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Business SA submission: Preliminary Report of Finkel Review into National Electricity Market

March 2017

Business SA
Chamber of Commerce
and Industry South Australia

Executive Summary

- In August 2016, prior to the State-wide blackout which cost South Australian business approximately $450 million,[1] a coalition of representative organisations led by Business SA called for an independent review of the electricity market's transition to low carbon; primarily driven by our distress about the impact of high wholesale electricity prices on the community and economy, and concerns over predicted reliability shortfalls should South Australia be unable to access sufficient baseload generation.[2]

- The availability and cost of gas to power electricity generation must be a high priority for the Finkel Review. Affordable gas is and will continue to be critical in parts of the NEM which have a higher penetration of intermittent renewable generation and still require back-up support at times of low renewable availability; particularly to support the network as the grid-scale battery storage market continues to mature.

- The Finkel Review must ensure its deliberations are adequately informed by disaggregated data on at least the last decade's electricity price outcomes across 'all' consumer segments of the electricity market. Particular attention must be given to small to medium sized energy intensive businesses (in South Australia alone, forming the vast majority of 5,500 'large market' customers) which and have experienced a doubling or more of wholesale energy costs when re-contracting since mid-2015. This follows several years of substantial price increases, primarily on the back of rising network and renewable subsidy costs.

- Following successive shortfalls in South Australia's electricity reliability since 2015, notwithstanding extreme weather events, there remains a widespread notion amongst business that reliability is in decline. Without assurances from Government, many businesses are being forced to take matters into their own hands through options such as back-up generators; often not a cost-effective or practical outcome. Considering AEMO has already warned of potential reliability breaches in 2017/18 following Hazelwood's shutdown next month, the Finkel Review's short term recommendations must include any required measures to avoid predicted reliability shortfalls in South Australia and Victoria next summer.

- South Australian businesses expect that any cost of transitioning the NEM to low carbon to meet the national renewable energy target (RET) and carbon reduction target, or any future carbon reduction targets, should work to locate renewable or low carbon generation where it is best placed to maximise output and serve consumers needs across the NEM, with any associated costs distributed per NEM consumption unit.

- The Finkel Review should consider how businesses procure electricity via retailers within the existing State jurisdictional pricing framework and look at all options to increase the competition to supply consumers. This includes nodal pricing or any other redesign of the existing NEM regional boundaries which could allow options for consumers to enter firm contracts interstate; with appropriate interconnection. Whatever the future form of regional or nodal pricing in the national electricity market, it must work to optimise outcomes for consumers across regions and not place disproportionate price impacts on consumers in regions which have higher intermittent generation and less opportunity to access firm contracts.

[1] Note the estimated result from our Blackout Survey Report at Appendix A has been updated to reflect additional costs reported by BHP in February 2017. Note Adelaide Brighton Cement has also just 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's State-wide blackout to be approximately $450 million.
[2] Refer Appendix B

Contents

Introduction

Business SA, South Australia's Chamber of Commerce and Industry, was formed in 1839 and has approximately 4,000 members across a wide range of industry sectors, from micro businesses right through to listed companies. We are a private, not-for-profit business membership organisation which not only works on behalf of members, but for the broader business community and in pursuit of economic prosperity for both South Australia and the nation.

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 electricity both in the existing NEM and beyond.

Electricity costs have been a priority concern for Business SA's membership for many years now and, until relatively recently, most of businesses' concerns have related to rising network and renewable subsidy costs. Business SA's advocacy on electricity matters is informed by our Energy, Water and Sustainability Member Reference Group and we maintain 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

We are also an active participant in regulatory processes pertaining to the cost and reliability of electricity, primarily through the Australian Energy Regulator (AER) and ESCOSA. Additionally, after having called for an independent review of South Australia's transition to low carbon electricity, we have actively engaged with the Finkel Review panel.

Business SA appreciates the open approach taken by the Finkel Review panel and its willingness to engage with a wide range of consumers, including small to medium sized businesses. It is clear that the panel is listening to the impacts high prices and inadequate reliability are having on business, particularly in South Australia. While Business SA recognises that policy solutions need to work for consumers across the nation, they must also redress the price impacts that existing policy settings have had in jurisdictions like South Australia where a high penetration of intermittent renewable generation already exists.

1. SA business impacts of high electricity prices and increasing reliability issues

While the sharp rises in electricity prices following Alinta's decision[3] to shut its Northern coal fired power station in June 2015 have hit businesses hard, particularly the State's 5,500 large market customers[4] who are more directly exposed to the wholesale market, this was particularly difficult to absorb with prices already coming off such a high base.

Although there are a range of indicators for tracking electricity price rises, when the Federal Department of Industry released a fact sheet on electricity prices in 2014 stating that national consumer prices had increased 59% in the four years prior (from 2009 to 2013), it relied on the ABS consumer price index for electricity.

[3] We refer to Alinta's decision, as opposed to the actual plant closure in May 2016, as this is what influenced the futures market and hence the price at which retailers were willing to offer firm contracts to South Australian large market businesses from that point on.
[4] Large market customers consume more than160MW hours per annum, which equates to an annual spend of approximately $50,000 upwards.

Similarly, Business SA reviewed rises in the ABS Adelaide consumer price index for electricity from March 2009 to March 2015 to capture the period of fastest growth in network costs and rising renewable subsidies,[5] limiting the range so as not to capture the significant price increases emanating from the wholesale generation market which began in mid-2015. Over this six-year period, electricity costs increased by 72.2%. This accords with the general range of prices rises reported to Business SA and corresponds with data presented by SA Power Networks in August 2016, which showed the average small business electricity bill in South Australia had doubled over the last decade from approximately $2,100 per annum to in excess of $4,250 per annum.[6]

While reliability issues had typically been less prominent for many South Australian businesses leading into 2016, it is important to recognise that with nearly 100,000 kilometers of distribution and transmission lines combined in our State, there have always been a range of reliability outcomes in the network which is reflected through standards that differ with respect to say, rural and urban feeders.

What has changed in the past six months though is that not only did South Australia experience a State-wide blackout, estimated to have cost businesses approximately $450 million, we have since experienced two subsequent load-shedding events in December & February and widespread distribution level outages from storm events in December and January. There is no doubt that weather was a significant contributing factor in some of these events, but there were also other factors involved and in any case they all highlighted the vulnerability of our electricity grid and a growing sense that we do not have a satisfactorily reliable network.

Compounding this perception is that Governments have not been willing to provide adequate assurances of the reliability of the grid which has caused many businesses, even quite small ones, to take matters into their own hands. Many are now looking at options such as back-up generators which can not only be expensive, but problematic in terms of installation and operational management/maintenance. Furthermore, with the Government investigating new emissions reductions policies, we can only wonder what future costs are going to be placed on businesses with back-up diesel generators.

At Business SA, we always believe that our members tell the story best when they tell it themselves and we have included a number of brief case studies below which demonstrate how price and reliability concerns are impacting a range of South Australian businesses:

a) Adelaide based Garon Plastics owned by Garry Thompson:

"We are an Adelaide based manufacturer that exports world leading oyster farming products and technology to many destinations including The USA, Mexico, France, Ireland and Japan. We are attempting to continue to supply these products from our factory here in Edwardstown, however with continuing electricity price increases we are now looking at alternatives. South Australia must remain globally competitive, we are under continual pressure from a fluctuating Australian dollar, high wages and the last thing we need is the world's highest prices and unreliable power. My businesses started 25 years ago with a single injection moulding machine in the backyard of my house. We now employ close to 25 people locally and another 3 representatives in overseas territories. These jobs are not as secure as they could be due to the cost of business in this state."

[5] SA Power Networks allowed revenue in 2014/15 was $850.2 million with the equivalent 2008/09 revenue component only $520 million, a 63.5% increase in six years. Over the same period, ElectraNet's allowed revenue increased from $208.9 million to $298.9 million, a 43.2% increase. Furthermore, by 2014/15, the recovery of payments from all electricity consumers to participants in State Government solar subsidy schemes which began in 2008 (through feed-in-tariff payments) had reached $161.7 million per annum.

[6] SA Power Networks proposed Tariff Structure Statement public presentation – August 2016.

b) Regional independent supermarket owners, (Grenfell & Slavka Koch) employing 70 people:

Owning both an IGA and a Foodland supermarket situated in South Australia's Riverland, this business has experienced a 130 percent increase in the cost of electricity since the beginning of 2017 after going onto a new contract. For the Koch's, this has been particularly difficult to absorb in a broader grocery market which has become much more competitive in recent years, with new players such as Aldi and the like.

"The cost of power is ridiculous and will deter businesses from expanding in South Australia. To put it in perspective, we were paying seven cents a kilo-watt during peak periods in 2016 and now we're paying 16.9 cents a kilowatt. That started on January 1 and our power bill is going to go up by well over $100,000 per annum, and on top of that, we haven't got a reliable source"

"If it's frozen, meat or seafood, you can't have the power off for long periods of time. It's ridiculous that people would even consider buying generators. You would think things have improved over the years, but there aren't any alternatives at the moment. There is solar with batteries, but that's still evolving. With solar you can put power back into the grid, but you can't store it efficiently at this stage. And with generators, it is difficult to justify the cost and the other issues is with a generator, for example having to have diesel in the building. Quite often these generators need to be in a standalone building away from the building itself, so there's certainly requirements and regulations you have to abide by when you install them."

c) Regional feed mill JT Johnson & Sons employing 85 people:

JT Johnson runs a regional exporting business, centred around the export of hay and pellets to Middle Eastern and Asian fodder markets. In mid 2016, and after just having undergone a major upgrade its power infrastructure, JT Johnson's total energy bill increased from $800,000 to $1.6 million after its wholesale energy peak price trebled from 6.4 cents to 19.3 cents.

"We were shocked to receive prices detailed on our new supply contract detailing increases in power charges by up to 300%. We have invested $17 million dollars to improve efficiency and increase capacity however with cost increases representing an additional $15 per metric tonne, it will be difficult to achieve any growth. These costs are not shared in other states and therefore our market competitiveness is completely eroded. Our industry is volume based with very thin margins. Cost increases such as this can not just be passed on to the end user as they will be able to source the product from either Victoria or Western Australia at cheaper prices…..The Government's pursuit of clean energy targets is putting the whole state at a disadvantage. There must be action taken to reduce the cost to business or risk losing more manufacturing interstate."

"In regards to reliability, of course if the electricity supply is cut our ability to supply to market is greatly reduced. We have not experienced too many issues of late, however the uncertainty causes us to prepare for black outs and in order to be prepared we must double handle product. This results in additional handling costs" For example, in the case of a pending shipment additional stock will need to be stored to ensure a power loss does not result in a contract being short, which is particularly relevant for container ships which do not wait.

"Our main concern is the high cost of business and the impact that has on our ability to remain competitive in the domestic markets and international markets that we compete in. We are already budgeting an additional $1.2 to $1.4 million in electricity costs for 2017 compared to 2016."

d) Adelaide Hills based industrial/warehouse employing 20 people across 5 small businesses:

This group of businesses has been particularly hit with increased unreliability of South Australia's electricity network during 2016 with ten outages running from a few hours to the latest being 3 days. While in the past outages have typically been limited to a couple a year, and generally tolerated given the rural location, the recent spate of power losses is becoming untenable, particularly given the collective lost production of the site amounts to approximately $10,000 per day. While the site does have solar, without a prohibitively expensive battery back-up it is unable to provide power during a blackout, and a diesel generator is also uneconomical, especially due to the site's three phase power requirements.

"With every power outage, and there are many! we have to let our staff go home, production is stopped and not even the office can be continuing. So when we look at costs, they are significant!"

e) Adelaide based Aged Care provider:

"I recently tendered an energy contract for several sites and the cost of net energy jumped from 7.9 cents/kwh to over 17 cents/kwh, this just commenced from 1 January 2017 and was the absolute best we could get in SA, our existing retailer would not even match the amount, which was less than 0.3 cents/kwh so we switched.

I simply cannot understand why this Government allowed Alinta Energy to shut their plant down when we have always had issues with the base load in this state, it must have been common knowledge to them and that we would have load issues, particularly through summer with ongoing load-shedding.

Unfortunately, we are not in a position to pass on any of this massive cost to our clients and it has impacted how we now look at our strategic planning moving forward in this state.

The other huge issue is the amount of power failures/cuts we experience in this state. I cannot understand why the Government does not look at strategies to run cables / infrastructure underground which would limit the power outages through time and the impact on shutting power down due to trees and storms, yes it would be costly but so is shutting down the state every time we have a hot day or a small storm."

f) Small winery based in Adelaide Hills:

"In the past 18 months, our electricity costs have doubled. By reviewing our bills closely, it is clear to see that not only has the base per-kwh rate increased, but also Network Charges (for maintaining poles and lines), demand charges (so the grid can build capacity to cope with the very brief peak demands) and the always mysterious "other" charges.

I feel very strongly that the energy independence of this state lies with stronger investment and increased speed of transition to renewables. South Australia were leaders in wind and solar power adoption. Now is the time to support business and households to transition to further energy independence using battery banks and by driving our grid to do the same."

g) *Active Education is a mobile provider of programs and catering for school camps across South Australia:*

Owner Julie Parr has run this small business for the past 23 years and following multiple extended outages over the past few months, has for the first time had to implement a power outage policy; which involves liaising with accommodation providers and schools to plan whether camps will be postponed or finish early in the event of a storm and contacting food suppliers to find out how they will be ensuring the food safety of goods.

"Power outages impacted 2 bookings last year – one was cancelled and rescheduled for later in the year while the other continued in a modified way with great difficulty. We have also lost the food stored in freezers and fridges; we are considering buying a generator for our base however the size and cost of the generator that would be needed for group accommodation providers is huge and out of reach.

Why is this happening? SA has the most expensive electricity costs but no security of supply – it is bad, bad, bad for business in this state."

h) *Pro-tube Asia is a national distribution business for advanced manufacturing machines & accessories and niche consumables with its head office adjoining Adelaide's CBD employing 8 people and another 7 through outlets across Australia:*

While Pro-tube are not a major electricity user, they have a high reliance on electricity reliability, particularly for their businesses' national server which is based in the Adelaide office. Pro-tube's business model relies on instant and timely responses to automatically generated orders from customers with parts mainly sourced from European manufacturers and OEMs. After the State-wide blackout and another two extended power outages in the space of two months (one lasting several days and the other for a working day), they are rightly questioning whether South Australia can deliver a sufficiently reliable electricity supply.

Pro-tube does have an uninterruptable power supply (UPS) system for the server, but it only lasts a couple of hours and buying a back-up generator for a business of this size and nature is completely impractical and in the owner's words "I might as well pack up and move to Africa".

Approximately 95% of Pro-tube's business is with interstate based customers and 80% of business is with "bluechip" customers like Bluescope, Arrium and all its subsidiaries, etc. Pro-tube's customers have little tolerance for losing access to their ordering system and while an hour or two on the very odd occasion can be tolerated, the recent unreliability is causing the owner to seriously question moving operations interstate.

i) *Regional sawmill NF (McDonnell & Sons) is a fourth generation family owned business employing 130 people and in recent years has invested $15 million in state of the art sawmilling equipment:*

While the business sells wood packaging and garden products into all Australian states, the majority of its recent sales growth has been export driven to countries throughout Asia and the Middle East.

"Electricity forms a major component of our manufacturing operation. We will consume an estimated 4.3 Gigawatt hours during 2016/17 at a cost of $680,000. Based on current South Australian energy market rates, our annual energy cost will increase by a projected $320,000, an energy cost increase of over 125 percent. In addition, an increase to the LRET emission charge will add a further $20,000 per annum cost.

Our export and domestic markets are competitive and price sensitive. Cost increases erode our market competitiveness against sawmills operating in other Australian states who are not experiencing the magnitude of electricity cost increases specific to South Australia.

In addition, our sawmill importantly adds value to lower value plantation log grown in the South East region. As our production costs rise, it becomes more attractive for export customers to import an unprocessed log directly from the plantation owner and manufacture timber products themselves.

In summary, we cannot simply pass this cost onto our export or domestic customers. We expect a negative impact will occur to our future employment levels as we endeavour to minimise production cost impacts.

We are also facing significant issues with reliability and just over the last month have had to reset our IT system three times due to power outages.

Again, thank you for the opportunity to present our situation. A situation which is being replicated across every manufacturing business in South Australia."

j) Midfield Meats is a Victorian based multi-faceted agri-business employing over 1,500 people and currently constructing Stage 1 of a new milk processing plant in Penola, South Australia:

"I refer to our recent discussions on the telephone yet take the opportunity to write you to express concerns for our significant investment in South Australia.

Our $80+ million dollar investment to build a dairy processing plant in Penola, South Australia is the single biggest dairy processing Investment in South Australia in nearly 40 Years. The processing plant will make a significant impact within the dairy sector as it has the capacity to process over half of all milk produced in the state, in its stage 1 form of completion.

Electricity and Gas are the two major input costs relative to the processing of milk for global export markets.

Since the development of our business plan and the commencement of the plants construction, the last 18 months, electricity costs have doubled twice. This unexpected cost has the capacity to see the business trade at a deficit in marginal years.

Additionally, recent activities in the South Australian supply sector have caused us great concern for the businesses security. Milk is a perishable product and has a shelf life of only hours without refrigeration. A 12 hour power outage at our site can have a consequence of a day of lost production and at today's market prices, a loss of up to $500,000 of spoilt raw milk inputs and an additional approximate $500,000 of lost revenue due to differed conversion into finished product.

We are proceeding with our stage one investment with some trepidation however the electricity price and subsequent reliability factors have certainly been instrumental in our decision to cease with any additional investment on the site, I refer to the stage 2, circa $100M investment to develop other aspects of the site.

Although we maintain optimistic for our business, evidence of change within South Australian power prices, and its reliability, will determine our longer term actions."

2. Solutions needed across business sector & State jurisdictions

From Business SA's dealings with a range of businesses across the energy consumption spectrum, from micro-level small businesses, to SME manufacturers and irrigators right up to large industrials which are often listed companies, it is clear there are range of ways in which businesses interact with the energy market.

