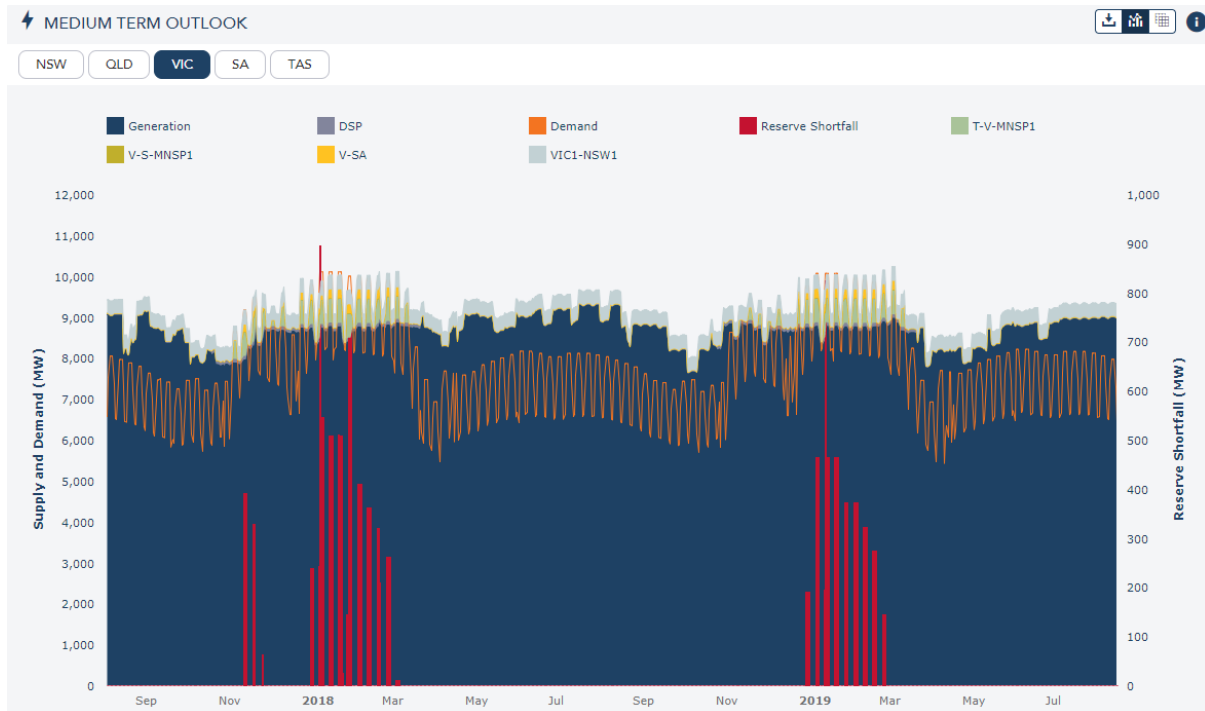


8.2 NEW SOUTH WALES



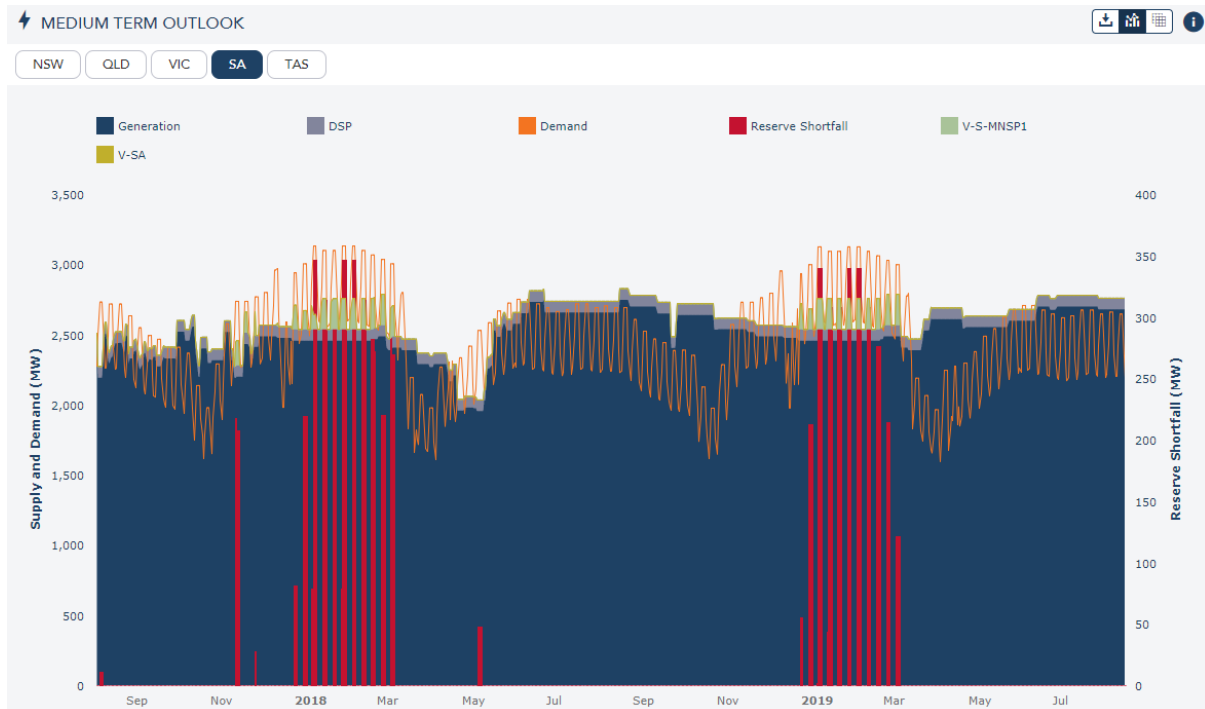
8.3 VICTORIA

Potential shortfalls are predicted for the next 2 summers.



