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1. Energy

The ACCC advised that submissions from businesses to its inquiry confirmed that in the past 12 to 24 months they had experienced price increases, in some cases a doubling or tripling, against their most recent electricity offer.

Business SA is a member of the Australian Chamber of Commerce and Industry (ACCI) and has been working with interstate colleagues under the ACCI umbrella to advance the interests of businesses across the nation, progressing towards solutions which provide reliable and affordable energy both in the existing National Energy Market (NEM) and beyond.

Electricity and gas costs have been a priority concern for Business SA's membership for many years now and, until recently, most of businesses' concerns had related to rising network and renewable subsidy costs. The recent Australian Competition and Consumer Commission (ACCC) Inquiry into electricity pricing found that across Australia, retail electricity prices had increased by 80 to 90 percent over and above inflation in the decade to July 2017, and those large increases in electricity prices had not been matched by price increases in other areas of the economy, nor in wage growth.[1] The ACCC advised that submissions from businesses to its inquiry confirmed that in the past 12-24 months they had experienced price increases, in some cases a doubling or tripling, against their most recent electricity offer.[2]

In addition to regular contact with a range of members on energy-related issues facing their businesses, Business SA maintains an Energy, Water and Sustainability Member Reference Group and appointments on the following committees:

- Essential Services Commission of South Australia (ESCOSA) Consumer Advisory Committee;
- ElectraNet Consumer Advisory Panel;
- SA Power Networks Customer Consultative Panel; and
- Australian Gas Networks—South Australian Reference Group.

Business SA is also an active participant in regulatory processes pertaining to the cost and reliability of electricity, primarily through the Australian Energy Regulator (AER) and ESCOSA.

In August 2016, prior to the statewide blackout which cost South Australian business approximately $450 million,[3] a coalition of representative organisations led by Business SA called on the State Government to instigate an independent review of the electricity market's transition to low carbon to ensure reliable and affordable power. This was primarily driven by our collective distress about the impact high wholesale electricity prices were already having on the community and economy, and concerns over predicted reliability shortfalls should South Australia be unable to access sufficient baseload generation.

1 ACCC, 'Retail Electricity Pricing Inquiry (Preliminary Report)', September 2017, p 10.

2 Ibid, p 18.

3 Note the estimated result from Business SA's Blackout Survey Report has been updated to reflect additional costs reported by BHP in February 2017. Note Adelaide Brighton Cement has also reported power outage costs of $9m for 2016 but did not isolate to specific incidents. Based on the latest available information, Business SA now estimates the total costs of September 2016's statewide blackout to be approximately $450 million.

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While it took a statewide blackout, Business SA welcomed the Council of Australian Governments (COAG) Energy Council's decision to instigate the Finkel Review, particularly as it was operationally independent of existing market structures and involved appropriate international expertise; both key recommendations from our original request.

In June 2017, Business SA supported all 50 Finkel Review recommendations, including the Clean Energy Target (CET). Having 49 recommendations adopted by COAG was a significant step, despite the central emissions reductions policy recommendation for the NEM not being supported. Since the Federal Government's decision in October 2017 to propose a National Energy Guarantee in place of a CET, Business SA remains open to the proposal, particularly if the outcome is adequate volume and competition for dispatchable electricity within the South Australian NEM jurisdiction, and ensuring that as a nation, we meet our Paris climate change commitments to reduce greenhouse gas emissions by between 26–28 percent of 2005 levels by 2030 at the least possible cost.

From Business SA's perspective, South Australia should not continue to pay the price for having a high penetration of intermittent renewable electricity generation with limited baseload competition, while the baseload generation we do have is higher-priced gas. We have always maintained that while there might be an initial cost of going carbon neutral, if we strategically design our market and emissions reduction policy, we should pay the least cost for moving to a lower emissions NEM. South Australia has reached 50 percent renewable penetration,[4] primarily based on subsidies provided by the national Renewable Energy Target, but that energy is predominantly intermittent.

Typically, only retailers with dispatchable power based within South Australia can competitively price firm contracts to even small energy intensive businesses, classified as large market customers, consuming as little as 160 MW hours per annum (or spending approximately $60k per annum). While South Australia may be doing more than twice its fair share of reducing Australia's electricity related carbon emissions, our businesses suffer from paying the nation's highest electricity prices.[5]

This is not fair or reasonable, nor supportive of local businesses being able to price their products competitively into both interstate and overseas markets.

Our recommendations are based on our intimate involvement in a wide range of issues related to energy costs. Not only do we consistently consult across our broad membership base, but we also talk to a wide range of experts from the energy sector, both locally and nationally. This approach ensures our policy positions both reflect the needs of our member businesses primarily paying the bill, while also accommodating the market realities for the energy sector being able to deliver energy at the least sustainable cost.

While South Australia may be doing more than twice its fair share of reducing Australia's electricity related carbon emissions, our businesses suffer from paying the nation's highest electricity prices.

4 AER, 'State of the Energy Market', May 2017.

5 ACCC, 'Retail Electricity Pricing Inquiry (Preliminary Report)', September 2017, p 16.

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1.1 Support for additional electricity transmission capacity on the Eyre Peninsula and a new interconnector to the eastern states should be subject to costs being shared as part of a national policy of renewable energy zones.

If we are to develop more renewables in South Australia, the Regulatory Investment Test for Transmission (RIT-T) and Transmission Use of System (TUOS) transfer pricing mechanisms must ensure that as the benefits of more renewable energy generated in South Australia contribute to the whole country's emissions reduction task, costs should be allocated accordingly.

Business SA has long supported the need to consider the costs and benefits of increased electricity network investment on a national basis, including how renewable energy generation targeted at national emissions reduction targets can be appropriately located at least cost for the entire NEM. Our long-held view is that South Australia has done more than its share of heavy lifting on national emissions reductions by virtue of our state achieving 50 percent renewable generation in 2016. This is three times the national average of approximately 17 percent,[6] on the way to the national 2020 Renewable Energy Target (RET) of 23.5 percent. While South Australia's achievement is positive for the environment, businesses cannot typically hedge with solar or wind farms which has limited our members' ability to access firm contracts, which are typically only available through high-priced gas generators. Alternatively, businesses have been forced to manage by operating on the spot market with its inherent challenges as the most volatile commodity market in the world, and in many cases involving installation of back-up diesel generators to mitigate against high-priced events.