For a start, generally small users, which are often businesses too, procure electricity within the small consumer retail market and are covered by a range of protections which exist through Government legislation. In South Australia's case, for businesses and residents below the 160 MWh per annum consumption threshold, they are protected through the *National Energy Retail Law (South Australia) Act 2011.*

Above the 160 MWh per annum threshold, consumers are referred to as 'large market'. This does not necessarily mean they are 'large businesses', just energy intensive businesses which would typically spend the equivalent of approximately $50,000 upwards on electricity per annum. These businesses, of which there are approximately 5,500 in South Australia alone[7], procure their electricity in more a 'wholesale' fashion and typically use brokers to find the best peak and off-peak energy rates. Such businesses also face different tariff structures, with all now on cost-reflective tariffs meaning their network charges are split between how much energy they consume and the maximum energy demand they consume during peak periods in the broader network.

We are only aware of one large South Australian business operating 'directly' in the spot market, typically due to the associated costs and prudential requirements. Additionally, there are a small, albeit increasing number of large market customers trying to overcome high contract prices buying spot via a retail intermediary. In any case, buying on the spot market puts significant pressure on the balance sheet given the risk exposure associated with operating in a market which is more volatile than any other traded commodity. For example, while a typical commodity such as APW grade wheat might, at most, fluctuate in a range of $200 to $400 per metric tonne, electrons can trade from negative prices right through to the market cap rate of $14,000 per megawatt hour and significant changes can occur at half hour intervals. While there are derivative products available to cap exposure, these also come at a price and feedback provided through members suggest the cost of cap contracts can soon erode any benefit associated with accessing low spot prices when available. Businesses can provide a physical hedge to high cap prices by either operating a diesel generator back-up or switching off energy intensive plant and equipment, but both measures require either significant capital investment or complex staff and systems procedures which result in the business spending much more time managing energy costs than their primary business.

It is also quite difficult to manage manufacturing processes and purchase electricity on a spot basis. A forecast one day ahead might have affordable spot prices but for various circumstances in the market, rebidding might see the market price skyrocket in a half hour trading interval and all of a sudden a business has a difficult choice; either shut down production, if that is even possible when still needing to meet customer contract demands, or pay exorbitant electricity prices which can be up to $14,000 per megawatt hour. Compounding this is the way settlement currently works with businesses paying an average interval price over the six dispatch periods even if they shut off plant before a major 5 minute price spike.

[7] SA Power Networks, 2016/17 Annual Pricing Proposal, Page 4.

Business SA does not suggest for a moment that the spot market is unsuitable for all businesses and may in fact suit some large industrials, particularly those which are well leveraged and can more easily shift electricity loads. However, for the vast majority of energy intensive businesses in South Australia, the fact that extremely high contract prices are pushing them to try and manage in the spot market either directly or through third party facilitators, is a far from ideal situation and not conducive to the viability of existing businesses, let alone encouraging to other energy intensive businesses to establish in South Australia.

In recommending outcomes to lower the cost and increase the reliability of delivered electricity in South Australia, the Finkel Review Panel must have strong regard for how each level of business consumer interacts with the energy market. Business SA notes the Preliminary Report asks about how to meet the needs of large industrial customers and vulnerable and hardship customers. However, the reality is that the vast majority of South Australia's 5,500 large market customers are not considered 'large industrials', they are small to medium sized businesses, many being family owned.

While Business SA acknowledges that much of the information about large market retail contracts is not publicly available, the Finkel Review should have numerous examples (including through organisations like ours) about how much the South Australian contract market has moved since June 2015. To some degree, this needs to be articulated in the analysis presented in the final report in relation to how much electricity prices have increased in each NEM jurisdiction. Unfortunately, relying on publicly available price data for small consumers will not adequately reflect the actual price change outcomes experienced by business, particularly large market electricity customers.

In summary, for large market customers having to re-contract since mid-2015, depending on timing, 'energy costs' which represent on average approximately half total costs for such consumers have increased between 100 and 150 percent. This is a much more significant and recent increase than what is described in the preliminary report which references average residential price outcomes across the entire NEM from 2008/09 to 2012/13.

Given large market customer contracts are typically over the counter (OTC), Business SA recommends that if the Finkel Review Panel needs to procure data from energy retailers, that such requests are made and if not complied with, appropriate regulatory powers called for.

Furthermore, these recent price changes driven by the wholesale generation market have come on top of several years of significant increases from both network costs and green schemes, including solar feed-in-tariffs and the renewable energy target. All these costs need to be factored into the analysis of impacts to justify appropriate decisions to allay them.

Business SA acknowledges that we have a National Electricity Market by name, but we still have State based jurisdictional pricing. Accordingly, any recommendations by the Finkel Review need to assess likely outcomes at each jurisdictional level, including the extent to which each particular jurisdiction will have sufficient base-load power or access from other States. This should not be limited to spot access but also in consideration of what competition from power sources will be available to provide large market customers firm contracts within each jurisdiction.

3. Need to Optimise Pricing Jurisdictions in the NEM

The Finkel Review needs to consider all options to ensure the NEM works more as a national market to avoid continued structural diversity in price outcomes across the States, particularly given no other traded commodity or service has such disparate outcomes, for example the cost of a phone call in Adelaide, Melbourne, Sydney or Brisbane.

Considering consumers within NEM jurisdictions cannot access firm contracts over interconnectors, we effectively have State based markets, which is hardly in the best interests of competitive outcomes for all consumers. Business SA is not necessarily advocating for a national price, which may not suit the physical characteristics of our market, but there is no fundamental rationale as to why, on principle, the jurisdictions of the NEM need to continue along State boundaries. We have long moved on from a disparate network of railway gauges to improve competition amongst States and it is about time the NEM followed suit.

'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]

4. Gas and considerations for the NEM

The rise in gas prices over the last few years has been a significant factor driving the high firm generation contract prices in South Australia. While Business SA acknowledges the higher cost of unconventional gas extraction and the increased demand for LNG export plants, the Finkel Review must consider all barriers to increasing gas supply into the domestic market, both for conventional and un-conventional gas, and gas storage.

To its credit, the South Australian Government has maintained an open door to the exploration and development of gas reserves, both conventional and unconventional, which largely lie in the State's far north. While the South Australian Government has been quite accommodative of gas development, we are very concerned about the existing moratoria interstate, particularly in Victoria and to a lesser extent New South Wales.

There is no doubt that gas is and will continue to be a key transition fuel source as the NEM moves to low carbon. If any mainland State does not allow for adequate development of gas reserves while renewable technologies are still not able to offer the same affordable and reliable electricity, most jurisdictions within the NEM will continue to suffer from unaffordable firm power.

Although reserving gas supply for domestic customers is desirable, there is also a danger that it will lead to less investment in developing gas resources and, in the medium to long term, consumers will pay higher prices than they would otherwise have to. Furthermore, the West Australian experience has shown that gas reservation policies do not work. A domestic gas reservation policy currently exists in Western Australia, requiring LNG proponents to reserve 15% of LNG production (or equivalent) for the local market. The Western Australia Economic Regulatory Authority has found that "the costs that this policy imposes on the Western Australian economy far outweigh any benefits that it is believed to have."[9]

Business SA is also mindful of high gas transmission costs and competitive constraints in South Australia's network requiring appropriate attention. This is particularly relevant in the South East where transmission costs are significantly higher than in neighbouring Victoria. While this matter has had the attention of the Vertigan Review, the Finkel Review should still make its own judgments and ensure that whatever the Government review, that outcomes occur in a timely manner.

[8] *Examination of the Recent and Future High Prices in the South Australian Regional Electricity Market,* Major Energy Users Inc, 2016, Page 25.

[9] ERA, *Inquiry into Microeconomic Reform in Western Australia: Final Report*, p.355.

While not strictly under the Finkel Review's terms of reference, Business SA is also quite concerned about the impact rising gas prices are having on South Australian gas consumers, particularly electricity intensive businesses which are also under extreme pressure from electricity prices. Energy intensive businesses cannot absorb a doubling of both the underlying wholesale cost of both electricity and gas in the space of two years.

5. State Versus Federal Responsibility for Energy Security and Reliability

Business SA, South Australia's Chamber of Commerce and Industry, will turn 178 this year. We are a private business member organisation, independent of any Government and function as the peak business representative organisation in South Australia. We are not bound by political cycles and take a long term view of the need for good public policy which creates the environment the private sector needs to grow and create jobs and prosperity.

In the current debate around solving SA's energy crisis, we recognise there is a significant amount more 'energy' being spent on working out who is responsible, rather than on what are the best solutions which can be implemented to address our issues as soon as is practicable. We speak to a range of businesses and rarely discuss who is responsible; all business wants to know is what can be done to fix the problems. Additionally, we do not find there is a significant anti-renewable mindset amongst business, but there is a very strong feeling that both the State and Federal Governments must facilitate affordable and reliable firm power; whatever the generation source.

We recognise that under the Australian Energy Market Agreement, the State Government is responsible for standards to ensure network security and reliability[10] and in practice, the Essential Services Commission of South Australia (ESCOSA) sets reliability standards. However, we also acknowledge that the Australian Energy Regulator, which oversees the spending and performance of network businesses, is a national regulator governed by both the State and Federal Governments through the Council of Australian Governments (COAG). The Australian Energy Market Commission (AEMC) sets the rules of the national energy market and is also governed by COAG. The Australian Energy Market Operator (AEMO), while an independent company by structure with market participant and Government members, is still majority controlled by COAG and again, is the joint responsibility of State and Federal Governments.

In reality, Government policies which have driven renewable power in South Australia have been implemented at both a State and Federal level. While the Federal Renewable Energy Target (RET) has funded the majority of large scale renewable energy projects in South Australia, the State Government's own 50 percent renewable energy target and incentives such as payroll tax exemptions for new projects and an accommodative planning system, have all led to a more conducive environment in comparison to some of the more densely populated Eastern States where opposition to wind farms is more pronounced. In terms of solar power in South Australia, the State Government's 'closed to new entrant' solar feed-in-tariff schemes, funded by all energy consumers, were a significant catalyst for the take up of rooftop PV although this policy was complimented by the capital subsidies for the systems themselves provided through the Federal RET.

10 Australian Energy Market Agreement (as amended), December 2013, page 2 of Annexure 2

The State Government also has a Retail Energy Efficiency Scheme (REES) which was recently extended to small business to cover energy efficient lighting but has historically been focused on energy savings for households. While the cost of that scheme is relatively low compared to other renewable subsidies, approximately $10 million per annum,[11] and the State Government's commissioned analysis shows it has delivered substantial energy savings, the fact remains that it is a cost imposed on energy retailers and it is not clear that it provides an optimal outcome in terms of incentivising energy efficiency for small consumers across the NEM.

What the aforementioned tells us is that, to some extent, both the State and Federal Governments are responsible for the future security, affordability and reliability of South Australia and Australia's electricity network. However, the Finkel Review should be looking at all future governance models, including partial or full divestiture of COAG powers related to the NEM to the Federal Government. Like telecommunications and the postal service which have always been Federal responsibilities, if we are to move towards a truly 'national' electricity market, we need to question how that model can be run efficiently by COAG. Whatever turns out to be the optimum future operating model, the lines of responsibility between the States and Commonwealth need to be much clearer than what currently exists.

Business SA expects the Finkel Review to outline the optimum operating model of NEM governance and the mechanisms to achieve it, regardless of whether that model requires constitutional reform. The Finkel Review's terms of reference do not limit any options, and as a leading business consumer representative organisation, Business SA needs to know what in the best long term interest of consumers, not just our long term interests subject to existing constitutional restraints.

Business SA understands the simplest means for the Commonwealth to 'take control' of the electricity market would be for the States to refer their matter to the Commonwealth under s 51(xxxvii) of the Constitution. This would grant the Commonwealth the power to pass laws with respect to those matters in respect of those referring States. Out of many, two primary examples arise of this power being utilised. The first is Victoria's referral of industrial relations to the national system in 1996. This allowed certain national industrial relations laws to apply in Victorian corporations. A forward-thinking move by the Victorian Government given the interstate/national scope of many companies within Australia.

A second example of States referring matters to the Commonwealth arose following the GFC. In the wake of the GFC, an agreement was made between COAG members to transfer regulatory control for credit to the Commonwealth. *The National Consumer Credit Protection Act 2009* (Cth) was enacted to uniformly regulate consumer credit across Australia, rather than maintain the previous patchwork of consumer credit regulations. The referral of credit powers to the Commonwealth was in response to a significant threat which required a coordinated, uniform response. The challenges facing Australia's energy market similarly require a coordinated, uniform response. State governments must properly consider, and respond appropriately to, the importance of a national approach to energy affordability, reliability and security.

The trade and commerce power (s 51(i)) may also be relevant. This allows the Federal Parliament to pass laws with respect to trade and commerce between States. While the power is expressly stated to apply to trade between States and not within States, the distinction has been blurred by previous high court decisions. Federal Parliament's power will extend to pass laws with respect to trade and commerce within a State where that intra-State trade is "inseparably connected"[12] with the inter-State trade, or where "control of intra-State trade is necessary to make effectual the exercise of Commonwealth power…".[13] This head could grant the Federal Government broad power to

[11] Evaluation of the South Australian Residential Energy Efficiency Scheme (REES), Pitt and Sherry Carbon & Energy Team, 31 July 2013.
[12] *Redern v Dunlop Rubber Australia* (1964) 110 CLR 194, [5] (Menzies J).
[13] *Airlines of NSW Pty Ltd v New South Wales (No 2)* (1965) 113 CLR 54, [13] (Menzies J).

regulate the trade and commerce of the inter-State energy market, and those closely connected intra-State markets. Given the interdependence of States for energy, particularly South Australia and its reliance on the Heywood interconnector, this power could extend.

6. Expectations and Standards relating to Reliability in the NEM

As per the National Electricity Objective, South Australian businesses have every right to expect reliable, secure, safe and affordable power. At present, the business sector is unclear as to what level of reliability the State Government is willing to mandate for South Australia through the reliability standards it has control over, nor COAG for reliability standards specific to the entire NEM.

This situation is leading to a substantial number of businesses, many quite small, taking matters into their own hands and either installing or investigating the installation of back-up generators. Much of this behaviour is driven by the fact that there are no adequate assurances related to the level of reliability, and uncertainty is driving businesses to make decisions that may be unnecessary or not cost-effective, but which ultimately provide peace of mind. Furthermore, the installation of generators brings a range of considerations for the business, including safe operation and maintenance requirements, and is far from what small to medium sized businesses expect in a first world country.

There is no argument that the Government, at either a State or Federal level, cannot guarantee 100 percent reliability in all circumstances which would obviously be cost-prohibitive. For one, we understand the cost of undergrounding South Australia's vast distribution network is approximately $1 million per kilometre, dependent on location. Despite this, it is quite clear to the majority of businesses, that even in recognition of recent extreme weather events, there is inadequate reliability in South Australia and outages in many areas have been significantly longer and more frequent than what has historically been experienced.

While typically, issues of reliability have pertained to the distribution network as opposed to the much smaller transmission network,[14] we are now increasingly seeing another layer of reliability issues associated with the generation of electricity. In particular, as per AEMO's November 2016 Energy Adequacy Assessment Projection (EAAP), we are concerned that 'reliability standard breaches may also occur in South Australia over summer 2017/18 if there is low export of supply from Victoria coinciding with high demand in South Australia' and further that 'there is an increased risk of reliability standard breaches in both Victoria and South Australia in 2017/18 under a low rainfall scenario' (due to impacts related to availability of hydro power).

Businesses do understand that occasionally a particularly strong storm, bushfire or vehicle accident will damage the electricity distribution network, causing outages which are typically going to be longer in less dense parts of the network. However, when those events are occurring so often, and particularly in built up areas where businesses expect for the most part that the level of network redundancy should typically avoid extended outages, businesses are rightly asking why they are paying the nation's highest power prices for an unreliable service. Furthermore, brownouts or blackouts caused by inadequate generation capacity within the network are even less acceptable. Business expectations are completely reasonable given the number of load shedding events in South Australia over the decade and a half leading up until late 2015 could be counted on one hand.

Business SA acknowledges that there are multiple layers of electricity reliability standards but none that seem to on aggregate accord with the reasonable expectations of consumers, particularly businesses. Businesses are not particularly interested in which part of the electricity supply chain is responsible for an outage, or that extreme events

[14] Reliability of the transmission network (excluding events such as the State-wide blackout) is usually quite high and in 2015/16, there was only one transmission line failure due to a storm which was restored within timeframes set out in the Electricity Transmission Code. Of the two power system interruptions the same year attributed to ElectraNet, neither resulted in protracted interruptions affecting large numbers of customers.

are excluded from reliability standards as occurred with the State-wide blackout, they just expect that reliability standards will relate to the time and frequency they are without power. At present, there are three layers of reliability standards in South Australia, each with separate processes or exemptions for assessing reliability in weather related events:

- ESCOSA determines SA Power Networks reliability standards for the distribution network, excluding Major Event Days (such as storms/heatwaves), which are outlined below;

Electricity Feeder Category	Duration of interruptions (minutes/customer/year)	Frequency of interruptions (number/customer/year)
CBD	15	0.15
Urban	120	1.3
Rural Short	220	1.85
Rural Long	300	1.95
Overall (implied target)	165	1.5

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 2015/16, there were 71 feeders that qualified as Low Reliability Distribution Feeders affecting 18,032 customers, compared to 108 feeders affecting 23,611 customers in 2014/15.

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 that it has used best endeavours in trying to meet the target that year.[15]

- Reliability standards for the 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. [16]

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. Further explanation of reliability standards for ElectraNet is provided overleaf:

[15] Energy Business Regulatory Performance Report 2015-16, ESCOSA, January 2017.
[16] Electricity Transmission Code, TC/09, ESCOSA, from 1 July 2018

For Category 1 exit points which are located across a range of rural and remote areas, ElectraNet is only required to supply N reliability[17] through one transmission line, one or more transformers, and/or network support. Furthermore, ElectraNet must provide N equivalent *line* capacity for 100 percent of contracted agreed maximum demand and in the event of interruption, restore N equivalent *line* capacity as soon as practicable, and in any event, within 2 days. ElectraNet must also provide N equivalent *transformer* capacity for 100 percent of contracted agreed maximum demand and in the event of an interruption, use best endeavours to restore N equivalent *transformer* capacity as soon as practicable and in any event, within 8 days of the commencement of the interruption.[18]
Categories 2, 3 and 4 progressively increase the requirements on ElectraNet up to Category 5, which is limited to Adelaide Central, where exit points are required to supply N-1[19] equivalent transmission line and transformer capacity for 100 percent of the agreed maximum demand on a continuous (firm) basis. Furthermore, for Category 5 exit points, ElectraNet must provide N-1 equivalent capacity into Adelaide Central for 100 percent of contracted agreed maximum demand and in the event of the transmission line or network support arrangement failure, use best endeavours to restore N-1 equivalent *line* capacity as soon as practicable. In the event of an interruption arising from such failure, ElectraNet must restore at least 176 MW of equivalent *line* capacity within 4 hours of the interruption and restore N-1 equivalent *line* capacity as soon as practicable. ElectraNet must also provide N-1 equivalent *transformer* capacity into Adelaide Central for at least 100% of the contracted maximum demand and in the event of failure, use best endeavours to restore equivalent *transformer* capacity as soon as practicable. In the event of an interruption from such failure, ElectraNet must use best endeavours to restore 176 MW of equivalent *transformer* capacity within 4 hours of the commencement of the interruption and restore N-1 equivalent *transformer* capacity as soon as practicable.[20]

- 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 the case of South Australia, this is equivalent to losing the equivalent of 260MW[21] 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. The Finkel Review should consider whether the subsequent February 8 brownout took South Australia above 0.002 percent of unserved energy in the current financial year.