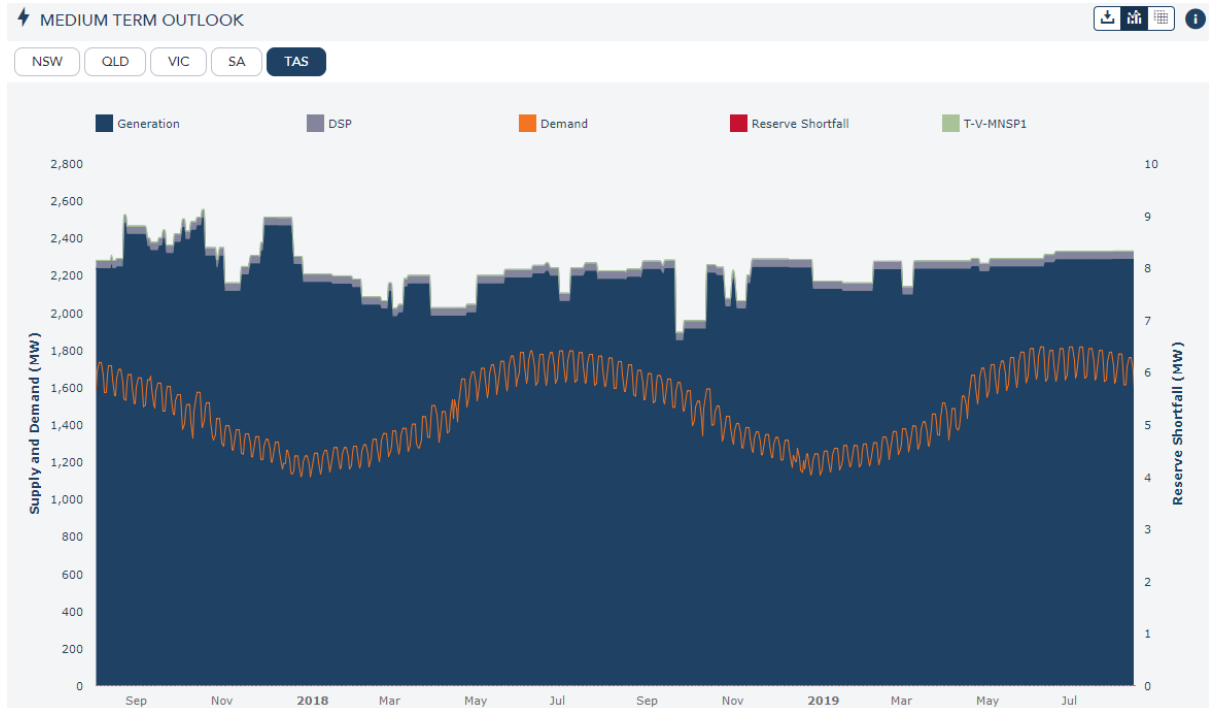
8.4 SOUTH AUSTRALIA

South Australia is also facing potential summer shortages.



8.5 TASMANIA

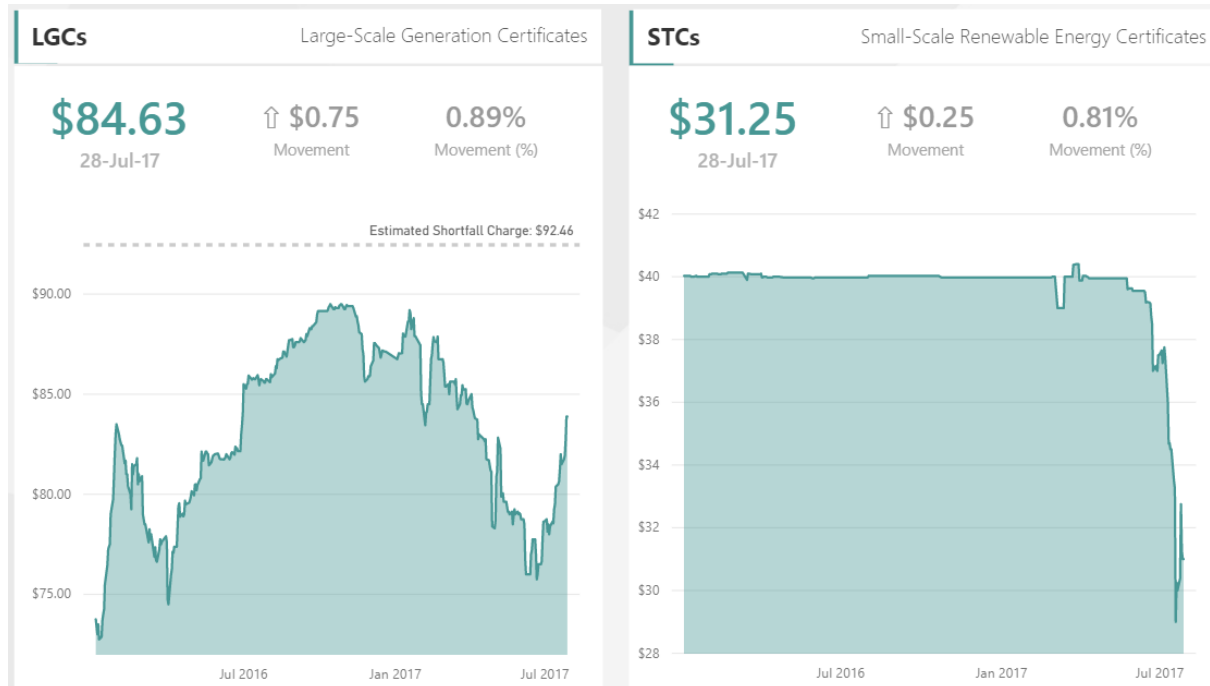
No reserve shortfall conditions apply to Tasmania.