Prior to September 28th, 2016 statewide blackout, Business SA led the South Australian push for an independent review of the market transition to low carbon to protect affordability and reliability. The Finkel Review was then instigated post blackout. Fortunately, the Finkel Review recommended AEMO, in collaboration with network businesses, develop an integrated plan to facilitate the efficient development and connection of renewable energy zones across the NEM. In December 2017, AEMO released a consultation paper on the integrated grid plan which highlighted a range of renewable zones, including nine in South Australia alone, out of 28 across the entire NEM. Business SA acknowledges this is a disproportionate amount relative to South Australia's own electricity demand. Consequently, if we are to develop more renewables in South Australia, the Regulatory Investment Test for Transmission (RIT-T) and Transmission Use of System (TUOS) transfer pricing mechanisms must ensure that as the benefits of more renewable energy generated in South Australia contribute to the whole country's emissions reduction task, costs should be allocated accordingly.

There are two major transmission network proposals currently proposed in South Australia; a $300 million upgrade of the Eyre Peninsula transmission infrastructure between Whyalla and Pt Lincoln, including a 275 KV line between Cultana and Yadnarie; and a potential new interconnector to the eastern states, most likely to New South Wales, with costs yet to be finalised under the RIT-T process. Increasing availability of options to support grid reliability in South Australia along with enabling more renewable energy exports, provided there are suitable options for accessing firm contracts (whether they be in existing or future pricing regions), is supported by Business SA if the cost of additional network infrastructure to meet national emissions reduction targets is appropriately shared across the entire NEM. South Australia has already met more than twice its share of the national 2020 RET and South Australian consumers, particularly businesses, are no longer willing to wear all the indirect costs of hosting intermittent renewable generation.

6 AER, 'State of the Energy Market', May 2017.

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1.2 Increase funding to the existing Energy Productivity Program beyond March 2018 and extend coverage to gas to ensure appropriate assistance is available to industry to improve gas efficiency in industrial processes.

Many businesses have had to contend with a doubling to tripling of the wholesale price of gas over the past five years.

In December 2016, the State Government announced it would provide $31 million to assist large market customer businesses in managing their electricity costs and contribute to energy supply benefits for South Australia. This came in response to the ongoing wholesale electricity market rises which began in mid-2015, following Alinta's announcement that the Northern Power Station would close.

Business SA welcomed the Energy Productivity Program (EPP) to relieve the cost pressure on South Australia's large market business consumers, those consuming greater than 160 MWh per annum, since most have experienced total electricity bill increases in the order of 50 to 75 percent over the past two years on the back of wholesale prices more than doubling. Unfortunately, many of those same businesses have also had to contend with a doubling to tripling of the wholesale price of gas over the past five years. This has been predominantly driven by the establishment of Australia's LNG export market and increasing levels of gas moratoria interstate, which have prevented new supply coming on stream to meet the structural shift in demand.

While the EPP has funded audits for approximately 500 businesses, Business SA understands that approximately one third will be eligible for capital project funding. Once the initial $31 million in funding expires in March 2018, there will still be significantly more opportunities to assist large market customers' businesses with energy efficiency projects. The State Government should at least double the initial funding commitment, particularly to help the many unfunded businesses with identified efficiency projects to assist with transitioning through the next few years of elevated wholesale market prices.

As the name states, the Energy Productivity Program should also look at the optimisation of all energy costs for businesses. While the State Government has already funded energy audits under this program, to ensure appropriate compliance with Australian Standards for a Level 2 energy audit, independent auditors should be assessing potential efficiencies in all aspects of a businesses' energy use, not just for electricity.

Extending the EPP to gas will create opportunities for business to invest in more gas-efficient plant and equipment, particularly in relation to heat and steam generation in a variety of manufacturing or processing businesses. For example, much can be done to improve boiler efficiency, such as installing steam accumulators. There are also many heat recovery opportunities such as installing economisers, flue gas condensers and recuperators;[7] although installations of this nature can be complex and accordingly require more investment than conventional energy efficiency options—a factor that needs to be considered in how the Government funds EPP grants.

Extending the EPP to gas may also have future relevance to the State Government's push to develop a hydrogen industry for South Australia, particularly to encourage such an industry to look specifically at how hydrogen could be used as a fuel replacement in industrial heating processes.

7 South Australian Wine Industry Association, 'Winery Energy Saver Toolkit', July 2014, p 58.

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1.3 Work with the COAG Energy Council, AEMO, electricity networks and retailers to thoroughly investigate all options at redefining the existing NEM pricing jurisdictions to optimise the ability of business consumers to enter into firm contracts, and to provide cost-reflective price signals for additional generation and network upgrades.

The Australian Chamber of Commerce, in collaboration with Business SA, recently procured independent expert advice from engineering firm Aurecon on alternative pricing models for the National Electricity Market (NEM) which might lead to more efficient and affordable pricing outcomes, particularly for small to medium sized businesses. This emanated from our collective concern about the reality for businesses, in South Australia in particular, of being unable to access firm contracts from renewable generators, and the lack of effective hedging across interconnectors. The bulk of effective competition comes from generators with their own base-load power generation within any given state-pricing jurisdiction.

To date, energy policy development in Australia has not considered how a fundamental review of the NEM's pricing structure could assist in the market transition to a low-carbon future with more intermittent renewable electricity. At present, the NEM has pricing regions which align with state boundaries, primarily a legacy feature of separate state-based markets that existed prior to the NEM's formation in the late 1990s. A recent study by the Major Energy Users group found "while, in theory, retailers can access capacity on the interconnectors through the interregional settlement residue auction process (and so "sort of" access base load hedges from Victoria), this mechanism does not provide sufficient certainty for retailers to provide firm contracts to end users."[8]

The primary objective of wholesale electricity pricing models is to produce locational pricing signals that promote:

- efficient short-term use of the existing network by delivering electricity from lowest-cost generators to customers that value it the most; and
- investment in generation and network infrastructure where it is of most valued to the system.