  The reliability standard for generation and bulk supply excludes unserved energy associated with power system security incidents that result from a) multiple or non-credible contingencies, b) outages of transmission or distribution network elements that do not significantly impact the ability to transfer power into the region where the USE occurred, or c) industrial action or 'acts of God' at existing generating or inter-regional transmission facilities.

  We understand that the reliability standard for electricity generation is primarily for planning purposes and averaged across 300 year simulations but in any case, consumers and particularly business consumers need to understand at some level how that translates to the level of reliability they can expect.

[17] The transmission system is able to supply the maximum demand, provided that all network elements are in service. The loss of a single network element (a line or a transformer) would cause supply interruption to customers.
[18] Electricity Transmission Code TC/09, ESCOSA, set in September 2016 to apply from 1 July 2018.
[19] With this standard of reliability, no customers would be affected by the loss of one network element.
[20] Electricity Transmission Code TC/09, ESCOSA, set in September 2016 to apply from 1 July 2018.
[21] 0.002 percent of South Australia's current annual consumption of 12,934 GWh.

From the range of standards described above, the Finkel Review should consider how to marry the expectations of reliability from consumers with the implementation of reliability standards across the electricity supply chain. The Review must ensure clarity around what frequency and duration of interruptions are acceptable on balance for consumers, working back from there to impose appropriately categorised standards on each segment of the electricity market. Given the complexity of the reliability standards, it is no wonder confusion reigns amongst consumers, businesses included, as to what level of reliability they can reasonably expect and what the Government will stand by.

Business SA acknowledges that when AEMO reviewed the value of customer reliability in 2014 to gauge how much consumers were willing to pay for reliability electricity, the survey questions comprised the following:

- Please imagine that your most likely unexpected power outage is once every six months with a duration of one hour. It is likely to be on a weekday, in winter, off-peak and localised (i.e. only affecting your street)
- Survey participants were also asked about their willingness to pay to avoid high impact low probability events including
  A) a one in ten year power outage lasting one day
  B) a one in forty year power outage lasting one week
  C) a one in ten year power outage lasting four hours. This power outage would occur at peak time during a summer peak wave where daily temperatures remain above 35 degrees.

If these questions are any guide as to what type of reliability can be expected from the network, many South Australian consumers are rightly questioning why they are receiving inadequate reliability for paying the country's highest electricity prices.

7. The Government's role in industry transitions where policy key driver

The State and Federal Governments collectively invested $155 million dollars across both Victoria and South Australia in a growth fund to support jobs and economic growth in response to the closure of vehicle production facilities.[22] The fact that two thirds of this funding came from the Federal Government reflected the presence of key financial incentives to auto-production which came from a national policy, although this had been progressively wound back on a bi-partisan basis over several decades.

As the Finkel Review looks to potential solutions for South Australia's cost and reliability issues, it should bear in mind that South Australian consumers have been significantly impacted by price outcomes which have to a large extent being a function of Government policy decisions. The overarching policies related to renewable energy, primarily the RET, do not incentivise renewable generation projects to provide secure electricity which is a perquisite for industry, including to provide market competition for firm contracts. Consequently, energy intensive businesses are wearing the resultant price hikes.

There is no doubt that a high gas price in a regional pricing jurisdiction like South Australia where the firm contract price is now set from gas has not helped the current situation. However, the fact remains that renewable energy policies to date have not worked to ensure that as renewable energy generation increases, there is adequate competition within each pricing jurisdiction for 'least cost' firm electricity generation; while ensuring outcomes between States with higher and lower renewable penetration do no vary any more that what would normally be associated with the underlying volatility of supply and demand.

[22] Parliament of Australia, Automotive Industry Package, Budget Review 2015-15 Index.

Furthermore, if State and Federal Government policies typically promote LNG exports and limit gas reservation to maximise the value of the nation's gas reserves, there needs to be consideration of how to assist energy intensive industry to adjust to structural change in the electricity market. For example, a capital injection in some form of large scale renewable/storage project such as solar thermal to provide firm power competition in jurisdictions with high intermittent generation currently reliant on gas. While the economies of scale for major renewable/storage projects may not yet be competitive in their own right, a form of additional financial support should be considered to fast track their implementation.

The Victorian and Federal Governments have already committed to a transition package for the Latrobe Valley on the back of Hazelwood Power Station's closure, $266 million and $43 million respectively. While Business SA recognises that limited taxpayer resources must be put to their best use, Governments at all levels need to look at how they can most effectively support the broader competitiveness of business coping with significantly higher and more volatile electricity prices during the current transition to a low carbon future.

Over the past several years, in an otherwise stagnant economy, many of South Australia's most successful businesses have been in the irrigated agriculture and food and beverage manufacturing sectors. Both sectors which are export orientated and energy intensive. South Australia needs these types of sectors to expand further to fill the void left by this year's closure of the auto-production sector. Unfortunately, this will not occur if the current state of unaffordable and unreliable electricity persists.

8. Future Carbon Emissions Policy

Business SA welcomes the Finkel Review's consideration of optimal emissions reduction policies for the electricity market. From the perspective of South Australian business, we recognise that the nation must meet increasingly strict carbon reduction targets. Concurrently, we need to manage this task in a way which is imposes a 'relative' cost on business, particularly across States. If for example we leave the work of the RET to shoulder the load of reducing carbon emissions and the policy remains in its existing structure, there are unintended consequences in NEM jurisdictions with higher intermittent renewable generation, the resulting costs of which are being borne by energy consumers.

Provided there is an adequate mechanism in place to deliver least cost emission reductions across the NEM, Business SA does not support an environmental or emissions reduction objective being inserted into the current national electricity and gas objectives. It will not be the role of the energy sector alone to reduce carbon emissions. Regulatory policies related to carbon emissions need to be limited to ensure a consistent approach across the economy and avoid, for example, businesses or Government authorities within the electricity industry making their own judgements on matters related to least cost emission reductions.

In short, our desire is for genuine competition to reduce emissions at least cost across all generation sources. South Australian business should not pay any more than is absolutely necessary for our per capita share of emissions reductions. The end result of reducing emissions is the same, regardless of the process, but if we do not get the process right, we will pay a much higher price than we can afford.

Business SA also draws the Panel's attention to the following relevant findings and recommendations of South Australia's Nuclear Fuel Cycle Royal Commission in relation to our energy future in an increasingly carbon constrained environment:[23]

23 Nuclear Fuel Cycle Royal Commission Report, May 2016, page 22 - 24

3. *Significant additional global action will be required to achieve the 'well below 2 °C' target. The slower the abatement action taken now, the greater the action that will need to be taken later, and the greater its costs and impact on the economy.*

4. *It will be necessary to significantly transform Australia's energy sector to both reduce emissions and support pathways to decarbonise other economic sectors such as transport.*

5. *Nuclear power is presently, and will remain in the foreseeable future, a low-carbon energy generation technology.*

6. *In Australia, nuclear power cannot contribute to emissions reductions before 2030 because of the long lead time to make new capacity operational. It could contribute after that time, which may be important if more rapid action is required to be taken to reach a net zero emissions target from energy generation by 2050.*

7. *It would be wise to plan now for a contingency in which external pressure is applied to Australia to more rapidly decarbonise. Action taken now to settle policy for the delivery and operation of nuclear power would enable it to potentially contribute to reducing carbon emissions.*

8. *While it is not clear whether nuclear power would be the best choice for Australia beyond 2030, it would be prudent for it not to be precluded as an option.*

In a 2016 survey of members, Business SA found that if nuclear power became necessary in future to reduce greenhouse gas emissions, 63% of members would be in favour, 27% against and 10% unsure.

Business SA is not arguing a nuclear power plant is necessarily going to be a cost effective option for South Australia at present, but it could play a role somewhere in the NEM. In any case, unless COAG can agree to lift existing gas moratoria and ensure affordable gas fired power in the transition period to low carbon, all options including nuclear power should continue to be explored.

9. ElectraNet's Interconnector Proposal & SA Network Security and Affordability

Business SA acknowledges ElectraNet is undergoing a formal regulatory investment test (RIT-T) process to explore options for a new inter-connector between South Australia and the eastern states, including non-network options which could achieve the same outcomes related to reliability and affordability of electricity for consumers.

ElectraNet is yet to provide detailed cost benefit analysis of its preferred option, or indeed any non-network options. Despite this, the Finkel Review should be considering whether the existing RIT-T process for evaluating such investments is the optimal decision making framework for long term investments related to the least cost delivery of reliable electricity, particularly given the complex interplays such decisions have with the wholesale generation market.

Furthermore, as the NEM is currently structured, it is unclear whether a new interconnector would necessarily enable retailers to offer firm hedges between South Australia and the Eastern States. We would expect this consideration to form a key aspect of the any decision making process, particularly given the substantial rise in the wholesale energy component of large market customers' contract prices since mid-2015.

While Business SA will await ElectraNet's formal analysis on whether the interconnector proposal should proceed, one key driver for any new interconnector must be to provide increased competition for 'firm' contracts within South Australia. If this cannot be guaranteed by building just one additional interconnector, for example between South Australia and New South Wales, then consideration should be made by the Finkel Review as to how many new connections are required across the NEM to enable adequate hedging between jurisdictions.

The Finkel Review should also consider the costs of existing measures recently introduced to improve network security within South Australia and whether the same outcomes could be achieved in a more cost efficient manner. This includes but is not limited to:

a) The State Government mandated rate of change of frequency (ROCOF) constraint of three hertz per second introduced after the state-wide blackout;

b) The Australian Energy Market Operators (AEMO)'s December 2016 ruling that at all times, two synchronous generators must remain online within South Australia; and

c) AEMO's 2015 ruling to require 35 MW of locally available Frequency Control Ancillary Services (FCAS) in South Australia.

For example, the ROCOF constraint is achieved by constraining flows on the interconnector but at what cost to South Australian consumers?

10. Battery Storage and considerations for the NEM

Business SA is strongly supportive of funding to support the commercialisation of grid-scale battery storage options. We note that many such projects are well underway, acknowledging the funding support provided through the Australian Renewable Energy Agency (ARENA). In particular, we are encouraged by the South Australian consortium ESCRI project proposal given the proponents' thorough work to understand how battery storage can be best placed to support the South Australian electricity network.

From our discussions with various battery storage proponents, it seems that a range of capabilities will be key to their viability; including the provision of fast frequency response. While the capabilities of battery storage are promising, we are also mindful of the storage timeframe of batteries and to what extent that will enable renewable generation to provide firm contracts to consumers. This is quite an important consideration for Business SA's energy intensive members.

While the technological advances of batteries and their cost reductions are encouraging, Business SA reiterates that the National Electricity Objective still provides for 'reliable' electricity; and battery storage options for consumers should not be seen as necessary if only on the basis that the NEO is not being met.

11. Cost-Reflective Tariffs and Demand Response in the NEM

Business SA has been actively engaged in the AER consultation process regarding the COAG mandated move to shift small consumers, less than 160MWh per annum, onto cost-reflective tariffs. Our involvement began when SA Power Networks formally proposed its 2017-2020 Tariff Structure Statement (TSS) in December 2015. At the time, Business SA, in association with the South Australian Wine Industry Association, engaged engineering consultants 2XE to analyse the impacts on small business, both positive and negative. For further details refer to Attachment C. While our study was limited to in-depth analysis of 25 businesses and was more a qualitative than a quantitative

study, what it highlighted was that despite most businesses likely being better off, the potential savings were often not large enough to justify investing in a smart meter. This was given the outcome was unclear, not to mention the potential for ongoing high variable metering costs; where we note data across the NEM is limited. Furthermore, most of the businesses worse off would need at least two years to plan investments to mitigate potential future increases resulting from cost-reflective tariffs. Our final recommendations centred around 'going slow' on any mandatory shifts to cost-reflective tariffs until adequate tools or data were available to consumers to help them forecast the likely impacts. We welcomed the AER's final decision on this matter in February which addressed our primary concerns.

Business SA has always maintained that in principle moving all consumers onto cost-reflective tariffs has merit. However, what still needs consideration is whether or not the costs of smart meters and associated software infrastructure is outweighed by the benefits, otherwise the whole move is poor economic policy; as appears to be the case in Victoria. Furthermore, from our own work, we know the majority of small businesses have little ability to shift peak loads, for example it is quite difficult to 'off peak' your customers. To date, we have not seen any substantive economic analysis based on the South Australian network and the likely network savings of shifting small consumers onto cost-reflective tariffs. While Energia's work for the Energy Networks Association models benefits across the NEM at a zone substation level and provides a solid analysis, the best available work to date, we note that not all zone substation data was available to them[24] and it is unclear what ongoing variable costs were attached to their assumptions. Furthermore, this type of analysis does not take into account that even at the small consumption level, businesses are already facing substantial price rises due to wholesale generation costs. In fact, average small retail bills increased between 6% and 12% last July reflecting the first tranche of such rises, so the timing of any mandatory shift to cost-reflective tariffs needs to be considered in a broader context considering further costs for many small businesses.

The Finkel Review needs to find ways to ensure the NEM works to optimise demand response in South Australia, including through a wider allowance for the nature of businesses which can contract with business consumers. Given there is not one major load contracted to AEMO to facilitate demand response in South Australia and we have just experienced a load shedding event which was forecast in the middle of 2016, it is clear that leaving this mechanism up to the existing retail market players is not working.

Additionally, there are costs associated with every move to improve network security in South Australia. The Finkel Review should weigh up those costs against having a mechanism that incentivises demand response from industry. It is clear that the viability metrics of battery storage for industry is improving, both in relation to cost and reliability, and the NEM rules should work to maximise the benefits of more storage on the network to assist with broader network security issues.

[24] Energeia, Network Pricing and Incentives Reform, October 2016, P18.

Conclusion

Over the past two years, electricity costs and, more recently, reliability, have become the single biggest issue threatening the future viability of a broad range of South Australian businesses, particularly the 5,500 large market customers consuming greater than 160 MWh per annum of electricity. Unfortunately it took a State-wide blackout to raise electricity cost and reliability issues to the highest priority of Governments. Now that it has, the Finkel Review's report must focus that attention to ensure Governments implement recommendations in a timely manner.

Businesses in South Australia, like those across the NEM, have every right to expect world class reliability. If there is a cost in transitioning the NEM to low carbon, this should be minimised through a mechanism which is technology neutral and does not penalise consumers in areas with higher intermittent renewables, particularly if that also means less competition for the provision of firm power contracts.

Confidence in South Australia's electricity reliability has severely declined since September 2016 and, as a priority, the Finkel Review must make recommendations to ensure that once Hazelwood Power Station is shut down in March, adequate reliability is maintained in both South Australia and Victoria next summer.

The current 'national' market framework is not working. It does not provide affordable and sufficiently reliable electricity for South Australian consumers. All options must be explored to increase gas supply, increase competition through a redesign of NEM pricing jurisdictions with sufficient interconnection, and ensure a clear line of accountability which reflects the expectations of consumers in a 'national' market.

Business SA recognises that the Paris Agreement on Climate Change was formed on the basis of nation state emissions reduction targets, not those of individual states or provinces within countries. Subsequently, we can no longer afford to be hamstrung by inefficient policy settings aimed at reducing carbon emissions which do not optimise the cost of Australia's emissions reductions across the entire nation.

Blackout Survey Results

Understanding the effects of South Australia's State-wide blackout on Wednesday 28 September 2016.

Business SA
Chamber of Commerce and Industry South Australia
Working for your business.
Working for South Australia

South Australia's State-wide blackout analysis

Total cost of blackout on South Australian businesses

$367 MILLION[1]

Following South Australia's State-wide blackout on Wednesday 28 September 2016, Business SA surveyed its membership, and the broader membership of South Australia's regional Chambers of Commerce, to validate the associated cost impacts for the productive economy[2].

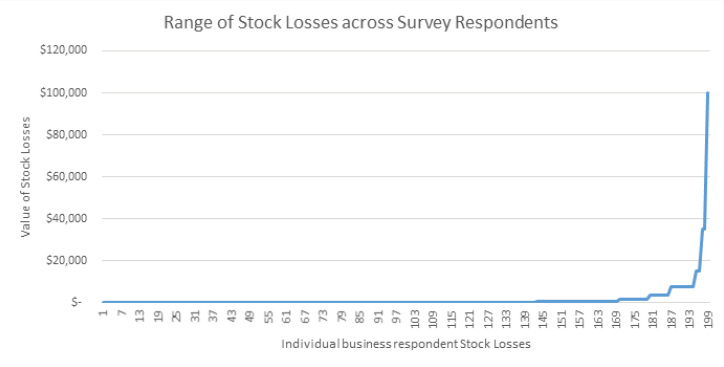
As South Australia's recognised peak business membership organisation, Business SA is endeavouring to ensure that the debate on how to improve South Australia's network security is adequately informed about what a system failure actually costs.

Businesses were asked a broad range of questions about various cost impacts, from lost production and wages to running a generator, as well as in relation to their insurance coverage. There was also an opportunity for business to provide broader feedback on how the system failure impacted their businesses, including with respect to lost mobile phone and internet coverage.

Our summary of survey findings focuses on the total South Australian business impacts as extrapolated from our survey sample[3] and further analysis of key economic sectors including manufacturing and retail. Furthermore, in consideration of the multiple day outage in Port Lincoln, we have provided separate analysis to specifically articulate the cost impacts on Eyre Peninsula businesses.

At Business SA, we are passionate about raising the profile of regional business issues as it is crucial that all stakeholders in the electricity supply chain from generators and networks to State and Federal Governments recognise the importance of reliability across the entire State, not just Adelaide.