9 ENVIRONMENTAL CERTIFICATES

Spot LGC prices rallied during the month of July, bringing the price closer to where it was in April earlier in the year. STC's continued to fall during the month of July reaching a low of \$29.00 with a net change of \$6.65 down since the start of July-17.

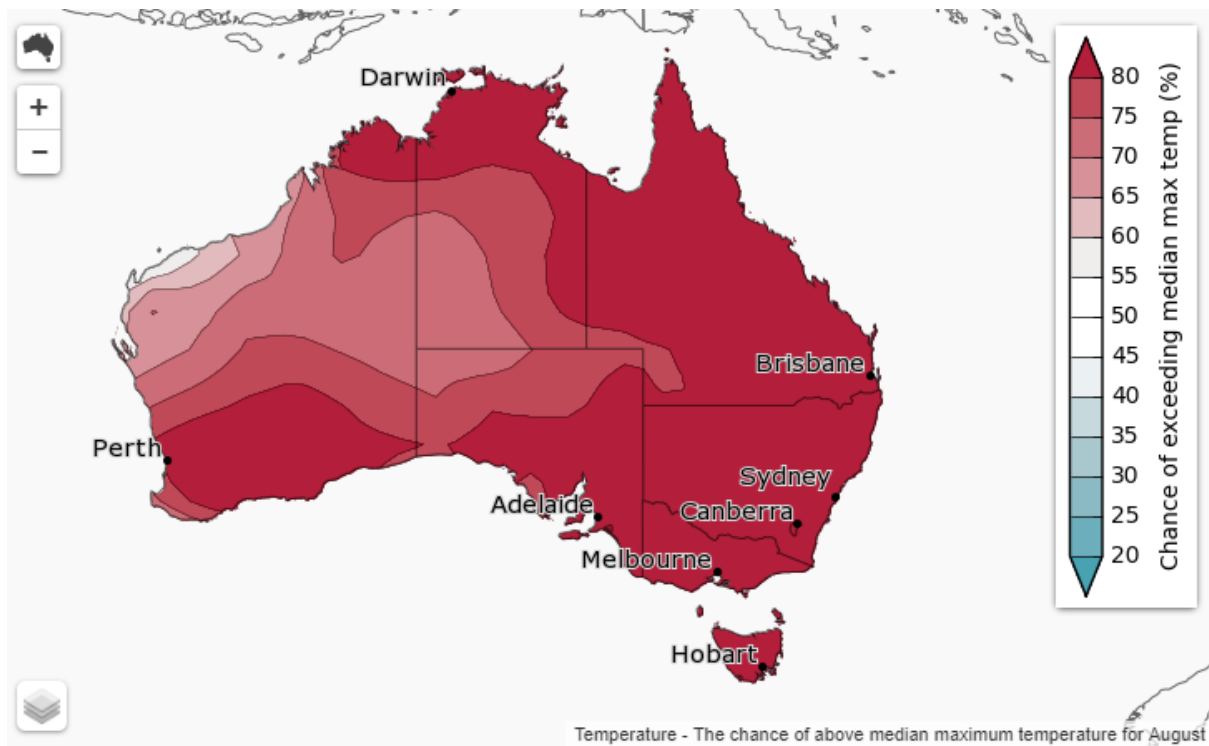
Given the continual popularity of roof-top solar PV installations, the STC price is facing downward pressure in the short-term.



10 WEATHER FORECAST

10.1 AUGUST 2017

For August, the likelihood of exceeding maximum long-term medians for all capital cities is extremely high.



10.2 SEPTEMBER 2017

For September, the likelihood of exceeding maximum long-term medians for Darwin, Hobart and the major cities on the east coast remains high. But the likelihood of exceeding maximum long-term median for Adelaide has decreased and Perth to an even greater extent.