In contrast to the existing state-based pricing jurisdictions, Aurecon found the most efficient expression of locational pricing that could be adopted in the NEM is a nodal pricing structure. Although hundreds of nodes exist in the NEM (located at the sub-station level), the volatility of pricing impacts on consumers can be minimised through pricing hubs, as exists in other nodal markets such as the largest US electricity market, PJM, which cuts across seven states and serves 61 million customers. The PJM passes nodal pricing onto generators but otherwise averages prices across many nodes, called hubs. This shows generators have been found to be more responsive to changes in electricity prices than retail customers. The pricing hubs also help facilitate trading which increases market liquidity. Both the Californian and Texan electricity markets also price at the nodal level and both markets are much further advanced than Australia in many respects. For example, the Texas government passed a directive to establish competitive renewable energy zones in 2005, to identify areas with potential wind capacity and the necessary transmission infrastructure required to develop it.

A review of the NEM's existing pricing design and the optimum structure to transition to a low carbon future, while ensuring an adequate ability of consumers at all levels of consumption to access firm contracts, should be initiated by mid-2018. This should run concurrent with AEMO's review of renewable energy zones to determine whether a nodal market could optimise intended outcomes for consumers.

8 Major Energy Users Inc, 'Examination of the Recent and Future High Prices in the South Australian Regional Electricity Market 2016', p 25.

015

1.4 In accordance with the Finkel Review recommendation for AEMO and the AEMC to assess the need for a strategic electricity reserve, reassess the need for South Australia to continue owning back-up generators beyond the summer of 2018/19 if the national market can provide the same reliability outcome at a reduced cost.

Business SA recognises South Australia must have security of supply, but the cost of back-up generation must be at the market rate and we must ensure private investors continue to look at investing in South Australia, and not be deterred by government interference in the market.

Prior to the summer of 2016/17, Business SA and other concerned organisations and individuals had been raising our concerns with both state and federal governments about the predicted electricity reserve shortfalls in South Australia, outlined in AEMO's MT PASA forecast.[9] While at the time we were advised that the processes in place would work to ensure those shortfalls were met by the market, it was an unsettling time for businesses, particularly after the statewide blackout had already cost them approximately $450 million.

Unfortunately, it took another load shedding event in February 2017 to spark definitive political action to provide certainty to South Australian electricity consumers. This was the third load-shedding event in eighteen months, excluding the statewide blackout, following just three similar occurrences in the fifteen years prior. By this stage, there was little doubt there had been a step change in the reliability outcomes for South Australian electricity consumers but no change in the national electricity law, which still states its objective: *"to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—price, quality, safety, reliability, and security of supply of electricity; and the reliability, safety and security of the national electricity system."*[10]

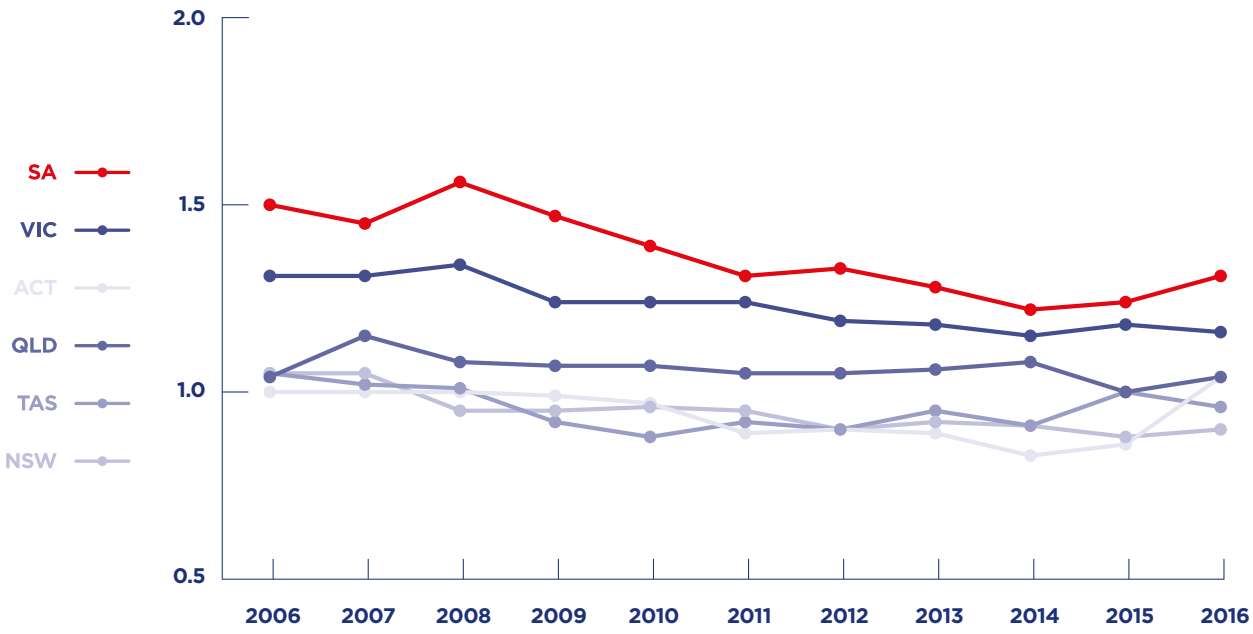
On release of the South Australian Government's Energy Plan in March 2017, Business SA supported its 200 MW of temporary generation for the summers of 2017/18 and 2018/19. Our members needed this certainty in the short-term and in the absence of a national solution at that point, we recognised the need for the State Government to act ahead of the upcoming summer, particularly with Hazelwood Power Station's closure the following month. However, Business SA did not endorse the State Government building a permanent 250 MW emergency back-up gas-fired generator, primarily due to our concern about the signal this would send to future private investors in our electricity network. While the market may have failed due to inappropriate environmental policies which incentivised renewable energy purely to generate, but not necessarily at the times the market required, the market of its own accord did not fail. The clear evidence gauged from multi-factor productivity levels for electricity distribution network assets is that state-owned assets in NSW and Queensland are considerably more inefficient and costly than privately-run assets in other states (see table overleaf).