While Business SA has presented both 'median' and 'average' results for each question, the median results are more statistically reflective of the broader impacts of the blackout on South Australian business. For any reported result, the 'median' refers to the mid-point of responses while the 'average' is the total of all responses divided by the number of responses. To demonstrate with a graph below, while the majority of business respondents did not suffer a stock loss and the median loss was zero, there were still businesses which suffered stock losses giving a respondent average of $1,589 however we cannot say that on average businesses suffered this loss as the median result was zero:



[1] Includes estimated $115 million impact on major South Australian businesses including Arrium, Nyrstar, Oz Minerals and BHP. Furthermore, Business SA has only extrapolated losses to the population size where the median was greater than zero to ensure we do not overestimate the costs of the blackout.

[2] The survey was conducted from the 9 to 25 of October 2016. The survey also asked about costs related to the associated floods to ensure we were adequately delineating between the two events. We have not discounted costs related to floods given they comprised less than 10% of total advised costs and we have only extrapolated the survey findings to employing businesses, not sole traders, given only one sole trader responded to our survey.

[3] Note while there were 260 respondents, only 207 gave responses to the substantive questions. Those 207 respondents provided a statistically significant sample size to enable us to extrapolate our findings to the population of 50,300 employing businesses in South Australia.

Key Findings across all South Australian businesses

a) Median trading/production losses – $3,500

Average trading/production losses – $12,441

b) Median wages paid when business non-operational – $1,500

Average wages paid when business non-operational – $3,355

c) Median property losses/damage – $0

While the relative number of businesses who suffered property losses/damage was low, **the average property loss/damage was $10,425**

d) Median stock losses – $0

While the relative number of businesses who suffered stock losses was low, **the average stock loss was $1,589**

e) Median costs of re-commencing operations – $0

While the relative number of businesses who incurred costs restarting operations was low, **the average cost to re-commence operations was $763**

f) Median generator costs – $0

Given only 12% of businesses had a back-up generator, the relative number of businesses who incurred generator costs was low, **but the average cost was $649**

Key Findings across Manufacturing Sector

g) Median property losses/damage – $1,500

Average property losses/ damage – $8,505

h) Median trading /production losses – $7,500

Average trading/production losses – $15,369

i) Median wages paid when business non-operational – $1,500

Average wages paid when business non-operational – $3,916

j) Median stock losses – $0

While the relative number of businesses who suffered stock losses was low, **the average stock loss was $5,484**

k) Median costs of re-commencing operations – $0

While the relative number of businesses who incurred costs restarting operations was low, **the average cost to re-commence operations was $1,394**

l) Median generator cost – $0

Average generator costs – $2,031

Key Findings across Retail Sector

m) Median property losses/damage – $625

Average property losses/ damage – $2,812

n) Median trading /production losses – $1,500

Average trading/production losses – $4,513

o) Median wages paid when business non-operational – $625

Average wages paid when business non-operational – $979

p) Median stock losses – $0

While the relative number of businesses who suffered stock losses was low, **the average stock loss was $450**

q) Median costs of re-commencing operations – $0

While the relative number of businesses who incurred costs restarting operations was low, **the average cost to re-commence operations was $284**

r) Median generator cost – $0

Average generator costs – $113

Key Findings across all Eyre Peninsula businesses

Total cost of the blackout to the Eyre Peninsula (predominantly regional city of Pt Lincoln)

$8.33 MILLION[4]

While Port Lincoln's back-up generators initially responded to restore electricity supply at 6.45pm on Wednesday the 28 of September, only three hours after the State-wide blackout, five and a half hours later the backup generators failed and Port Lincoln's electricity supply was not fully restored until 2 days later at 8.25pm on Friday 30 of September. Given the extended outage in Port Lincoln, Business SA has specifically analysed the impacts of the blackout on the Eyre Peninsula.[5]

s) Median property losses/ damage – $313

Average property losses/damage – $5,157

t) Median stock losses – $313

Average stock loss was $1,187

u) Median trading /production losses – $7,500

Average trading/ production losses – $22,284

v) Median wages paid when business non-operational – $1,500

Average wages paid when business non-operational – $4,631

w) Median costs of re-commencing operations – $0

While the relative number of businesses who incurred costs restarting operations was low, **the average cost to re-commence operations was $1,169**

x) Median generator costs – $0

Average generator costs – $944

[4] The 42 respondents from the Eyre Peninsula provides a statistically significant sample size to enable us to extrapolate our findings to the population of 618 employing businesses in Port Lincoln and 247 employing businesses on the Eyre Peninsula excluding Port Lincoln (to calculate 247 employing businesses outside Port Lincoln, we have estimated 80% of the 1239 employing businesses on the Eyre Peninsula outside Port Lincoln are farms. This ratio accords with the relative breakdown of Business SA's own membership on the Eyre Peninsula).

[5] AEMO, 'Update Report – Black System Event in South Australia on 28 September 2016', 19 October 2016.

Key Findings in relation to insurance coverage of businesses

Only 37%

of businesses have business interruption insurance

Of those businesses,

54%

were not covered for any costs associated with the blackout and only 12% of covered businesses were fully covered for costs associated with the blackout

Other Key Findings of blackout survey

Only 12%

of businesses had a back-up generator

83%

of businesses had to cease operations as a result of the blackout

Telecommunications/internet impacts on business:

While the majority of the State's power was back up and running the same night, one of the most concerning impacts of the blackout, particularly for businesses on the Eyre Peninsula, was the lack of telecommunications and internet access. For some businesses in fact, this was considered more problematic than the power loss alone. There was even a suggestion to enable impacted businesses to be able to access free messaging through radio stations, including the ABC, if they are otherwise unable to reach customers or employees.

"The biggest issue for us was loss of all mobile and landline communications. Incredibly worrying not being able to contact emergency services."
– Eyre Peninsula agribusiness

"The black out was one thing, the bigger issue for my business was the disruption to telecommunications which is never mentioned. People and businesses can have a back-up generator and get by (if they choose to do so) however, we have no control over the telecommunications system. I'd rather endure a week without power than half a day with no mobile or landlines/internet. Not being able to respond to emails and phone calls caused several guests to not show up for charters…"
– Eyre Peninsula tourism operator

Feedback from business regarding network operators:

While the feedback from businesses regarding network operator response varied depending on region, there was general acceptance that a storm can bring down the network to some extent. However when businesses are literally hundreds of kilometres away from such a weather event, the acceptance of such an occurrence quickly diminishes.

For many businesses who were back up and running in a few hours, they were much more tolerant of the blackout and generally pleased to have power returned when they did. However, many other businesses in regional areas such as the Eyre Peninsula were not so forgiving and were particularly critical of the communications received and the uncertainty regarding when the power was likely to be restored.

"As a food business we were worried at the length of time the power was going to be off for. Such an amazing job in getting power restored to SA…Well Done!!!"
– Riverland hospitality business

"The blackout itself was acceptable, the time it took for power to be turned back on was not."
– Adelaide manufacturing business

"It was inconvenient but luckily we weren't drastically affected. We were grateful power was restored so quickly as loss of refrigerated goods would have become a significant cost (& inconvenience) had the power stayed off much longer"
– South East veterinary business

"Disgraceful that an event 600kms brought down the entire state. We lost a complete production shift plus associated IT problems after resumption of power. The involved parties should admit responsibility for the blackout rather than play political games. Including assurance it won't happen again."
– South East manufacturing business

Policy concerns from business:

While Business SA's advocacy prior to and following the blackout has been squarely focused on ensuring we have reliable and competitively priced power in future, businesses did raise a number of concerns from the blackout about Government energy policy. While there were views for and against renewables in relation to the cause of the blackout, even pro-renewable voices were not tolerant about a lower level of reliability with higher renewable energy penetration. There was also a realisation that even with a higher penetration of renewables in South Australia, that we are still reliant on coal fired power from Victoria.

"Extremely angry that state Govt are blaming everything on the storm instead of admitting they should have spent less money & focus on chasing "green" energy instead of making sure we had guarantee of supply."
– Mid-North property and business services company

"The government needs to make it a very high priority to secure electricity for the state and also to secure competitive prices for SA. This incident reflects very poorly on Jay Weatherilll as does the very high prices we are currently paying. Take some action now."
– Adelaide Hills retailer

"Please ask Jay why the peak and off peak spot kwh rates for large businesses (using more than 160MWh per year) are more than double any other state in Australia?"
– Adelaide manufacturing business

"Although the Blackout was a result of an extreme weather event it should serve as a trigger to ensure that this cannot happen again and fail safe systems should be investigated and implemented as a matter of high priority. It is not a time for political gamesmanship - the public of SA deserve better than that. The public have responded with generosity and maturity to the challenges that were presented - politicians should do the same."
– Adelaide accountancy business

"SA now suffers from actual (or perceived) disadvantage in two areas - lack of power security and the highest cost of power in Australia. All of this has been achieved for the sake of renewable energy growth which is underpinned by dirty brown coal power via the Victorian interconnector. SA Great??"
– Adelaide law firm

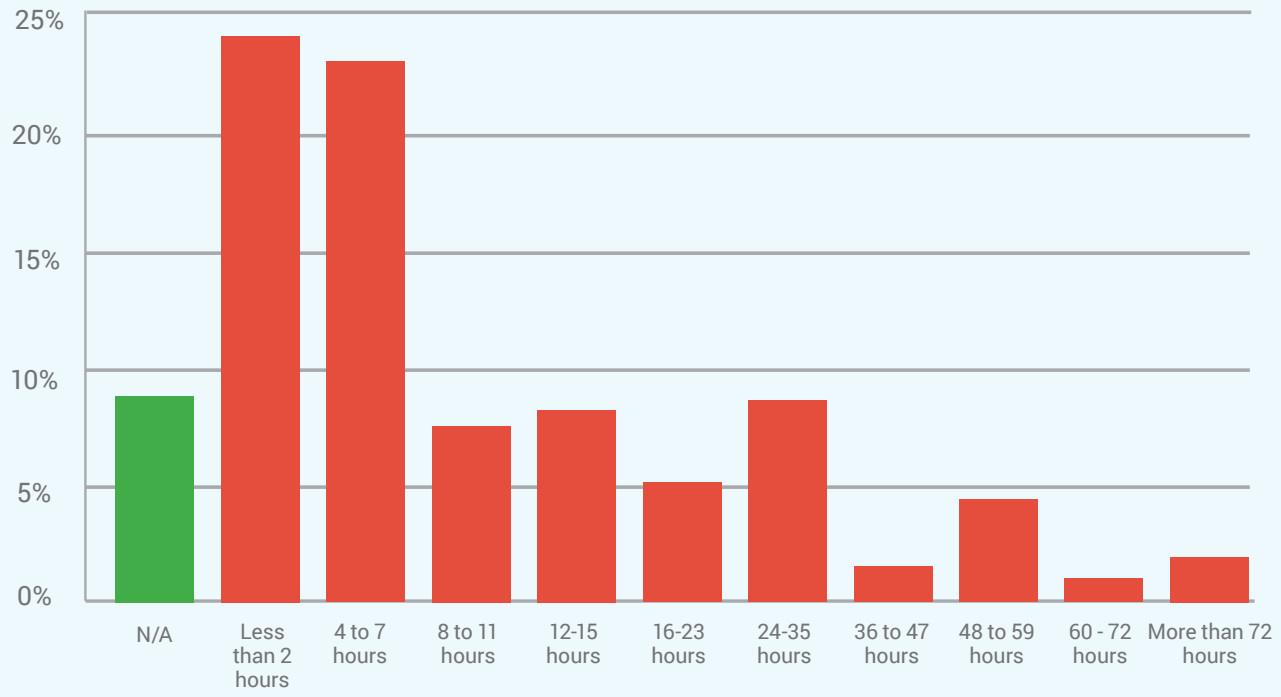
Insurance observations for business:

What the survey uncovered was that generally businesses' losses associated with the blackout were not covered, or at least fully covered, by insurance, even where businesses had business interruption insurance. While for the most part, that related to the time businesses actually lost power, it did underscore the fact that businesses rely on a secure electricity network as a foundation for doing business in a first world country like Australia. Insurance and generators come at a cost but businesses are now looking at, and some already spending more on, such mitigation measures to ensure they can withstand future events. However, from a policy perspective, Business SA recognises this is money not being spent in the productive part of South Australia's economy. Notwithstanding, any future spending on preventing a future blackout needs to be kept in perspective in so far as how it relates to the costs of a blackout.

"Our business interruption insurance for electrical problems only applies for power outages greater than 48 hours…we had already lost stock after 12 hours."
– Adelaide Hills manufacturing business

"This is why insurance exists - to account for the rare occurrence. I don't want to see hundreds of millions of dollars put towards a once-in-20 year occurrence. Far more important things to invest in that will actually help drive the state forward."
– Adelaide based IT business

How long businesses were unable to operate as a result of the blackout:



Business SA
Chamber of Commerce and Industry South Australia

Blackout Survey Results

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Unley SA 5061

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Appendix B

16 August 2016

Hon. Tom Koutsantonis, MP
Minister for Energy
Level 8, 200 Victoria Square
ADELAIDE 5000

via email:

Business SA
Chamber of Commerce and Industry South Australia
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Level 1, 136 Greenhill Road
Unley South Australia 5061
T: +61 8 8300 0000
W: business-sa.com

Working for your business.
Working for South Australia

Dear Minister,

To adequately inform debate amongst stakeholders, we write to request that your Government establish an independent inquiry to investigate all options to transition South Australia's electricity network towards a low carbon future which promotes the long term interests of South Australian consumers with respect to price, quality, reliability and safety.

South Australia's key advocacy organisations are deeply concerned about the impact high wholesale prices are having on the community and economy and what future costs might eventuate in the absence of transparent and evidence based policy decisions. We are also concerned about predicted reliability shortfalls in South Australia if we cannot access sufficient 'baseload' generation, whether that be locally or through the national electricity market (NEM).

We recognise South Australia is part of the NEM and that all Australian consumers are best served by State and Federal Governments collaborating on policy decisions to ensure Australia can reach its renewable energy and carbon reduction targets with least cost impacts on the entire NEM.

A South Australian led inquiry will not seek to replicate existing work by Federal Regulators and Agencies but rather present a holistic analysis of options from an authority which is operationally independent of existing market structures with the power to second appropriate international expertise.

We can all agree that there is an imperative to address this issue and are willing to provide you any assistance as we strive towards a prosperous South Australia. Should you require further information, please contact Anthony Penney, Executive Director Industry and Government Engagement, on (08) 8300 0000 or anthonyp@business-sa.com.

Yours sincerely,

Nigel McBride	Gavin McMahon	Jane Mussared	Rob Kerin
Chief Executive Officer Business SA	Chief Executive Officer Central Irrigation Trust	Chief Executive Council of the Ageing	Independent Chair Primary Producers SA
Daniel Gannon	Ross Womersley	Brian Smedley	Simon Schrapel
SA Executive Director Property Council of Australia	Chief Executive Officer South Australian Council of Social Service	Chief Executive South Australian Wine Industry Association	Chief Executive Uniting Communities

Australian Chamber of Commerce and Industry Member

SOUTH AUSTRALIA

Appendix C

2 June 2016

Australian Energy Regulator
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MELBOURNE VIC 3001

Business SA
Chamber of Commerce and Industry South Australia

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Working for your business.
Working for South Australia

SOUTH AUSTRALIAN WINE INDUSTRY ASSOCIATION INCORPORATED

Dear Sir/Madam

I write in response to SA Power Networks' 2017-20 Tariff Structure Statement proposal. With funding from Energy Consumers Australia, Business SA, in conjunction with the South Australian Wine Industry Association has undertaken a joint research project to determine how proposed changes will impact small business. We have investigated a range of sectors with a focus on energy intensive industries such as wine making. Our attached submission comprehensively articulates and evidences recommendations to ensure the best outcome for South Australia's small business sector and the broader economy. In doing so, we acknowledge the following key points:

- In making its final decision, the AER must consider that business needs access to data before making informed decisions on whether or not to switch to demand based tariffs.
- A peak demand period for small business from 12pm to between 4pm and 6pm better reflects that over 70% of small business demand peaks occur during this period.
- Based on the likely cost of smart meters, the proposed tariff structure may not provide significant enough incentive for businesses consuming below 80 MWh per annum to transition to cost-reflective tariffs prior to 2020.
- Reconsider the automatic assignment trigger to demand tariffs so as to be based on criteria that are demonstrably linked to peak demand resulting from alterations and upgrades. Whilst we have a shared belief in reducing network peak demand, the current trigger proposal presents some risk of creating impediments to small businesses undertaking otherwise cost and energy effective investments.
- A broad scale trial of advanced interval metering specifically for small businesses across a range of industry sectors should be funded by SA Power Networks.

Should you require any further information, please contact Andrew McKenna, Senior Policy Adviser, on (08) 8300 0000 or andrewm@business-sa.com.

Yours sincerely,

Nigel McBride
Chief Executive Officer

Business SA

Brian Smedley
Chief Executive

South Australian Wine Industry Association

Australian Chamber of Commerce and Industry Member

SOUTH AUSTRALIA

Working for your business.
Working for South Australia

Analysis of impacts of SAPN's 2017-2020 Tariff Structure Statement (TSS) on South Australian SME Businesses

Submission to AER Issues Paper

June 2016

Business SA
Chamber of Commerce and Industry South Australia

SOUTH AUSTRALIAN WINE INDUSTRY ASSOCIATION INCORPORATED

Contents

Executive Summary

Given the impact of electricity costs on South Australian businesses, it is critical that the proposed cost-reflective tariff reforms outlined in SA Power Networks (SAPN) Tariff Structure Statement 2017-2020 (TSS) do not unnecessarily impose further costs on SME businesses (consuming less than 160MWh per annum).

Based on findings from our industry consultation, Business SA, in conjunction with the South Australian Wine Industry Association, makes a range of recommendations related to the following features of the SAPN TSS:

Recommendations	
Proposed demand-based tariff structure	
1.	**Education & capacity building** To overcome the lack of knowledge in understanding the concept of electricity demand (as it relates to their electricity bills) and opportunities to manage/shift demand, we strongly recommend that SAPN support Business SA and the South Australian Wine Industry Association (SAWIA) in the implementation of a formal program of education and capacity-building. This program would be specifically targeted to SME businesses, and would provide them with the necessary information and tools to help them understand their existing demand patterns, explore options to manage their peak demand and enable them to make informed decisions as to which tariff option is best suited to their business. Supporting such a program would be in SAPN's interests in order to improve the uptake of tariff reforms amongst the business community and reduce public backlash. This program should commence prior to July 2017 and run for at least the first 12 months of the transition period (i.e. 2017-18). Where appropriate, the support of such a program should be formally recognised in SAPN's proposed tariff roll-out strategy.
2.	**Installation of smart meters without triggering a transition** Consideration should be given into the possibility of allowing businesses the option of installing an advanced interval meter, without triggering a transition to a demand-based tariff, and allowing them to monitor and understand their consumption and demand profile over the period of a year before they decide whether to opt-in to the fully cost-reflective tariff or transition demand tariff, or remain on the consumption usage tariff. SAPN or the retailer could automatically put the customer onto the tariff that works best for their individual needs (given the information gained from the smart meter).
3.	**Consideration of an 'opt-out' clause** In order to encourage the transition to fully cost-reflective tariffs, SAPN and retailers may wish to consider the option of offering an 'opt-out' clause to provide businesses with the flexibility of trailing the new tariff structure, in order to determine whether they are better- or worse-off (and if the latter is the case, reverting back to a usage-based tariff).
Proposed demand Time-Of-Use periods	
4.	**Review peak demand charging window to better reflect business operations** 70% of industry consultation participants indicated their maximum demand period is likely to be between 12 noon and 4 to 6pm. SAPN should consider reviewing the peak demand charging window for business, to better reflect standard operating hours (illustrated as predominately 8am–5pm) and reduce the potential for cross-subsidising residential demand. The TSS currently proposes a peak demand window for business from 12-9pm, which does not seem cost-reflective given that (from SAPN's own analysis) business demand decreases around 4pm, with the residential demand significantly outweighing business demand from 4pm onwards. SAPN should review the peak demand window to ensure that businesses are not cross-subsidising residential demand, and adjust the window to better reflect whether business or residential is driving demand (e.g. adjust peak demand for business from 12-5pm).

5.	**Communication with businesses at the end of the transition period** Provision should be made for additional consultation and communication towards the end of the transition period to inform and educate businesses on the tariff changes once on the fully-cost reflective tariff (i.e. going from one demand charge from 12-9pm across the whole year, to two demand charges – shoulder and peak – charged at different months of the year and times of the day).
Proposed transition period & assignment triggers	
6.	**Revise assignment equipment install >25amps** SAPN should consider revising the >25amp assignment trigger threshold for major alterations, in order to prevent dis-incentivising businesses from investing in business improvements and capital upgrades that lead to business growth. Ideally the removal of this trigger is the most preferable option, however if the trigger is retained then it is suggested to limit the assignment trigger to particular types of equipment that are major contributors of demand (e.g. air-conditioning equipment).
7.	**Revise assignment supply alteration trigger** SAPN should consider an option for businesses to undertake a non-mandatory reassignment of upgrading meters for a predetermined period of time (e.g. 1 year) to allow them to gain an understanding of their load profile and assess the potential cost impacts from the transition and fully cost-reflective tariffs.
8.	**Provide further explanation on the reasoning behind the consumption threshold** It is not clear from the TSS as to why the >40MWh threshold has been selected, particularly given that the tariff reforms are based around demand, not consumption. SAPN should provide adequate reasoning as to why this threshold was selected, and to what extent are small energy users (e.g. those between 40-60MWh) are significant contributors to peak demand, versus larger energy users in the 40-160MWh consumption range.
9.	**SAPN to provide a clear position on what would happen if a business decreases consumption below 40MWh after being placed on a demand-based tariff** SAPN's analysis states that over 45% of businesses within the 10-40MWh range are worse-off on a demand-based tariff; businesses are therefore at risk of being worse-off on a demand-based tariff is they were to remain on such a tariff whilst reducing their energy consumption to below 40MWh per annum (either through energy efficiency improvements or a decline in business growth/activity). Accordingly, Business SA is seeking clarification from SAPN on what the process would be if a business decreased their consumption to below 40MWh after being assigned to a demand-based tariff. This issue could be overcome by including some form of 'opt out' clause if they reduce their consumption to less than 40MWh (and are worse-off under a demand-based tariff).

10.	**Extend the commencement or the duration of the transition period** In the absence of other recommendations listed above (and previous sections) being adopted, businesses need time to adequately understand their demand profile, identify potential opportunities to manage/minimise peak demand and action them. Evidence from the majority of businesses that participated in Business SA's stakeholder interviews, is that this level of preparation is not possible within the proposed transition timeframe, given the current lack of information in the market on these reforms and any kind of incentives or packages offered by retailers to install advanced interval meters. SAPN may wish to consider revising the commencement date or duration of the transition period; coupled with the education/capacity-building program suggested in earlier recommendations, this may improve the ability of businesses to respond to the tariff reforms, and hence support SAPN's proposed adoption rates under the TSS.
Metering requirements	
11.	**Reschedule transition period to align with retailer timeframes** The TSS states that a retailer-led roll-out of advanced interval meter installations will be sufficient to increase uptake in South Australia, however this roll-out may not come into effect until December 2017 i.e. six months into the transition period, which further delays and hinders the ability for SME businesses to evaluate and respond to the proposed demand-based tariffs. SAPN should consider postponing the commencement date of the transition period (e.g. to December 2017 or July 2018) to align with the meter roll-out timeframes proposed for retailers.
12.	**Run program trialing advanced interval metering with SME businesses** SAPN should consider supporting a broad-scale trial of advanced interval meter installations with SME businesses to provide evidence-based examples to the business community of the impacts and implications of the tariff reforms across key industry sectors and business types/sizes between 40-160MWh. This trial may be conducted in partnership with retailers and Business SA together with key industry associations including the South Australian Wine Industry Association.
Provision of information and assistance to businesses	
13.	**Develop Tariffs Information Pack targeted to SMEs** SME businesses would benefit from key industry bodies such as Business SA, ideally with the support of SAPN, putting together an information pack with coverage of the proposed tariff reforms, their implications (both positive and negative) to SME businesses, steps businesses can undertake to understand how this might impact them, and opportunities to improve the management of their demand. This information pack should be highly visual and use layperson language, and can be used for developing materials such as brochures, fact sheets and case studies, as well as for use in the delivery of workshops/seminars.
14.	**Develop 'tariff calculator'** The AER should consider funding for a 'demand tariff calculator' for SME businesses developed through either SAPN or Business SA, to provide businesses with the means of assessing the impact of the tariff reforms on their business (and what type of impact, either positive or negative, might upgrades or demand-improvements have on their overall cost position); this tool could be publically accessible by all businesses (and potentially hosted by organisations such as Business SA).
15.	**Establish a one-on-one assistance program for SME businesses** The AER should consider funding for Business SA and key industry associations like the South Australia Wine Industry Association to establish one-on-one assistance programs for their membership, providing businesses with the means of accessing support from experts to both assess the impact of tariff reforms on their business, and identify/implement demand management improvements.

1. Introduction

Rising electricity costs over the past decade have been predominantly driven by network price rises (until recently), significantly impacting South Australian businesses. Given the substantial increase in wholesale energy costs in South Australia since mid-2015, it is even more critical that the proposed cost-reflective tariff reforms outlined in SA Power Networks (SAPN) Tariff Structure Statement 2017-2020 (TSS) do not unnecessarily impose further costs on SME businesses.

Business SA, in conjunction with the South Australian Wine Industry Association (SAWIA), have commissioned engineering consulting group 2XE to undertake a quantitative and qualitative analysis of the TSS that investigated the impacts, both positive and negative, on SME businesses. The Industry consultation process consisted of a combination of stakeholder interviews and tariff analysis with a representative group of businesses across key industry sectors and electricity consumption ranges. Overall 25 businesses participated in the stakeholder interviews, with 15 businesses opting to further provide their available electricity data for analysis to assess the potential cost impacts.

This project was funded by Energy Consumers Australia Limited (www.energyconsumersaustralia.com.au) as part of its grants process for consumer advocacy projects and research projects for the benefit of consumers of electricity and natural gas.

The views expressed in this document do not necessarily reflect the views of Energy Consumers Australia.

1.1. Industry Consultation Process

SME businesses were invited to participate in the Study through expression of interest emails and phone calls. Table 1 below provides and overview of the SME businesses engaged.

Table 1: Overview of SME businesses engaged

Industry Sector	Number of businesses	Annual electricity consumption		
		<40MWh	40 – 160MWh	>160MWh
Administration and support services	3	-	2	1
Manufacturing and agriculture	5	1	3	1
Medical	4	4	-	-
Retail and wholesale trades	5	2	3	-
Tourism and hospitality	3	1	-	2
Wineries	5	1	4	-
Total	25	9	11	5

All 25 businesses were interviewed using a series of questions and discussion points relating to the following topics:

- The business' current electricity position
- The possible impact of the proposed tariff reforms on the business
- The ability for the business to adapt to the proposed tariffs
- What assistance might the businesses require

Summaries from the interview process are presented in the Findings section under each key features of the TSS. The full industry sector responses to each of the interview questions are provided at *Appendix 1*.

In addition to the stakeholder interviews and to provide more in depth analysis SME businesses were asked if they were willing to provide their electricity billing data to 2XE to evaluate if their businesses would be positively or negatively affected by the proposed tariffs. In total 16 businesses[1] opted to provide their billing data for analysis; those that weren't willing to participate didn't do so because electricity was not a major business expense to them, or they didn't have access to adequate billing data.

Table 2 below, provides a summary of the businesses that participated in the tariff analysis.

Table 2: Summary of SME businesses that participated in the tariff analysis

Industry Sector	Number of businesses	Annual electricity consumption		
		<40MWh	40 – 160MWh	>160MWh
Administration and support services	1	-	-	1
Manufacturing and agriculture	3	1	1	1
Medical	3	3	-	-
Retail and wholesale trades	4	1	3	-
Tourism and hospitality	1	-	-	1
Wineries	4	1	3	-
Total	16	5	6	4

The tariff analysis involved evaluating each business' current electricity tariff costs against each of the three proposed tariff structures, using the network prices as outlined in the TSS for the 2017/18 financial year. Businesses outside of the proposed consumption thresholds (40-160MWh) were scaled (up or down) to provide a representative analysis for a business of that size within their industry sector.

It is important to note that only the impact of network charges was evaluated, considering these are directly affected by the TSS, while the wholesale energy prices are managed by the retailer. However, in terms of impact from the proposed tariffs, this is presented as a % increase/decrease over the business' total annual electricity spend (wholesale + network).

1.2. Current SME business Tariff Structure

Small/medium (SME) businesses are classified by SA Power Networks (SAPN) as consuming less than 160MWh per annum on a low voltage supply. Network tariffs for these businesses are currently structured to charge purely on electricity consumption ($/kWh) along with a fixed daily supply charge. Depending on the sites requirements and metering capabilities businesses may be on either a business single rate or business 2 rate tariff, with the structures outlined below.

Low Voltage Business single rate

- Consumption is currently (2015/16 FY) charged on an inclining scale in two consumption blocks
  - Block 1 applies to the first 833kWh/month
  - Block 2 applied to the balance of consumption
- As of July 2017, the inclining rate will be removed and businesses will be charged a single rate for consumption

Low Voltage Business 2 rate

- Consumption is broken into two Time of Use (ToU) periods, peak and off-peak
  - Peak, 7am to 9pm on working days

[1] One business has two separate facilities which have been treated as separate businesses as they have different operations, retail store and distribution warehouse.

- Off-Peak 9pm to 7am on working days, all day weekends and gazetted public holidays
- Peak consumption is charged at a higher rate than off-peak

A controlled load tariff can also be applied to either of these tariffs for businesses that have an electrical supply point that is controlled by SAPN that provides electricity for pre-determined periods of time each day. This tariff component typically seen in businesses that have electric hot water services.

1.3. SA Power Networks Tariff Structure Statement Overview

All electricity distributors in the National Electricity Market (NEM) are having to respond to the National Electricity Rules (NER) requiring distributors to develop and implement 'cost-reflective' tariffs to assist in managing and maintaining electricity infrastructure to meet infrequent peaks in demand.

In response to this SAPN are proposing to introduce cost-reflective demand-based tariffs for SME businesses with an annual consumption from 40MWh and 160MWh. The new tariffs will be progressively rolled-out from July 2017, and are expected to be in full-effect by 2023.

As of July 2017 the proposed demand-based tariff will be mandatory for all new customers and existing customers who request a significant change to their metering arrangements. These triggers include physical changes to supply, new inverter approval (applicable for solar installations over 2.5kW) and new major appliances with a current draw of >25amps (such as large air conditioning units, refrigeration equipment etc.).

Proposed reassignment of existing businesses (between 40 to 160MWh) onto either a transition usage tariff or transition demand tariff will begin in July 2018, with businesses also being given the option to opt-in to the fully cost-reflective tariff. SAPN are proposing the following cost-reflective tariff structures:

Business transition cost-reflective usage-based tariff

This tariff will be applied to existing customers who do not have an advanced interval meter (Type 6 accumulation meters). The tariff will see businesses remain on a consumption based tariff, with peak consumption prices increasing by approximately 2% each year.

Business monthly actual kW demand transition tariff

This tariff will be assigned to businesses who trigger reassignment through a new connection or request a change to their meter or fall within the consumption thresholds of between 40 and 160MWh This tariff requires an advanced interval meter (Type 1-5 interval meter).

Monthly demand is measured in kW as the maximum half-hour interval of power demand recorded between 12noon and 9pm local SA time on working days (Mon-Fri), with demand charged in $/kW/day. During the transition period (until end June 2020) the demand charge will not vary seasonally and is charged at 40% of the fully cost-reflective prices. After July 2020 prices will increase by 20% per year until they reach 100% cost-reflective by 2023.

All consumption (kWh) is charged at a single flat rate ($/kWh).

Business monthly actual kW demand tariff

This tariff is being offered as an 'opt-in' option for businesses with an advanced interval meter (Type 1-5 interval meter) that would be better-off on a demand-based tariff. This tariff is fully cost-reflective (charged at 100%). This tariff will also come into effect for all SME businesses on the demand transition tariff at the end of the transition period, June 2023.

The tariff introduces two separate demand ToU periods to align with summer peak demand on the network, with demand charged in $/kW/day.

- Summer peak demand, maximum half-hour interval recorded between 12noon and 9pm on working days (Mon-Fri) between November to March. Charged approx. 50% higher than winter shoulder demand.
- Winter shoulder demand, maximum half-hour interval recorded between 12noon and 4pm on working days (Mon-Fri) between April to October

All consumption (kWh) is charged at a single flat rate ($/kWh). Compared to the transition tariff consumption is charged at lower cost (approx. 30%).

2. Assessment of TSS impacts on SME businesses

The industry consultation process focused on obtaining feedback and observations across the following key features of the SAPN TSS:

- Proposed demand-based tariff structure
- Proposed demand Time-of-Use periods
- Proposed transition period and assignment triggers
- Metering requirements
- Provision of information and assistance to businesses

2.1. Proposed demand-based tariff structure

The demand-based tariff structure proposed by SAPN in the TSS will see customers charged for the electricity they consume, along with their maximum power draw (demand) over a half-hourly period from the network.

Understanding maximum demand is therefore a key factor in determining if a business will be positively or negatively affected by the proposed demand-based tariffs. As part of the consultation process Business SA and SA Wine Industry Association (SAWIA) members were asked about the impacts that a demand-based tariff might have on their business and their ability to manage these impacts.

Findings

Understanding demand

The concept of demand is relatively new for the SME businesses interviewed, as over 50% of participating businesses were not clear of what is meant by demand. Most interviews involved discussion and education on the difference between electricity consumption and demand in order for participants to have some kind of understanding of what the TSS is proposing, and hence its implications to participating businesses.

Businesses were unable to provide an indication of what their maximum demand is likely to be due to limitations in their metering (this is discussed in greater detail in *Section 5.4 – Metering*) and a lack of understanding of demand. Businesses were however able to identify which equipment in their business may be the major contributors to peak demand:

- Refrigerated reverse/cycle air conditioning (medical, admin & support services, tourism & hospitality and retail/wholesale trade)
- Commercial/industrial refrigeration systems (manufacturing and wineries)
- Compressed air systems (manufacturing and wineries)
- Process equipment, e.g. conveyors, hand-held tools (manufacturing and wineries)
- Lighting, in particular high bay lighting (all industry sectors).

Capabilities to minimise or shift demand

Many businesses indicated that there were significant limitations in their ability to minimise or shift demand (to off-peak periods), due to a variety of reasons including:

- The type of equipment used and the critical nature of this equipment to operations (particularly in manufacturing, where low-demand options for demand-intensive equipment such as refrigeration plants are non-existent)
- The 9-to-5 operating hours that are expected by both employees and customers (i.e. it is near-impossible to "off-peak" customers)
- The seasonal nature of the industry sector corresponding with peak-demand periods (for example, the wine industry's vintage period occurring between January-April).

Other businesses interviewed were more accommodating to such opportunities, many of whom have identified possible improvements to their business such as:

- Upgrading ageing equipment (e.g. old air conditioning and refrigeration systems) or upgrading to more energy efficient technologies, such as LED lighting
- Installing solar PV; of the participating business 28% already have solar installed, which is assisting in reducing consumption and off-setting a portion of demand. The majority of businesses with solar installed did investigate battery storage, however none have pursued the option due to:
  - uncertainties in the technology types/maturity levels
  - limited export from solar system (i.e. site uses majority of energy generated), and
  - the high cost of the technology with limited return on investment potential.

  Of the businesses that didn't have solar installed a further 36% had investigated the option in the past, however decided it was not feasible for a number of reasons including:
  - Physical/environmental constraints (e.g. shading, dust, availability of roof space)
  - Heritage-listed buildings preventing installation
  - The business-case/return on investment was not competitive versus other investments, and
  - The cost impact of moving to a demand-based tariff as a result of installation was too high.

  The remaining 36% of businesses had not investigated solar, primarily due to the premises being rented or leased.
- Changing staff behaviour to only use equipment when required, though this remains problematic for several industry sectors, such as medical, manufacturing and wineries.

Demand re-set and opt-in features

The monthly demand re-set was well-received by all participants. The wine industry was particularly in favour of this due to their high peak demand during vintage (typically February – April) that can be up to 3 times higher than their non-vintage maximum demand.

When asked about opting-in to the demand-based tariff every business responded with the same answer -- they would not opt-in without first clearly understanding what their maximum demand is and the resulting cost implications.