9 AEMO forecast of future demand/supply and any predicted shortfalls.

10 *National Electricity (South Australia) Act 1996* (SA) sch 1 (National Electricity Law) s 7.

016

Multilateral total factor productivity
By jurisdiction 2006–16



Source: Australian Energy Regulator, Annual Benchmarking Report for Electricity distribution network service providers, November 2017.

Business SA acknowledges the Finkel Review recommended AEMO and the AEMC assess the need for a strategic reserve to act as a safety net in exceptional circumstances, and to achieve this by either enhancing or replacing the existing Emergency Reserve Trader mechanism. It is important that any new strategic reserve in South Australia is consistently implemented in line with a NEM-wide mechanism to ensure South Australian consumers do not pay any more than strictly required to have additional assurances of emergency generation support. A new strategic reserve should also be more visible to the broader market to provide improved public confidence in the market's ability to meet the needs of South Australian consumers. There are two summers to pass with temporary generation already in place which should provide ample time for the South Australian Government to work collaboratively with its COAG Energy Council counterparts, including the Federal Government, to design and implement a new strategic reserve mechanism for the entire NEM.

The South Australian Government recently exercised its option to purchase the temporary diesel-fired generators for $227.2 million,[11] against the advice of the business community. However, provided they are not permanently in place by the end of summer 2018/19, the ability to sell or lease these units should not be materially compromised. Alternatively, if the Government decided to shift the now-separate units together to form a new, permanent gas-fired generator, they would likely lose considerable money if they had to re-sell the associated connection infrastructure, which might represent approximately 20–30 percent of the total cost.

Business SA recognises South Australia must have security of supply, but the cost of back-up generation must be at the market rate and we must ensure private investors continue to look at investing in South Australia, and not be deterred by government interference in the market.

11 South Australian Government, 'Mid-Year Budget Review', December 2017.

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1.5 Subject to South Australia's unique competition issues being accounted for, ensure a future emissions reduction and reliability policy for South Australia's electricity network aligns with a national approach and produces transparent costs of meeting both target outcomes.

We have long moved on from a disparate network of railway gauges to improve trade amongst states, and it is about time the NEM followed suit.

Business SA has long called for reconsideration of how the current NEM emissions reduction policy, the RET, operates. The RET is only incentivising the generation of renewable energy without regard to broader contract and system reliability requirements in each specific pricing jurisdiction (currently along state boundaries). Firstly, we support the need for Australia to meet its Paris climate change commitment of reducing greenhouse gas emissions by between 26–28 percent of 2005 levels by 2030, and recognise the substantive contribution made by the electricity sector, at 35 percent.[12] However, future policy to support the renewable generation required to meet national emissions reduction targets must account for the dispatchable electricity required in each state for both grid reliability and contract market depth, particularly in South Australia.

While Business SA originally supported the Clean Energy Target, which was recommended by the independent Finkel Review panel and thoroughly informed by both local and international expertise, the Federal Government's proposed National Energy Guarantee (NEG) should be considered a genuine alternative if it can meet businesses' reluctant acceptance of the need to reduce emissions, but only if delivered at least cost across each NEM pricing jurisdiction while ensuring grid reliability and security. Transparency will also be key, and having tradeable emissions reduction and reliability requirements will ensure an appropriate level of price discovery, enabling the parties best able to achieve emissions reduction and reliability at the lowest cost to do so. Whether or not there are so-called certificates is irrelevant to businesses, our members just need a framework which delivers their required outcomes at least cost.

From the preliminary Energy Security Board (ESB) advice on the NEG,[13] there is a forecast reduction in today's South Australian wholesale electricity price, $113/MWh, to approximately $53/MWh by 2022 (compared to $60/MWh for Business As Usual (BAU)) and $64/MWh by 2030 (compared to $87/MWh BAU). The majority of the impact of the NEG will come once Liddell power station in New South Wales withdraws its 2000 MW from the NEM in 2022. While the NEM average wholesale price under the NEG falls from $100/MWh to $40/MWh by 2022 (compared to $42/MWh BAU), and $53/MWh by 2030 (compared to $75/MWh BAU), the overall decline in South Australian prices is still material despite remaining the highest in the NEM. A comparison of these prices is illustrated overleaf.

12 Finkel Review, 'Independent Review into Future Security of the National Electricity Market', June 2017.
13 20 November 2017 – numbers approximate based on graphs within report.

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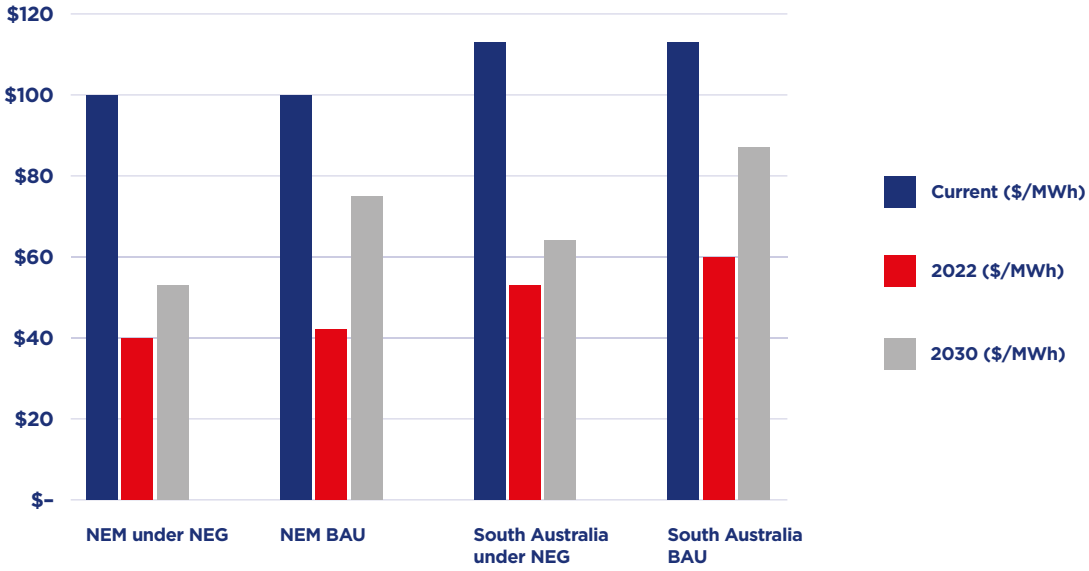
Forecasted wholesale electricity price