[2] *Based on limited electricity bill and load profile data for 16 facilities across all key sectors*

Cost implications to SME businesses under each tariff option

The industry engagement process was accompanied by a quantitative analysis[2] of the potential cost implications of the TSS on SME businesses between 40-160MWh, across the tariff options of:

- Transition usage-based tariff (single rate or 2-rate for customers with an old accumulation meter)
- Transition demand-based tariff (with demand charges at 40% of final value for 2018-20)
- Fully cost-reflective demand-based tariff (with demand charges at 100% of final value).

The results from the quantitative analysis are illustrated in Table 1 overleaf and Figure 1 on page 10.

Table 3: Tariff analysis results

Industry sector	Annual consumption (kWh)	Estimated max demand (kW)	Transition Usage Tariff		Transition Demand Tariff		Full cost-reflective demand tariff	
			Difference ($)	Difference (%)	Difference ($)	Difference (%)	Difference ($)	Difference (%)
Medical	42,274	20	$473	3.6%	-$374	-2.8%	-$378	-2.9%
Retail/wholesale trade	42,350	16	$671	4.8%	-$995	-7.1%	-$671	-4.8%
Hospitality and tourism	42,541	20	$491	4.9%	-$89	-0.9%	-$368	-3.7%
Medical	44,864	22	$630	4.6%	$58	0.4%	$121	0.9%
Manufacturing	46,072	29	$887	7.1%	-$59	-0.5%	$369	3.0%
Admin and support services	48,146	30	$505	4.6%	$199	1.8%	-$65	-0.6%
Medical	49,508	26	$554	5.4%	-$246	-2.4%	-$85	-0.8%
Manufacturing	53,289	44	$981	7.3%	$1,907	14.1%	$769	5.7%
Manufacturing	63,719	18	$717	4.3%	-$1,265	-7.6%	-$2,052	-12.3%
Winery	70,104	55	$875	4.7%	$431	2.3%	-$17	-0.1%
Retail/wholesale trade	75,838	22	$794	3.7%	-$261	-1.2%	-$1,141	-5.3%
Retail/wholesale trade	83,206	60	$1,335	5.1%	-$462	-1.8%	-$523	-2.0%
Winery	85,111	41	$1,445	7.4%	-$1,861	-9.5%	-$4,147	-21.2%
Winery	88,702	147	$851	3.8%	$3,051	13.8%	$5,544	25.1%
Retail/wholesale trade	150,701	75	$1,717	3.0%	-$799	-1.4%	-$2,409	-4.3%
Winery	159,626	112	$1,766	4.9%	$676	1.9%	$1,095	3.1%

NOTE: Businesses that will achieve a saving in electricity costs have been highlighted in green, while businesses that will see an increase in electricity costs have been highlighted in red.

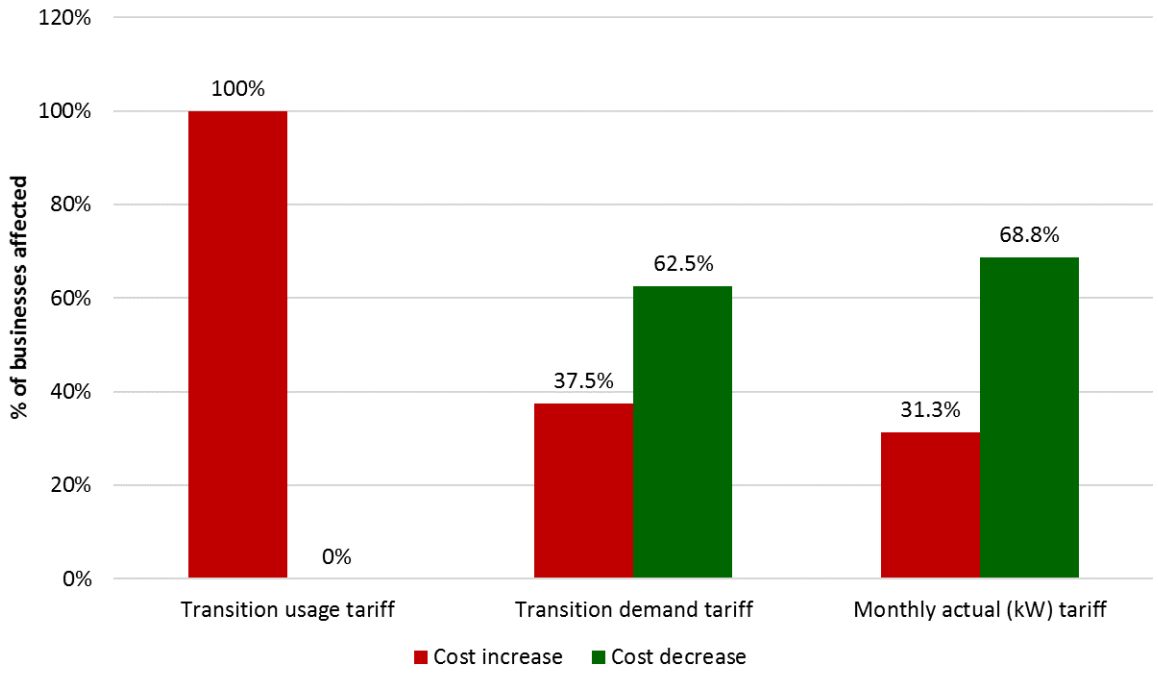

Figure 1: Impact of cost reflective tariff prices vs current prices

As can be seen, under the transition usage-based tariff all businesses would be worse-off with a cost increase of between 3-8% ($470-$1,800 per annum) on current electricity costs. Under the transition demand-based tariff, approximately 37.5% of businesses would experience a cost-increase of between 0.5-14% ($60-$3,100 per annum), with the remaining 62.5% experiencing a cost-decrease of between 0.5-10% (i.e. reduction in annual electricity cost between $60-$1,850). If businesses were to opt-in to a fully cost reflective tariff, approximately 31% of businesses would experience a cost-increase of between 1-25% ($120-$5,500 per annum), with the remaining 69% experiencing a cost-decrease of between 0.5-21% (i.e. reduction in bills of between $17-$4,150 per annum).

Interpretations

The limited understanding of the concept of demand within the SME business community, coupled with the current limited uptake of advanced interval metering, will make it difficult for these businesses to assess the impacts of the proposed demand-based tariffs on their operations. Without the ability to assess such impacts, SME businesses tend to be skeptical of changes to electricity tariff structures as their immediate impression is that they will be negatively impacted. Even though the quantitative analysis undertaken (as exhibited in Table 3) would indicate that the majority of businesses will be better placed on the proposed demand-based tariff. The absolute cost-savings estimated (in particular for businesses under 80MWh) do not appear compelling- enough for a business to justify taking the risk of purchasing an advanced interval meter, unless they are absolutely certain that they will benefit from the move (which is impossible without an advanced interval meter – hence a 'catch 22' situation). Without some level of certainty as to how the move will impact their businesses, and/or the promise of significant cost savings (thousands of dollars in savings, rather than hundreds of dollars, presents a much better risk-reward scenario), most SME businesses would struggle making the decision to move to a demand-based tariff (through advanced meter installation) and risk an increase in their electricity costs, despite SAPN's analysis that there will be more 'winners' than 'losers' from the move. As a result of all of these constraints, there is likely to be very limited uptake of the "opt in" option, with the majority of businesses choosing to remain on the transition usage tariffs unless they are forced to move.

Considering these findings and feedback from the SME businesses interviewed, Business SA has further addressed the following 'Questions to Stakeholders' posed by the AER in its Issues Paper (dated March 2016):

Will customers be able to understand the new tariffs to relate their use of electricity to these tariffs and decide how to respond?

The concept of energy demand (and how this may get reflected in their electricity bills) is a relatively new concept for the majority of SME businesses; this lack of prior knowledge will make understanding the new tariffs difficult for businesses. The limited understanding of what their potential maximum demand may be (in the absence of an advanced interval meter), and how this impacts on their total electricity costs, will hinder the uptake of the new tariff structure.

The suggestion was raised by the Electricity Advisory Panel to allow businesses to remain on a usage-based tariff when an advanced interval meter is installed. We suggest revisiting this option and considering it for inclusion within the TSS, as this approach would allow businesses with the option to install a smart meter without being placed directly onto a demand-based tariff, providing them with a transition period where they are able to measure and monitor their demand prior to selecting a tariff. Additionally, the idea was put forward by SME businesses of having an opt-out clause; this may be well-received as it would assist in removing any reluctance to opt-in to a tariff if they were potentially significantly worse-off.

What are the advantages and disadvantages of the proposal to have a minimum level of demand in demand based tariffs instead of including a direct fixed charge component?

Realistically, there may not be much of a cost difference between a fixed supply charge and the proposed 1kW minimum demand charge. However, the concept of eliminating fixed charges from electricity tariffs is generally welcomed by most businesses.

What are the advantages and disadvantages of calculating a demand tariff over a narrow 30min period as opposed to two hours as SA Power Networks intends to explore?

The 30min period provides continuity between tariff structures across both large and SME businesses, allowing all businesses to be treated equally. However, the short 30min period requires businesses to manage their demand more closely as the window is more sensitive to a spike in demand than a 2hr period. SME businesses would respond favorably to increasing the demand window to 2hrs as there is less pressure for them to manage demand as tightly. As per earlier recommendations, businesses need more education around managing demand; if this is fulfilled then the demand window becomes less of an issue.

What are the advantages and disadvantages of SA Power Networks offering additional opt-in tariffs, including more cost reflective variants of the proposed demand tariff or other tariff designs?

Having additional tariff designs provides the advantage of allowing businesses to select a tariff that suits their demand profile and operating constraints.

In addition to the capacity-based tariff option, some stakeholders have made mention of Critical Peak Pricing (CPP) as an alternative tariff option. The proposed tariff reforms do not use CPP, however SME businesses would be interested in exploring this option if were best suited to their operating conditions.

While there are some clear advantages of additional tariff options, the lack of knowledge of electricity tariffs and demand may result in SME businesses becoming unnecessarily confused from being provided 'too many' options.

Are there practical impediments to offering a menu as opposed to a set of opt-in tariffs?

Similar to our response in the previous question, the concept of having a "tariff menu" sounds good in theory as it provides flexibility and choice for businesses, but in reality this might be hard for businesses to digest. The general lack of knowledge within the SME business community regarding electricity tariffs and how different tariffs may impact on overall electricity costs may make the process of selecting a tariff difficult for businesses. SME business are typically time-constrained and resource-poor, and therefore have relatively little time to spend in evaluating different tariff options. This was evident from the consultation process that revealed 30% of participating business typically accepted contract renewals from retailers without undertaking any form of market research.

Recommendations

Based on the findings obtained from our engagement with SME businesses on the proposed demand-based tariff structure, Business SA makes the following recommendations:

1. Education & capacity-building. To overcome the lack of knowledge in understanding the concept of electricity demand (as it relates to their electricity bills) and opportunities to manage/shift demand, we strongly recommend that SAPN support Business SA and SAWIA in the implementation of a formal program of education and capacity-building. This program would be specifically targeted to SME businesses, and would provide them with the necessary information and tools to help them understand their existing demand patterns, explore options to manage their peak demand and enable them to make informed decisions as to which tariff option is best suited to their business. Supporting such a program would be in SAPN's interests, in order to improve the uptake of tariff reforms amongst the business community and reduce public backlash. This program should commence prior to July 2017 and run for at least the first 12 months of the transition period (i.e. 2017-18). Where appropriate, the support of such a program should be formally recognised in SAPN's proposed tariff roll-out strategy.
2. Installation of smart meters without triggering a transition. Consideration should be given into the possibility of allowing businesses the option of installing an advanced interval meter, without triggering a transition to a demand-based tariff, and allowing them to monitor and understand their consumption and demand profile over the period of a year before they decide whether to opt-in to the fully cost-reflective tariff or transition demand tariff, or remain on the consumption usage tariff. SAPN or the retailer could automatically put the customer onto the tariff that works best for their individual needs (given the information gained from the smart meter).
3. Consideration of an 'opt-out' clause. In order to encourage the transition to fully cost-reflective tariffs, SAPN and retailers may wish to consider the option of offering an 'opt-out' clause to provide businesses with the flexibility of trailing the new tariff structure, in order to determine whether they are better- or worse-off (and if the latter is the case, reverting back to a usage-based tariff).

2.2. Proposed demand Time of Use periods

For the proposed demand-based tariffs, SAPN are proposing the following demand Time of Use (ToU) periods for monitoring maximum demand:

- Transition demand tariff – 12noon to 9pm on working days all year round
- Monthly actual kW demand tariff
  - Summer Peak ToU, which applies from 12noon to 9pm on working weekdays over November to March
  - Winter Shoulder ToU, which applies from 12noon to 4pm on working weekdays over April to October.

Findings

All SME businesses interviewed indicated that they have set trading/operating hours based on customer and process requirements. The typical operating hours (when staff are present) across each industry sector is highlighted overleaf in Table 4. Only the tourism & hospitality industry sector was observed to operate after 6pm on working days (Mon – Fri). This was also the only industry sector that operated consistently on non-working days (i.e. weekends and public holidays).

Table 4: Typical operating hours across industry sectors

Industry Sector	Operating hours																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Admin & support services																								
Manufacturing & Agriculture																								
Medical																								
Retail/wholesale trade																								
Tourism & Hospitality																								
Winery																								

Based on their hours of operations, businesses were asked to estimate when their peak demand was likely to occur, a summary of their responses is illustrated overleaf in Figure 2. The majority of businesses agreed that the proposed shoulder demand ToU period was largely reflective of their highest demand periods, with over 70% of participants indicating that this is likely to be between 12 noon and 4 to 6pm (depending on operating hours). Businesses were uncertain about the peak demand charge over the 12noon to 9pm ToU window (proposed over the transition period and under the fully cost-reflective scenario), as they felt this was not reflective of their operating hours; with exception to tourism and hospitality, most other industry sectors operate over a 6am-6pm ToU window.

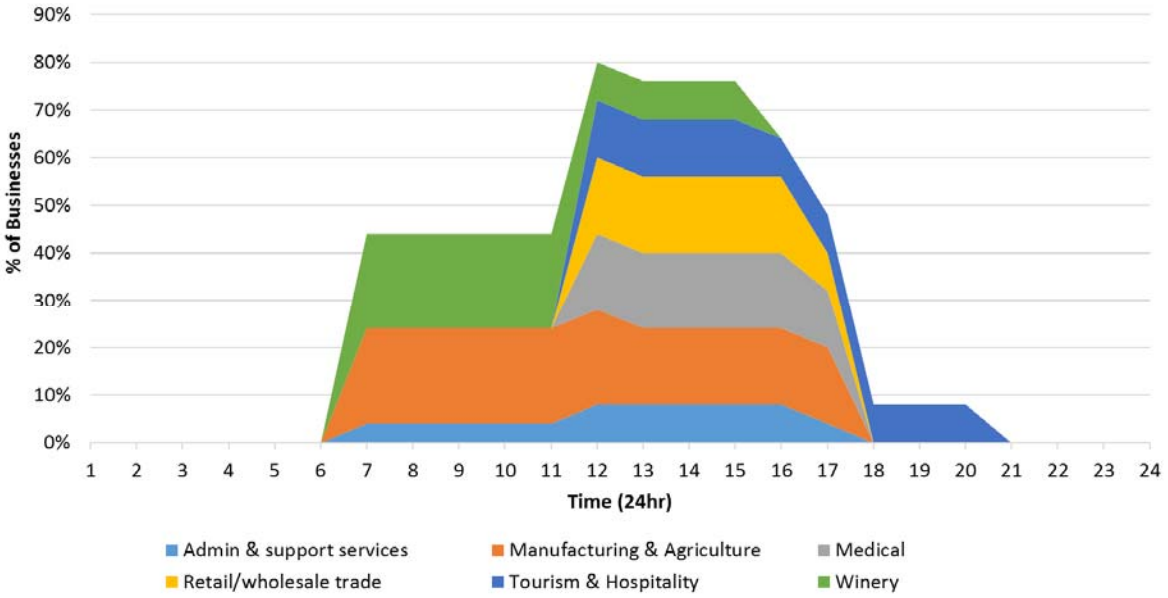

Figure 2: Business views on when their peak demand occurs

Businesses were asked if they had an ability to shift their demand outside of the proposed demand ToU periods. The majority of businesses indicated that this would not be possible as they have set operating hours with their peak demand being linked to either maintaining customer needs and expectations (such as patient comfort in medical facilities), or critical to maintaining production process and product quality (for example, two wineries had previously explored the option of starting production earlier in the day, however the electricity savings were not significant enough to outweigh the higher labour penalty rates).

Interpretations

The majority of SME businesses, in particular medical, tourism & hospitality and retail/wholesale trade had predetermined operating hours, based on when customers require them to be operational. Rigid operating hours limits a business's ability to shift equipment loads to better manage demand during the proposed demand ToU periods.

The proposed winter shoulder demand window (12-4pm, April to October) aligns with businesses views on when their peak demand is likely to occur. However, the proposed summer peak demand ToU windows (12-9pm year-round during the transition period, and from November-March under fully cost-reflective tariff) are less cost-reflective as the majority of businesses (the exception being tourism & hospitality) are non-operational for between 3-4 hours of the proposed period. A review of SAPN's small business demand profile (Figure 2 – customer segment MW demands on 16th Jan 2014, on page 18 of the TSS) would support this as business demand decreases in late afternoon, with the residential demand significantly outweighing SME business demand from 4pm onwards. Having the ToU periods extend to 9pm (rather than end at 5pm) give the perception that SME businesses are cross-subsiding residential demand, which from SAPN's analysis is the significant driver of demand (rather than business) from 4-9pm (with technologies such as residential air conditioning a major contributor to demand).

Considering these findings and feedback from the SME businesses interviewed, Business SA has further addressed the following 'Questions to Stakeholders' posed by the AER in its Issues Paper (dated March 2016):

Does the tariff statement sufficiently inform stakeholders on the times, days and months when the network is likely to be under most stress and therefore the ideal timing of the charging windows?

While the TSS does inform stakeholders on the times, day and months when the network is under the most stress, the information only begins to be presented on page 17. As the majority of SME businesses are time-poor, it is unlikely that they would take the time to scroll through the TSS until they find this information.

The TSS illustrates that SME business contribute the majority of daytime demand up to 4pm when residential takes over, which aligns with the proposed summer peak demand charging window. However, no clear explanation has been provided as to why the peak demand charging windows are set until 9pm for businesses, as clearly residential is driving a significant majority of demand from 5-9pm, relative to business.