Notwithstanding potential price benefits, it is important to note that the ESB advice on the NEG states *'effective competition in both retailing and generation is required for the NEG to achieve its policy objectives at the lowest possible cost to consumers'*. Subsequently, the ESB dedicates an entire section of its advice to competition issues in South Australia, which the independent Finkel Review described as having the least amount of competition and highest reliance on its largest generator of all NEM regions. Even when compared with Queensland, which exhibits a comparable degree of market concentration in the generation sector, the ESB finds South Australia also has a high degree of vertical integration with generators dominating the retail sector. According to the ESB, all of these factors, 'combined with lower demand and higher penetration of non-dispatchable generation, explains why South Australia's contracts market is small and illiquid relative to the other three regional contracts markets in the NEM'.

Business SA notes that options to address market competition in South Australia will play a pivotal role in determining how effective the NEG can be here, and we advise that recommendations from the upcoming final report of the ACCC's Retail Electricity Pricing Inquiry are appropriately considered for in the NEG's final design. The Federal Government has long maintained a 'four pillars policy' for the banking sector to reflect community concerns about mergers restricting competition. There is far more concentrated market power in Australia's dispatchable electricity generation sector, particularly in South Australia, and until intermittent renewables and batteries or another pairing with dispatchable generation can price competitively against base-load generators for the firm contracts businesses require, all options to protect consumer outcomes must be on the table. This could include increased transparency about the actual availability and price for renewables to access either battery or thermal generation back-up in each NEM jurisdiction.

Any future emissions reduction policy for South Australia's electricity network must also dovetail with a nationally coordinated approach to ensure South Australian electricity consumers, particularly business, are not paying the price for going it alone. We have long moved on from a disparate network of railway gauges to improve trade amongst states, and it is about time the NEM followed suit.

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1.6 Future development of conventional and unconventional gas reserves in South Australia should be assessed on a case-by-case basis rather than imposing a blanket moratorium across any one particular region, including prime agricultural regions such as the South East.

Having a sufficient supply of gas available to support both electricity generation and consumption of gas, particularly for industry, is critical to the competitiveness of South Australian businesses.

Business SA supports all forms of gas extraction in South Australia, including unconventional gas extraction. Having a sufficient supply of gas available to support both electricity generation and consumption of gas, particularly for industry, is critical to the competitiveness of South Australian businesses. Unfortunately, over the past few years the expansion of the northern LNG export market has seen a tripling of the wholesale gas price.

While this does not impact very small businesses as much, wholesale gas costs as a proportion of total gas costs are typically 50 percent or higher for medium and large businesses, and for these gas-intensive consumers, total gas costs have approximately doubled over the past five years, with prices spiking even higher in 2017. It is also typically the case that gas-intensive businesses are also quite electricity intensive so have been hit with a double whammy following the Northern Power Station closure, increasing the reliance on gas for South Australian power generation.

Business SA remains firmly of the view that any gas production, conventional or unconventional, must be strictly regulated to ensure well integrity, and in the case of fracking, careful management of chemically-induced water returns. These risks have been safely managed for decades in South Australia and we need to have some perspective on the likely outcomes, as we would for any new or existing industrial process. Fracking has occurred in South Australia's Cooper Basin since 1969, and worldwide since 1947. It is not a new technology or industrial process. There have been no known aquifer contamination issues to date in South Australia. More than 700 wells have been fracture stimulated.[14] The opportunities which present in South Australia are for shale gas which is typically 2-3 km underground as opposed to coal seam gas, which is typically less than 1km deep[15] and much closer to aquifers.

All fracking activity in South Australia is strictly regulated under the *Petroleum and Geothermal Energy Act 2000* plus being subject to other acts including the *Natural Resources Management Act 2004* and the *Environment Protection Act 1993*. To ensure the adequate protection of aquifers, sampling and analysis of aquifers is required before drilling commences and prior to well completion, the licensee must also demonstrate that cement integrity behind the casing is adequate, which includes pressure testing for leak tightness. The Department of Environment, Water and Natural Resources (DEWNR) considers each application to frack on its individual merits insofar as the toxicity of the chemical mix and any potential risk to ground water resources.

The Northern Territory recently completed a comprehensive inquiry into fracking led by a NSW Judge, the Hon Justice Rachel Pepper, and a panel of eminent scientists. The Scientific Inquiry into Hydraulic Fracturing in the Northern Territory Draft Final Report was released in December 2017. This report concluded that "risk is inherent in all development and that an onshore shale gas industry is no exception. However, if the recommendations made in this draft Report

14 South Australia Government, 'The Facts about natural gas and fracture stimulation in South Australia', 2014.
15 Geoscience Australia, 'Review of Hydrofracturing and Induced Seismicity', 2016.

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Business SA remains firmly of the view that any gas production, conventional or unconventional, must be strictly regulated to ensure well integrity, and in the case of fracking, careful management of chemically-induced water returns.

are adopted and implemented in full, those risks may be mitigated or reduced—and in many cases eliminated altogether—to acceptable levels having regard to the totality of the evidence". The Draft Report also concluded "while there have been more than one million fracture stimulations (fracturing) treatments in North America and more than 1,300 in South Australia's Cooper Basin, there has been no reported evidence of fracturing fluid moving from the fractures at depth to near surface aquifers."

As the state's peak Chamber of Commerce and Industry, Business SA has members across multiple sectors, including agriculture and viticulture. We are not advocating for one sector over another or wishing to downplay any legitimate concerns about any industrial processes, including fracking. Our policy position is that governments should consider all development on individual merit and not put blanket moratoria in place, such as is proposed for unconventional gas extraction in South Australia's South East. If there were a genuine threat to an aquifer from any form of industrial activity, including fracking, Business SA would support a state government blocking such development. However, we need to consider each case individually to ensure that as a state, we adequately realise the value of our natural resources and put downward pressure on both gas and electricity prices in the process.

1.7 Work with the COAG Energy Council, electricity networks and retailers to ensure any further move towards cost-reflective tariffs beyond 2020 sends price signals to consumers which reflect the new reality, that constraints on the network can equally come from both supply-side generation and distribution/transmission network limitations.

The primary push for cost-reflective network tariffs came through the COAG Energy Council "Power of Choice" reforms which mandated electricity networks to move towards cost-reflective pricing for all consumers. While in principle, Business SA supports the concept of cost-reflective tariffs, we maintain there needs to be appropriate consideration of the implementation costs and the ultimate benefits for each class of consumers. As we outlined through a 2016 study of shifting small businesses (i.e. those consuming less than 160 MWh per annum) onto cost-reflective tariffs through independent expert consultants 2XE, there are many considerations to make to ensure the outcome ends up being beneficial to the broader market. Our joint study with the SA Wine Industry Association highlighted a range of issues from proposed triggers based on amp limits of new equipment to allowing businesses to either trial smart meters, or to have access to appropriate data to understand what the likely impacts would be before being shifted onto cost-reflective tariffs which, depending on how they use power, may cost them up to $10,000 more per annum, or an approximate 17 percent bill increase. The AER supported our concerns and determined an opt-in period for small businesses until June 2020 would be the most appropriate way forward, even if businesses decided to install smart meters themselves.

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Beyond 2020, while Business SA recognises potential benefits to the grid of having more smart meters, we are also concerned that we still do not have alignment in the electricity sector between peak price periods with varying timeframes for the retail market and networks. At present, the retail market for South Australia peak price time is from Monday to Friday, 7 am to 9 pm. Alternatively, SA Power Networks has several peak demand periods depending on customer type and choice:

- 'agreed maximum demand pricing' for business on workdays between 12pm and 9pm during November to March only;
- 'actual maximum demand pricing' for business on workdays between 4pm and 9pm during November to March with 'shoulder actual maximum demand pricing' year round between 12pm and 4pm; and
- 'actual maximum demand pricing' for residential customers on all days during November to March from 4pm to 9pm with 'shoulder actual maximum demand pricing' outside summer on all days from 4pm to 9pm.

From Business SA's perspective, if we are to accept that all businesses should be shifted onto cost-reflective network tariffs with the potential that many will actually pay higher charges, at least until they can moderate demand, there needs to be more clarity as to what the policy driver is for reducing demand in relation to both network capacity and supply capacity. To date, and Business SA has been raising this publicly since early 2017, there is no clarity from governments at either a federal or state level as to whether or not the push towards cost-reflective network pricing needs to be re-visited in the context of supply shortfalls; particularly those experienced in South Australia over the summer of 2016/17. Before the energy crisis hit in earnest from mid-2015 onwards, the COAG Energy Council and all related-government bodies had only been pushing cost-reflective pricing to reduce network constraints to limit further expenditure on poles and wires. Now that it has become clear that Australia has a shortfall of dispatchable generation, both state and federal governments are directly intervening to address it, including demand-response initiatives which Business SA welcomes, but there is no policy coordination on pricing structures and the signals they send to end consumers, particularly businesses.

Business SA supports government policy promoting more coordinated pricing structures which actually deliver the outcomes the market requires. This is both in terms of reducing demand where there are shortfalls of supply, and concurrently limiting demand during periods which are most likely to necessitate additional spending to mitigate network constraints. With much more intermittent renewable generation in the market, particularly in South Australia, it is now clear that peak demand issues can be correlated to both supply issues and network constraint issues, and government policy needs to catch-up to reflect this changing dynamic. This must be done before small businesses and residential consumers are forced to move onto cost-reflective network tariffs from 2020 onwards.

There is no clarity from governments at either a federal or state level as to whether or not the push towards cost-reflective network pricing needs to be re-visited in the context of supply shortfalls.

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1.8 Work with the COAG Energy Council to streamline reliability and quality of electricity supply standards across distribution, transmission and supply side-generation to ensure the ultimate requirements on networks, including generators, meet the expectations of consumers; including the levels of reliability and quality of supply they are willing to endure in any given period, regardless of whether or not a shortfall results from a network or generation failure.

South Australian businesses and general electricity consumers have reported confusion about who is responsible when the lights go out.

South Australian businesses and general electricity consumers have reported confusion about who is responsible when the lights go out. With a range of standards and responsibilities at both a state and NEM-wide level, this confusion comes as no surprise.

The Essential Services Commission of South Australia (ESCOSA) determines SA Power Networks reliability standards for the electricity distribution network, excluding Major Event Days (such as storms and heatwaves), see graph overleaf.

In assessing SA Power Network's performance, ESCOSA also reviews the number of Low Reliability Distribution Feeders and customers affected in any given year. The review process focuses on individual feeder performance (including during Major Event Days) in poorly served parts of the network over two or more consecutive years. In 2016/17, there were 91 feeders that qualified as Low Reliability Distribution Feeders affecting 23,394 customers compared to 2013/14, where there were 145 such feeders affecting 41,776 customers.

Where a target is not met, this does not necessarily mean the standard is not met. The standard may still be met if SA Power Networks can demonstrate it has used best endeavours in trying to meet the overarching target that year.[16]