What are the advantages and disadvantages of the 'transitional' demand tariff (being assigned to certain customers) not reflecting seasons (that is, not charging higher summer vs winter)? And

What are the advantages and disadvantages of the 'transitional' demand tariff (assigned to customers), having its level increasing over 6 years, and not reflecting a higher summer vs winter charge?

The "transitional" demand tariff makes the demand-based tariff structure simpler for businesses to understand, and the lower cost for the first few years will assist in reducing the potential cost impact on businesses that are reassigned.

However, by not reflecting the seasonal cost variation and charging windows, this will require business to adjust a second time when the transition period comes to an end. This may cause confusion and potential tension within the SME business community as they have started to adjust to transition tariff and then the structure is changed again within a relatively short timeframe.

Recommendations

Based on the findings obtained from our engagement with SME businesses on the proposed demand ToU periods, Business SA makes the following recommendations:

1. Review peak demand charging window to better reflect business operations. 70% of participants indicating that there maximum demand period is likely to be between 12 noon and 4 to 6pm. SAPN should consider reviewing the peak demand charging window for business, to better reflect the standard operating hours of businesses (illustrated as predominately 8am–5pm) and reduce the potential for cross-subsidising residential demand. The TSS currently proposes a peak demand window for business from 12-9pm, which does not seem cost-reflective given that (from SAPN's own analysis) business demand decreases around 4pm, with the residential demand significantly outweighing business demand from 4pm onwards. SAPN should review the peak demand window to ensure that businesses are not cross-subsidising residential demand, and adjust the window to better reflect whether business or residential is driving demand (e.g. adjust peak demand for business from 12-5pm).
2. Communication with businesses at the end of the transition period. Provision should be made for additional consultation and communication towards the end of the transition period to inform and educate businesses on the tariff changes once on the fully-cost reflective tariff (i.e. going from one demand charge from 12-9pm across the whole year, to two demand charges – shoulder and peak – charged at different months of the year and times of the day).

2.3. Proposed transition period & assignment triggers

SAPN are proposing a transition period of 6 years, beginning in July 2017, with all business with electricity consumption greater than 40MWh being transitioned to 100% fully cost-reflect tariffs by June 2023.

For the first year (2017/18) only new customers and existing customers that make alterations to their supply will be reassigned to the transition demand tariff. Alteration triggers include:

- Physical changes to supply/metering
- Installation of solar PV above 2.5kW
- Installation of equipment above 25amps.

From July 2018 onwards all businesses that have an advanced interval meter (Type 1-5) will be reassigned to the transition demand tariff. Businesses without an advanced interval meter (Type 6) will move to a transition usage tariff (i.e. charged by consumption only, in $/kWh) until such time when an advanced interval meter is acquired.

Findings

Proposed transition period

The businesses interviewed responded well to the concept of having a transition period, in particular that demand would only be charged at 40% of fully cost-reflective prices during this time. Concern was raised around the start date of the transition period (July 2017), primarily due to their very limited level of understanding around what their peak demand may be and how they could go about minimising the cost impact on their business once the transition period begins. Many businesses indicated that even once they understand what the cost implications of the new tariff structures would be to their business, they would need between 12-18 months to adequately plan and raise the appropriate capital to invest in business improvements that reduce demand. 90% of the businesses interviewed indicated that, until they were approached by Business SA for this industry consultation process, they had no prior knowledge of the reforms that SAPN were proposing, effectively suggesting that they may need more time (e.g. via extending the start date of the transition period) to understand the cost implications and prepare for the necessary investments in their business.

Reassignment triggers – installation of equipment >25amps

The reassignment trigger of installation of equipment >25amps was not well-received by businesses. 20% of the businesses interviewed, predominately from the manufacturing and wine industries, indicated they would be reluctant in pursuing investment in any kind of new equipment as a result of the trigger. Other industry sectors indicated this trigger was not currently relevant for them as they were not planning any upgrades over the next few years.

Reassignment triggers – supply alterations and solar PV installation

Several businesses indicated that they would like to install an advanced interval meter to better understand their demand, however they were against automatic reassignment as they were fearful that their electricity costs would increase as a result. Additionally, businesses that were considering solar PV to reduce electricity costs, would have to re-evaluate the business case due to the lower consumption charge c/kWh on the demand- based tariffs.

Consumption thresholds

The businesses interviewed represented a range of energy consumption levels. Quantitative analysis of the proposed tariff structures (across usage-based, transition demand and fully cost-reflective demand tariffs) on annual electricity costs for 16 businesses; revealed that the impact did not favor a particular consumption volume (refer to Table 3 on back on page 9). For example, smaller businesses (40-60MWh range) were negatively affected as much, by way of % in annual electricity cost increase, as larger businesses (100-160MWh).

Interpretations

As mentioned previously the majority of businesses are unaware of what their demand profile is and how this relates to the proposed demand-based tariffs. Businesses need time to adequately understand their demand profile, identify potential opportunities to manage/minimise peak demand and action initiatives (e.g. change staff behavior, invest in energy efficient equipment etc.); for the majority of participating businesses this is not possible within the proposed transition timeframe, given the current lack of information in the market on these reforms and any kind of incentives to install advanced interval meters.

Installing an advanced interval meter will enable businesses to be able to understand their peak demand. Alternatively, they may wish to pay for temporary monitoring of their supply, however this may also prove costly if the monitoring equipment/services are leased for a long period of time. The automatic reassignment based on upgrading meters may be counterproductive to SAPN's objectives as SME businesses are unlikely to risk investing in equipment that in their view may leave their business with higher electricity costs.

There are serious concerns around trigger reassignment from installing equipment over 25amps. Such a trigger may lead to businesses postponing or forgoing upgrades to their facilities (particularly those that help the business grow) from fear of the potential cost implications from reassignment. Such a reaction from business is not conducive to fostering a business environment which should be stimulating business investment (not hindering it), particularly in a struggling economy like South Australia's. This concern is shared across the key industry sectors interviewed, but especially relevant to industries exposed to high-costs and cost-competitive markets, such as manufacturing and wineries. SAPN must not unnecessarily jeopardise the future growth of SME businesses, which make-up a significant proportion of economic activity and jobs in South Australia, with tariff reforms that hinder their ability to make sound investment decisions.

The fact that the proposed tariff structures do not discriminate between consumption volumes can be taken as either a positive or a negative - positive in the sense that the tariffs may not unfairly target a particular size of business, and negative in that the smaller businesses (with smaller budgets and bigger constraints) are affected just as much as bigger businesses (with better access to capital). The earlier consultation paper prepared by SAPN show the distribution of businesses that would be positively and negatively affected (% increase against current prices) based on their consumption volumes. The graphs illustrate that a higher proportion of business below 60MWh are negatively affected by the proposed tariff, than above 60MWh. These graphs are not presented in the TSS and it is unclear from the information provided in the TSS as to why the >40MWh threshold has been selected, i.e. to what extent are businesses with annual electricity consumption between 40-60MWh significant contributors to peak demand, versus companies between 60-160MWh. Additionally, Business SA are interested to learn of any analysis that SAPN may have conducted on scenarios where a business, that consumes >40MWh and is moved to a demand-based tariff, eventually reduces its energy consumption to <40MWh (either through efficiency or a decline in business growth/activity). Does that business get moved back to a consumption-based tariff or remain on a demand-based tariff? And if the latter is the case, what is

the impact of the demand-based tariff on businesses <40MWh? SAPN's analysis states that over 45% of businesses within the 10-40MWh range are worse-off on a demand-based tariff; businesses are therefore at risk of being worse-off on a demand-based tariff if they were to remain on such a tariff whilst reducing their energy consumption to below 40MWh per year. SAPN may therefore wish to consider including some form of 'opt out' clause if they reduce their consumption to less than 40MWh (and are worse-off under a demand-based tariff).

Considering these findings and feedback from the SME businesses interviewed, Business SA has further addressed the following 'Questions to Stakeholders' posed by the AER in its Issues Paper (dated March 2016):

What are the advantages and disadvantages of assigning a demand tariff to customers consuming above a threshold or triggering an assignment by having a new/altered connection?

As mentioned above, triggering assignment based on an altered connection may negatively affect the appetite of business to invest in expanding/growing its own operations, unless they are able to obtain an understanding of the impact that a move to a demand-based tariff will have on their overall cost-base (once the new equipment is installed). In order to obtain this understanding, an advanced interval meter must be installed; however once this is installed, assignment to a demand-based tariff is triggered. SAPN should consider the option of excluding certain types of equipment from the 'trigger list' for a period of time (such as refrigeration equipment for SME food/beverage manufacturers and wineries), in order to enable trade-exposed businesses to better understand their demand profiles and improve cash flows to deal with the inevitable impacts that the move to cost-reflective tariffs may bring.

What are the advantages and disadvantages of new investment customers' and customers consuming above a threshold being automatically assigned a new demand tariff?

Triggering an assignment for a new connection may not present as much of an issue to a new business, given that they may not have a previous electricity cost baseline to compare against.

With respect to consumption thresholds, it is not clear from the TSS as to why the >40MWh threshold has been selected, particularly given that the tariff reforms are based around demand, not consumption. Without clarification from SAPN as to why this threshold was selected, it is difficult to ascertain the advantages and disadvantages of consumers consuming above this threshold to be automatically assigned a new demand tariff.

Will customers sufficiently understand the proposed triggers and thresholds for being assigned a demand tariff at the time of making investment (e.g. solar panels, 3-phase power etc.) What practical challenges might result?

At the current level of knowledge prevalent in the SME business community, it is unlikely that there will be sufficient understanding on the proposed triggers and thresholds at the time of making investment. The practical challenges that may result is that businesses are making upgrades based on incomplete businesses cases that may leave them worse-off in the long run.

Do existing customers require greater protection from tariff change impacts compared to new customers or customers making new investments (such that they might require a new smart meter)? And

Do existing customers require a greater protection from the impact of tariff changes than customers who are new or making significant investments?

Based on engagement with businesses through this industry consultation process, existing customers and customers making new investments require greater protection from tariff change impacts. Existing businesses are operating within the constraints of existing infrastructure and operations with limited understanding on their demand and how to manage/minimise the associated cost impacts. Additionally, it is important to the South Australian economy that the tariff changes are not negatively affecting the appetite

of businesses to invest in upgrades that foster growth; the proposed >25amp trigger may result in the unintended consequence of businesses delaying or foregoing investment decisions, due to a lack of understanding as to how the move to demand-based tariffs will affect their cost base.

New connection customers are required to install an advanced interval meter to meet the meeting requirements for new connections. Furthermore, they may have greater flexibility to manage their potential maximum demand as part of the business set-up planning.

Has SA Power Networks sufficiently customised its customer impact information identifying the benefits of opting-into a demand tariff or merit of proposed transitions for customers assigned a demand tariff?

The customer impact information provided by SAPN has provided some level of information with respect to identifying the quantitative benefits of opting-into a demand tariff, however this information is high-level and not readily accessible by or communicable to SME businesses. It is understood that during SAPN's original business consultation process that specific examples were presented on the potential cost impacts for a range of SME businesses types; since this consultation these case examples have not been further used. Both SAPN and businesses would stand to benefit by SAPN providing a set of 'load profile examples' to demonstrate what kinds of businesses might be better off or worse off (this may then spark interest amongst businesses to install an advanced interval meter to determine their load profile).

Recommendations

Based on the findings obtained from our engagement with SME businesses on the proposed demand transition period and assignment triggers, Business SA makes the following recommendations:

1. Revise assignment equipment install >25amps. SAPN should consider revising the >25amp assignment trigger threshold for major alterations, in order to prevent dis-incentivising businesses from investing in business improvements and capital upgrades that lead to business growth. Ideally the removal of this trigger is the most preferable option, however if the trigger is retained then it is suggested to limit the assignment trigger to particular types of equipment that are major contributors of demand (e.g. air-conditioning equipment).

2. Revise assignment supply alteration trigger. SAPN should consider an option for businesses to undertake a non-mandatory reassignment of upgrading meters for a predetermined period of time (e.g. 1 year) to allow them to gain an understanding of their load profile and assess the potential cost impacts from the transition and fully cost-reflective tariffs.

3. Provide further explanation on the reasoning behind the consumption threshold. It is not clear from the TSS as to why the >40MWh threshold has been selected, particularly given that the tariff reforms are based around demand, not consumption. SAPN should provide adequate reasoning as to why this threshold was selected, and to what extent are small energy users (e.g. those between 40-60MWh) are significant contributors to peak demand, versus larger energy users in the 40-160MWh consumption range.

4. SAPN to provide a clear position on what would happen if a business decrease consumption below 40MWh after being placed on a demand-based tariff. SAPN's analysis states that over 45% of businesses within the 10-40MWh range are worse-off on a demand-based tariff; businesses are therefore at risk of being worse-off on a demand-based tariff is they were to remain on such a tariff whilst reducing their energy consumption to below 40MWh per annum (either through energy

efficiency improvements or a decline in business growth/activity). Accordingly, Business SA is seeking clarification from SAPN on what the process would be if a business decreased their consumption to below 40MWh after being assigned to a demand-based tariff. This issue could be overcome by including some form of 'opt out' clause if they reduce their consumption to less than 40MWh (and are worse-off under a demand-based tariff).

5. Extend the commencement or the duration of the transition period. In the absence of other recommendations listed above (and previous sections) being adopted, businesses need time to adequately understand their demand profile, identify potential opportunities to manage/minimise peak demand and action them. Evidence from the majority of businesses that participated in Business SA's stakeholder interviews, is that this level of preparation is not possible within the proposed transition timeframe, given the current lack of information in the market on these reforms and any kind of incentives or packages offered by retailers to install advanced interval meters. SAPN may wish to consider revising the commencement date or duration of the transition period; and coupled with the education/capacity-building program suggested in earlier recommendations, this may improve the ability of businesses to respond to the tariff reforms, and hence support SAPN's proposed adoption rates under the TSS.

2.4. Metering requirements

SAPN are proposing to reassign all small/medium businesses with an advanced interval meter (Type 1-5) onto the transition-demand tariff by 2023 or if businesses wish to continue using their existing accumulation meters (Type 6), they will be placed onto the transition usage tariff.

Findings

Overall 56% of participating businesses currently have a traditional accumulation meter (Type 6) installed. Table 5 below, highlights the breakdown of meter types installed between industry sectors. The majority of businesses with a Type 6 meter were typically at the lower-end of the consumption threshold.

Table 5: Breakdown of installed meter types

	Type 1 - 4	Type 5	Type 6
Retail & Wholesale trade	2	0	4
Admin & support services	3	0	2
Tourism & Hospitality	2	0	1
Medical	0	0	5
Wineries	2	2	1
Manufacturing & Agriculture	0	1	2
Total[3]	9 *(33%)*	3 *(11%)*	15 *(56%)*

[3] *Some businesses interviewed have multiple meters for their premises*

During the consultation process, businesses were asked if they knew what a "smart"/ advanced interval meter was. Over 50% of participating businesses were not aware of what a "smart' meter is and its capabilities. The businesses that have a Type 1-5 meter, most were unaware of the capability of their meter (e.g. were unaware that they could read their daily demand directly from their meter, or access half-hourly interval data).

All businesses interviewed indicated that they would be unwilling to pay for the installation of an advanced interval meter. Additionally, several businesses were of the opinion if an advanced interval meter is required under the new tariff structures then these should be provided free or at a subsidised cost. Businesses on a Type 6 meter, highlighted that for them to invest in purchasing an advanced interval meter there would need to be a clear businesses case with a reasonable payback, otherwise they couldn't justify the expense. Furthermore, businesses on a Type 6 meter felt that they would not risk triggering reassignment from installing an advanced interval meter without first understanding their demand profile.

For the participating businesses with a Type 6 meter, remaining on the transition usage tariff will potentially increase their annual electricity cost by between 3-7.5% ($470-$1,800 per annum).

Interpretations

Businesses with a Type 6 meter installed are at a disadvantage as there is limited information available for them to investigate the potential cost impacts (positive or negative) from the proposed tariffs. To have the required information to make informed decisions they require an advanced interval meter, however this would be an upfront investment for the businesses to install such a meter which is unlikely to occur if businesses cannot determine if they will be positively or negatively impacted. The likely outcome is that these businesses would remain on the transition usage tariff as it is the easier option.

Businesses that have a manually-read Type 5 meter are also at a disadvantage as these meters are capable of recording demand but the data is not remotely recorded; if these businesses wish to understand their demand profile they will need to manually record daily readings.

Business with a Type 1-4 meter are much better placed to evaluate the potential impacts from the proposed demand-based tariffs once they understand the capabilities of their meter and how to access their data.

Considering these findings and feedback from the SME businesses interviewed, Business SA has further addressed the following 'Questions to Stakeholders' posed by the AER in its Issues Paper (dated March 2016):

Will customers be able to understand the new tariffs to relate their use of electricity to these tariffs and decide how to respond?

> For businesses to adequately understand their electricity use and therefore relate this to assessing the impacts, they require an advanced interval meter. A significant portion of SME businesses (56% of the businesses that participated in this study) do not have an advanced interval meter installed. SAPN outlined in the TSS that less than 1% of customers have an advanced interval meter and highlighted that unlike Victoria there will be not be a compulsory roll-out of advanced inter meters for South Australian customers. Their views are that the new competitive framework for retailer-led roll-out of advanced interval meter will be sufficient to increase uptake in SA, which will come into effect in December 2017 i.e. six months into the transition period, which further delays and hinders the ability for SME businesses to evaluate and respond to the proposed demand-based tariffs.

Recommendations

Based on the findings obtained from our engagement with SME businesses on metering requirements, Business SA makes the following recommendations:

1. Reschedule transition period to align with retailer timeframes. The TSS states that a retailer-led roll-out of advanced interval meter installations will be sufficient to increase uptake in South Australia, however this roll-out may not come into effect until December 2017 i.e. six months into the transition period, which further delays and hinders the ability for SME businesses to evaluate and respond to the proposed demand-based tariffs. SAPN should consider postponing the commencement date of the transition period (e.g. to December 2017 or July 2018) to align with the meter roll-out timeframes proposed for retailers.

2. Run program trialing advanced interval metering with SME businesses. SAPN should consider supporting a broad-scale trial of advanced interval meter installations with SME businesses to provide evidence-based examples to the business community of the impacts and implications of the tariff reforms across key industry sectors and business types/sizes between 40-160MWh. This trial may be conducted in partnership with retailers and Business SA together with key industry associations including the South Australian Wine Industry Association.