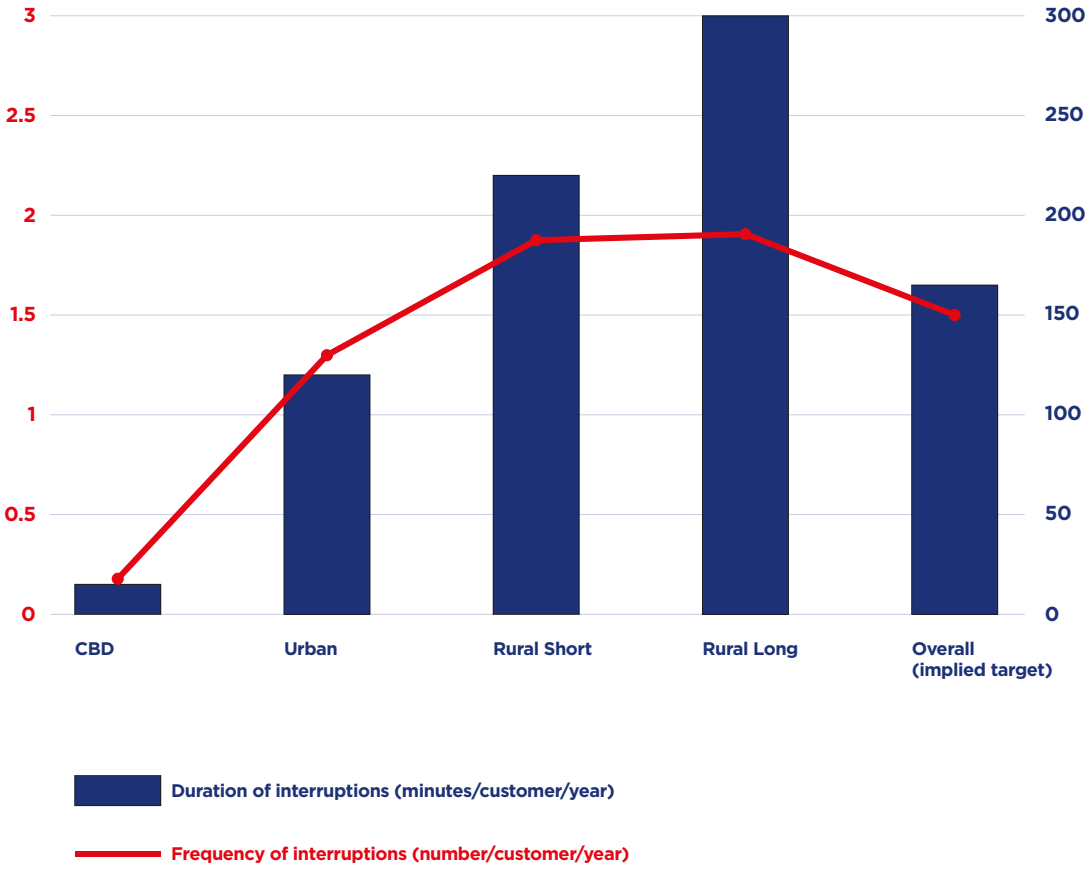
SA Power Network's reliability standards are currently under review by ESCOSA with a draft determination scheduled for March 2018.

Reliability standards for the electricity transmission network are also determined by ESCOSA and based on reliability at each exit point, i.e. connections between the transmission network and the distribution network.[17]

16 ESCOSA, 'Energy Business Regulatory Performance Report 2015-16', January 2017.
17 ESCOSA, Electricity Transmission Code TC/09, effective from 1 July 2018.

023

Reliability standards
per electricity feeder category



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There are five categories of exit points on ElectraNet's transmission network, with each having a specific reliability and supply restoration standard. Category 1 has the lowest reliability and supply restoration requirements while Category 5 has the highest. The standards require, in effect, a level of security (or redundancy) to be built into ElectraNet's transmission system to ensure that, in most cases, it can maintain continuous electricity supply. The categorisation of exit points is based on periodic assessments as to whether the costs of augmenting each exit point are outweighed by the value to customers of the increased reliability that would result.

AEMO's reliability standard is the primary mechanism to signal to the electricity generation market to deliver enough capacity to meet consumer demand for electricity. This standard is set by AEMC's Reliability Panel and is currently set at 0.002 percent unserved energy per region per financial year. This means for every 100,000 MWh of demand, no more than a 2MWh outage would be allowed. In South Australia, this is equivalent to losing the equivalent of 260MW[18] for an hour, or approximately the same impact as occurred during the brownout on December 1, 2016 where South Australia lost 190MW of load from 12:16am to 1:45am.

Business SA understands the reliability standard for electricity generation is primarily for planning purposes and averaged across 300-year simulations[19] but, consumers, and particularly businesses, cannot easily translate that to the level of reliability they can expect.

The quality of power supply is another important consideration for businesses, particularly those in regional areas which are more prone to voltage disturbances which can impact their equipment. SA Power Networks recently observed a 'significant increase in customer complaints arising from voltages exceeding prescribed limits and in October 2017, experienced the largest number of customer enquiries every recorded, nearly twice the historical 10-year average.'[20]

The State Government's Office of the Technical Regulator (OTR) is responsible for ensuring electricity infrastructure providers comply with technical regulations, including the establishment and enforcement of proper standards of safety, reliability and quality of supply. However, from the KPIs the OTR impose on SA Power Networks, there is no clear importance placed on the quality of electricity supply, particularly to regional areas. In the most recent Annual Report of the Technical Regulator, quality of supply issues to regional areas were not discussed at all. While the OTR has a broad remit and is primarily focused on electricity safety issues across the economy, quality of supply standards need more specific attention, and may need to be monitored by ESCOSA, which is also responsible for monitoring the electricity reliability standard performance of SA Power Networks. Business SA is very conscious of the significant economic contribution made by South Australia's regions, particularly to exports, and as a state we should ensure that business needs in those areas are appropriately considered.

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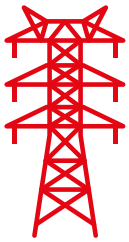
18 0.002 percent of South Australia's current annual consumption of 12,934 GWh.
19 Clarification from AEMO.
20 SA Power Networks, 'Distribution Annual Planning Report, 2017/18 to 2021/22', December 2017, p 43.

025

1.9 In responding to ESCOSA's inquiry into the reliability and quality of electricity supply on the Eyre Peninsula, support SA Power Networks leasing generators in the short term while strengthening the distribution network in highlighted areas of poor network performance, particularly Elliston, Penong and Cowell.



Eyre Peninsula Unplanned Interruptions (hrs)

57

1 July to 31 Dec 2016

7

Past 3 year average

9

Ten year average

Following a significant increase in the average duration of electricity outages on the Eyre Peninsula during 2016/17, particularly events on 8 September 2016, 28 September 2016 and 23 December 2016, the State Government instructed ESCOSA to undertake an inquiry into reliability and quality of electricity supply across Eyre Peninsula. Business SA supported this inquiry following the significant impact on Eyre Peninsula businesses which became evident through our statewide blackout survey, largely emanating from the loss of supply which lasted more than two days compared to most of the state, which had supply restored the same evening.

Business SA acknowledges ESCOSA's findings that between 1 July 2016 and 31 December 2016, the Unplanned System Average Interruption Duration Index (USAIDI) for the Eyre Peninsula was nearly 3,400 minutes, or approximately 57 hours, of which generation/transmission outages comprised approximately 2,600 minutes (43 hours). This compares with the 10-year average of 530 minutes (9 hours) with an average of 400 minutes (7 hours) over the past three years.

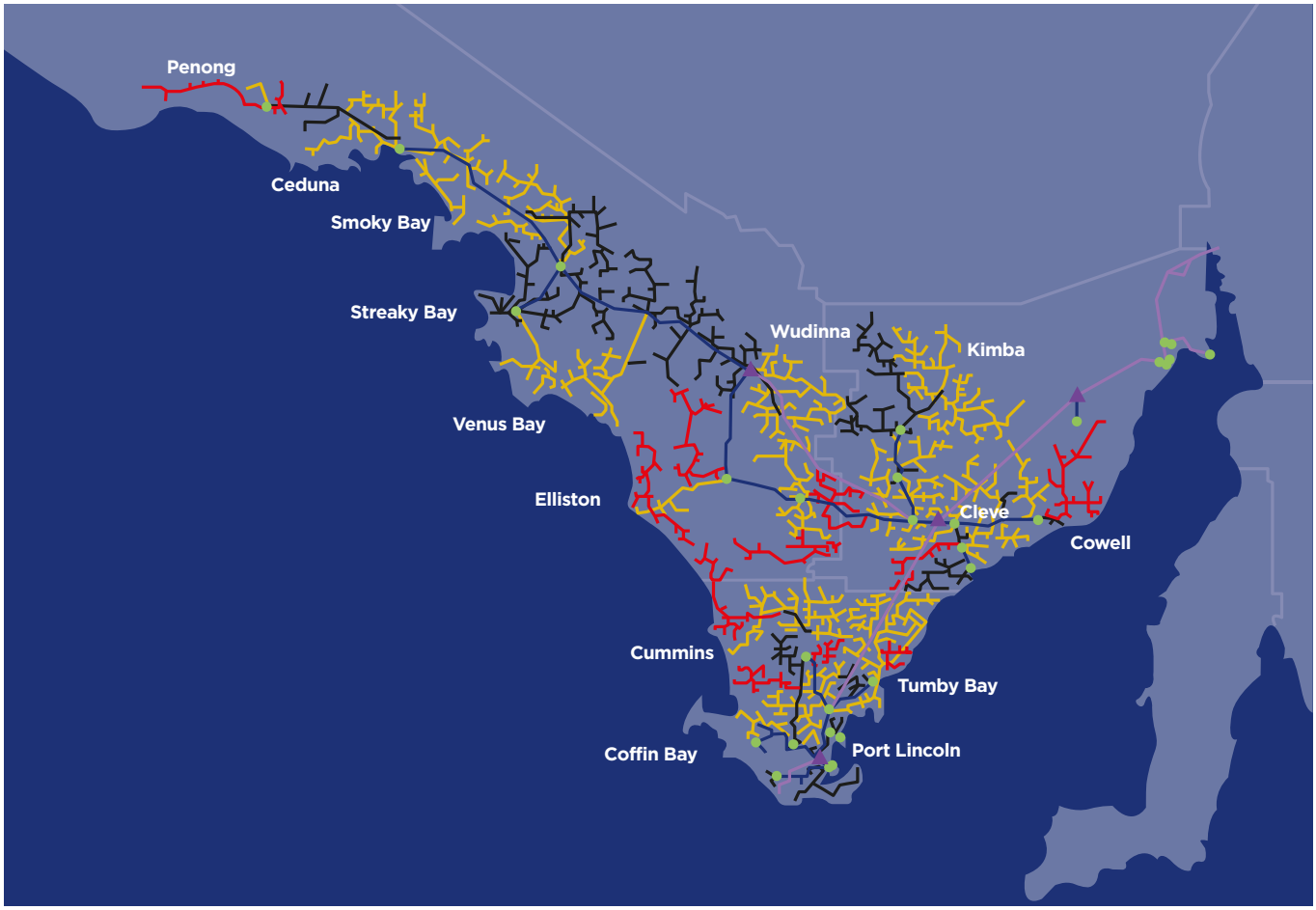
Recognising the statewide blackout was not the entire cause and even setting aside the causes of the blackout established by various inquiries, the reality is that businesses and consumers on the Eyre Peninsula have suffered immensely from unreliable electricity, particularly in the last six months of 2016, and reasonable steps must be taken to mitigate against future occurrences. While Business SA acknowledges reliability standards cannot be uniform across the entire state due to economic reasons, we also cannot accept such significant shortcomings in reliability in regional areas when those same consumers have commensurate protections under the National Electricity Law.

ESCOSA's inquiry costed both short and medium-term options for improving supply outcomes and Business SA supports short-term, leased generators being installed by SA Power Networks while medium-term distribution network hardening options can be implemented. ESCOSA's option 3 of hardening 25 percent of feeders against lightening would cover the 15 percent of worst performing feeders which includes areas around Penong, Cowell and Elliston, and at a cost $1.3 million per annum, is a relatively low-cost method to improve reliability outcomes on the Eyre Peninsula.

While Business SA is very conscious of ensuring Eyre Peninsula businesses have adequate reliability, upgrades will also be paid for by South Australian businesses more broadly and need to be carefully considered in light of recent extreme price increases, particularly over the past two years.

026 Distribution feeder reliability performance

2006–07 to 2015–16, USAIDI outcomes, including MEDs and transmission outages



ENET Transmission
SAPN Sub-TX
SAPN Substations
ENET Substations

Source: ESCOSA, Inquiry into the reliability and quality of electricity supply on the Eyre Peninsula, Final Report, October 2017.