2.5. Provision of information and assistance to SME business

Findings

As discussed in the earlier sections of this report, the clear majority of SME businesses interviewed identified themselves as being underprepared to deal with the potential impacts that the tariff reforms may present to the cost of operating their business, for a number of reasons including:

- The public information provided to date by SAPN on the likely impacts of the proposed tariff reforms to SME businesses is overly complex, and hence difficult to understand by the layperson
- The concept of demand is a relatively new and an unfamiliar concept for most SME businesses
- They are unable to provide an indication of what their maximum demand and load profile looks like (due to limitations in their metering), and hence find it difficult to determine the potential impact of demand-based tariffs to their overall electricity costs (and therefore assess the business case for investing in an advanced interval meter, and/or demand-management improvements in their business)
- They are lacking in the technical knowledge on what is possible within their business to reduce peak demand or load-shift to off-peak periods
- They have typically treated their electricity bills with a 'pay and forget' mentality; placing tighter controls on their daily energy consumption will require a shift in business management thinking and practice
- SME businesses are typically time- and resource-poor and find it difficult to spend the time understanding the full extent of these reforms to their business, or implementing improvements to mitigate the impacts, without adequate lead-time to prepare (i.e. 12-18 months).

All businesses interviewed strongly supported the notion of being able to access some form of assistance to improve their understanding of both the potential impacts (both positive and negative) that the tariff reforms may have to their electricity costs, and opportunities to improve their management of electricity demand to improve their overall cost position in the coming years.

Businesses were also asked who they typically turn to for these types of assistance; the graph below outlines the distribution of responses, with the results illustrated below in Figure 3.

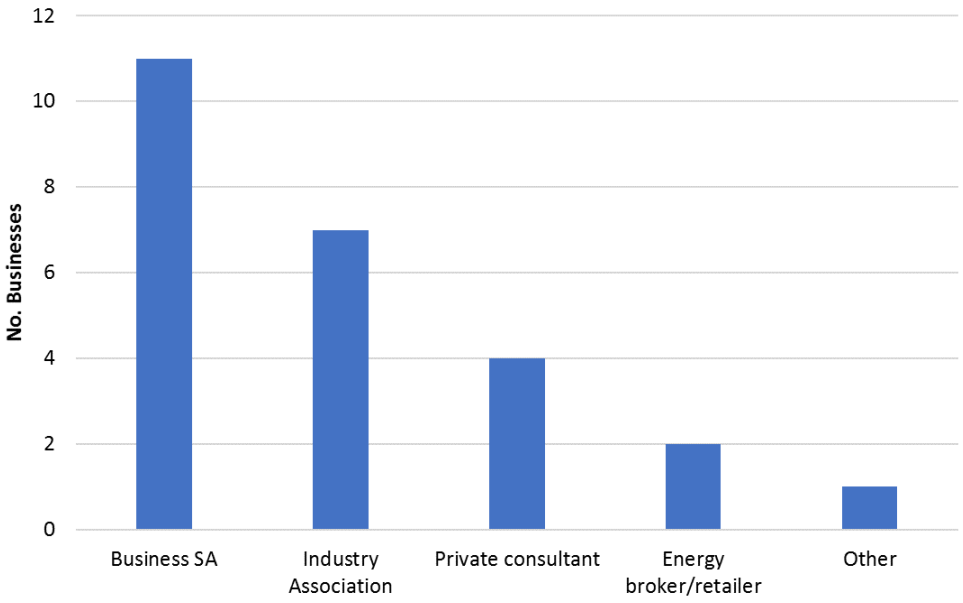

Figure 3: Business preferred assistance providers

Interpretations

Based on the feedback from those interviewed, and coupled with our knowledge and experience of what works with SME businesses, the following types assistance may prove useful in building the capacity and capabilities for businesses to both understand and adapt to the proposed tariff reforms:

- Information: Feedback from businesses suggests that clearer information (using visuals and simple layperson language) should be provided about the proposed tariff reforms including:
    - Understanding demand
    - Tariff structures, and
    - Understand the cost impact of the proposed tariffs on their business

  Businesses also requested information on what might be possible, for businesses of their respective industry sector and size, with respect to implementing technologies (e.g. battery storage) and process improvements to reduce demand and load-shift to off-peak times.

  The preferred methods of information dissemination could include:
    - Information brochures, factsheets and case studies
    - Short workshops/seminar or interactive Q&A sessions.

- One-on-one assistance: Asides from the provision of information, most businesses prefer to have access to some form of one-on-one assistance from a suitably qualified expert (such as an industry association or government advisor, external consultant etc.) to assess the impact of the tariff reforms and identify/implement demand improvements tailored to their business operations and priorities. This one-on-one assistance could be delivered via:
    - Consultation directly to the business, either in-person or over phone/online
    - Consultation as part of a broader group of businesses (e.g. an industry cluster)
    - Development and dissemination of tools that they can use e.g. a 'tariff calculator' to provide businesses with the means of assessing the impact of the tariff reforms on their business (and what type of impact, either positive or negative, might upgrades or demand-improvements have on their overall cost position); such tools could be publically accessible by all businesses (and potentially hosted by organisations such as Business SA).

Recommendations

- Based on the findings obtained from our engagement with SME businesses on the provision of information and assistance to businesses, Business SA makes the following recommendations:

  1. Develop Tariffs Information Pack targeted to SMEs. SME businesses would benefit from key industry bodies such as Business SA, ideally with the support of SAPN, putting together an information pack with coverage of the proposed tariff reforms, their implications (both positive and negative) to SME businesses, steps businesses can undertake to understand how this might impact them, and opportunities to improve the management of their demand. This information pack should be highly visual and use layperson language, and can be used for developing materials such as brochures, fact sheets and case studies, as well as for use in the delivery of workshops/seminars.

  2. Develop 'tariff calculator'. The AER should consider funding for a 'demand tariff calculator' for SME businesses developed through either SAPN or Business SA, to provide businesses with the means of assessing the impact of the tariff reforms on their business (and what type of impact, either positive or negative, might upgrades or demand-improvements have on their overall cost position); this tool could be publically accessible by all businesses (and potentially hosted by organisations such as Business SA).

3. Establish a one-on-one assistance program for SME businesses. The AER should consider funding for Business SA and key industry associations like the South Australia Wine Industry Association to establish one-on-one assistance programs for their membership, providing businesses with the means of accessing support from experts to both assess the impact of tariff reforms on their business, and identify/implement demand management improvements.

Appendix A: Summary of Industry Stakeholder Responses (by Industry Sector)

SME Business interview questions

Section 1: Understanding business' current electricity position
How does your business procure its electricity needs?
What percentage of input costs does electricity represent?
Does your business have a smart meter? If not, have you been approached to install a smart meter?
Over which months of the year is your energy consumption at its highest?
Over which time of the day do you think your energy consumption is at its highest? I.e. 12pm – 4pm 4pm – 9pm 9pm – 7am 7am – 12pm
Do you think your energy consumption will be increasing or decreasing over the next 3 years?
Section 2: Understanding the possible impact of tariff reforms on business'
Where you aware of SA Power Networks proposed transition to cost-reflective tariffs prior to this program?
What do you think of SA Power Networks proposed cost-reflective tariffs?
What issues does your business face in moving to a cost-reflective tariff?
Do you think the proposed transition peak-demand period is appropriate for your industry sector?
What price would your business be willing to pay for the installation of a smart meter to better understand their electricity costs prior to transitioning to cost-reflective tariffs?
Would your business be prepared to opt-in to a cost-reflective tariff without first installing a smart meter to better understand your energy use?
By how much do you think these tariff reforms will either increase or decrease the cost of your electricity bills?
Do you have access to the appropriate amount of information to determine what kind of impact these reforms may have on your electricity bills?
Section 3: Understanding the ability for the business to adapt to tariff reforms
What options are there for your business to manage the move the move to cost-reflective tariffs in order to offset rising costs?
Does your business have solar PV installed? If solar is installed, does it have storage to offset consumption outside of daylight hours? if no storage is installed why not? If solar is not installed, would your business consider solar (with or without storage) to offset grid electricity consumption?
If the move to cost-reflective tariffs leaves you with a higher overall electricity cost are you able to pass this cost onto your customers?
How long do you think it would take the business to make the appropriate changes to its operations in order to manage the move to cost-reflective tariffs?
Section 4: What assistance might businesses require
What assistance would be of most help to businesses in each sector in transitioning to cost-reflective tariffs?(i.e. expert advice on improving load factors and shifting loads or installing peak shaving equipment.)
Who would the business prefer to go to for advice on managing move to cost-reflective tariffs? (i.e. private consultant, SA Power Networks, Business SA or industry association such as SA Wine Industry Association, State Government, Federal Government etc.)

Appendix C

Section 1: Understanding business' current electricity	Admin & support services	Manufacturing & agriculture	Medical	Retail/wholesale trades	Tourism & Hospitality	Wine	Consolidated analysis
How does your business procure its electricity needs?	1 business uses an energy broker to negotiate contracts. 1 business does in-house market research and signs with the retailer that provides the best deal.	Energy is procured mostly through retailers. One business do in-house research to find the best deal.	All four of the businesses go through retailers. All businesses do their own contract management in-house. When the contract is up for renewal they do some investigating for a better price, however not much time is spent doing it. The main reason for this is that it is easier to stay with the same retailer.	The businesses in the retail trade sector all procure their electricity needs from energy retailers. 3 of the businesses do in-house research into current market prices, while the other 2 resign with their existing retailer at the end of contract as they find it too difficult to switch providers.	One party procured its energy through an energy broker the other negotiated with the retailer. Businesses usually sign medium term contracts. Usually 12-24 months	Majority of businesses use an energy broker for procuring electricity. Some businesses in addition to the energy broker undertake in-house reviews of costs to ensure they are getting the best price. Most businesses sign onto a 24month contract.	Businesses produced their energy in two way. Either through a retailer or an energy broker. The most popular option was through retailer, just for the simplicity of it. Businesses with retailers would usually shop around in house for the best deal. Smaller businesses who's electricity bills were lower tended to be less interested in switching retailer to achieve a better cost. Companies with energy brokers were typically ones who used large amounts specifically those in the wine industry.
What percentage of input costs does electricity represent?	Two of the three businesses were unsure, with the third indicated 8% of total business expenses.	Majority of businesses indicated that electricity was a minimal operating cost. One business indicated that electricity was a significant portion of operating expense (this business is also classified as a large user >160MW/h)	The percentage input costs for all retail businesses appears to be between 0.8%-2% (where specific amounts were provided)	The average input percentage that electricity counts for varies depending on what representation the meter covers (e.g. only winery or winery cellar door, vineyard winery etc.), common range is between 4-10% of input costs for the winery alone. One premises it is very low at 0.5%, due to solar and winery operations (only process red so they can turn refrigeration plant off outside of vintage).	Electricity contribution to operating expenses depending on the size of the business, for the two larger businesses electricity accounts on average 4.5% of total operating costs. The third businesses is significantly smaller in size with electricity accounting for less than 1%.	For those in Retail/wholesale and Admin their electricity input costs were equal to 2% or less. For Manufacturing & Agriculture, Tourism & Hospitality and Medical their total costs for electricity were about 4-6% of their expenses. The response from the wine industry were very skewed. One winery saw their input at about 0.7% due to their PV systems. All others sat considerably higher one half of the other sat at 4-5% with the other two at 8-10%.
Does your business have a smart meter? If not, have you been approached to install a smart meter?	Two of the businesses have an advanced interval meter, while the third has an older style accumulation meter.	Majority of businesses did not have a smart meter as were also unware of the purpose of a smart meter. The only business which had a smart meter was the large user >160MW/h which is already on a demand-based tariff.	None of the businesses have smart meters and none have been approached to install one.	Both the knowledge and use of smart metres varied to a great degree within the retail/wholesale industry sector. Several businesses were unware that they had a smart meter installed and what it was capable of doing. Businesses had not been approached to install a smart meter.	Smart meters are installed at both large businesses. One of the businesses actively accesses their demand profiles through their energy broker.	Majority of wineries have a smart meter. Some wineries had them installed at the same time as their solar PV system.	The response on smart meters gave some interesting results. Lots of businesses didn't have and hadn't heard of smart meters, only the smaller percentage of those who did already have them installed knew the purpose of them, however were still not aware for their full capability. Several businesses had them installed as part of their solar installation.
Over which months of the year is your energy consumption at its highest?	Most businesses indicated the summer (Nov - Apr) period due to high contribution of electricity consumption coming from air conditioning	Consumption appears to be pretty consistent throughout the year. Businesses which had air conditioning indicated that their consumption would probably increase a little over summer.	Summer and Winter are the periods of the year when energy consumption is at its highest. It's due to HVAC systems cooling or warming the facilities. All businesses felt it was important to maintain their patient comfort during treatment.	For businesses with large percentage of facilities being office or retail space their energy consumption was usually constant and predicable. A higher use in summer with the air-conditioning and heating in winter. However where operations required cool rooms or freezers as well the consumptions increase in summer.	Predominately the warmer summer months have high energy consumption from the use of air-conditioning (which is on high demand).	For all the wineries the vintage was the time of greatest consumption. For most it began in Dec/Jan going until April at the latest. The major contributors to electricity consumption and demand were identified as: - Refrigeration systems - Compressed air systems (used for pressing) - Pumps - Crush	Across all industries electricity consumption and therefore demand was expected to be at its highest during summer as the majority of demand was linked to refrigeration and HVAC systems during this time. The only other time of year was in winter for heating of offices. With most of the energy use for heating and cooling of offices, consumption was for the most part pretty constant. The wine industry has alternative reasons for the higher use and this was due to their vintage over this period. When they operated all of their equipment. Vintage was usually anytime from December until April.
Over which time of the day do you think your energy consumption is at its highest? I.e. 12pm – 4pm 4pm – 9pm 9pm – 7am 7am – 12pm	Diverse results. Typically the businesses started around 8am and were staffed till 5-6pm. Peak demand would be fairly consistent throughout the day.	The time of day for the highest consumption average out to be normal business hours. However afternoons were still highlights as times when consumption might be higher	Businesses think that their demand is fairly consistent, but if they indicated that it likely that it would be higher after lunch 12 - 5-6pm (depending on closing time).	For the retail businesses with operations based around cool room use, peak demand was suggested to be fairly consistent throughout the day (some increase in late afternoon in summer due to ambient temperature increase) For the retail businesses which had high air conditioning use, peak demand was indicated to be between 12noon and 5pm (depending on closing time)	The highest energy consumption summaries would be from 4-9. For the two larger businesses this is when there is the highest volume of customers and all equipment is operating.	The time of highest consumption was from early morning until about midday. This is predominately from refrigeration plants. Also in the vintage period, wineries try and crush in the morning to avoid the high afternoon temperatures.	For most business among all industries the highest time of use daily would be office hours. Usually from about 8 until 5-6 in the afternoon. Energy used to heat and cool offices and operate computers and lighting. Only businesses whose operations had to be at specific times would see changes from this. Food Services industry would tend to start and finish later (after 9pm). For other some businesses in the manufacturing or winery industries they would tend to have their consumption higher in the mornings with most their equipment starting up and operating.
Do you think your energy consumption will be increasing or decreasing over the next 3 years?	Two businesses indicated that their consumption would be increasing over the next 3 years due to expanding business operations. The third business indicated that their consumption would remain fairly static, even though they are upgrading equipment it is not anticipated to impact significantly on consumption	Majority of businesses indicated that their electricity would remain fairly consistent over the next few years. Only one business indicated that it may increase due to increasing production.	Only one business saw a potential change in the future from expansion. The other businesses can't see their consumption changing in the next few years.	Businesses within the retail/wholesale industry expect that their electricity consumption will remain fairly static in the coming years.	The two hospitality businesses indicate that consumption is expected to remain relatively static. For the smaller business the intention is to try and decrease consumption.	Wineries who aren't changing production volumes are expected to remain fairly static. Wineries are increasing production volumes are expecting there electricity consumption to increase proportionately.	For the vast majority of businesses they saw their energy consumption over the next three years staying very static. Only business who are planning on facility expansions or production increases indicated that electricity consumption may increase. This was applicable across all industry sectors.
Section 2: Understanding the possible impact of tariff reforms							
Where you aware of SA Power Networks proposed transition to cost-reflective tariffs prior to this program?	No.	Only one business was aware that tariff were changing, but did not understand what it meant.	Three of the four businesses have heard nothing about these changes. One remembers it being mentioned but didn't investigate any further.	No businesses were aware of the changes prior to being contacted by Business SA to participate in the study.	All businesses were unware that changes to the tariff structures was occurring.	Majority of wineries were aware that something was changing in their electricity tariff structure. 1 winery was unaware as they are all-ready on a demand-based tariff, therefore these proposed tariffs won't affect them.	The majority of businesses were not aware of the proposed changes. All the information they had at this point came from this study. Some businesses did some research prior to the interview. This was common across all industry sectors except the wine industry where a couple wineries had a sound knowledge (knowledge can from their energy brokers) of the proposed changed.
What do you think of SA Power Networks proposed cost-reflective tariffs?	Businesses had mixed responses, one thought it might be a good change while the other indicated that it probably wouldn't effect them greatly as their operations are pretty consistent throughout the day.	From what businesses understood about the proposal they did not respond well. The general consensus was it would be just another for SAPN to increase their revenue.	Majority of businesses did not support the changes as they believe they will leave them with a higher electricity cost. One business indicated you should only pay for the electricity you using. For example if a heatwave or cold snap comes through then the demand cost will be exaggerated for the whole month.	Businesses were unsure about what the changes in the tariff structure would mean to them (even once explained by the interviewer). Majority of businesses felt that changes meant a price increase. Only one businesses made mention to understanding what SAPN are trying to achieve through the proposed tariffs. Businesses within this industry sector had very limited understand about the concept of demand, and therefore found it difficult to identify how it might affect them.	Businesses fear that it would increase costs and that it puts businesses that have a short periods of high demand at a disadvantage. One business was unsure if the proposed tariffs would in fact achieve what SAPN are wanting to achieve.	Others through it was unfair and it was just another attempt to take more money. One common agreement was that nobody liked the prospect of their bills increasing. A couple wineries understand SAPN's reasoning behind the changes.	Businesses across all industry sectors were not impressed with the proposed changes, with the majority thinking it was another way for SAPN to increase revenue. A very small group of businesses understood the merit behind the changes. Such as SAPNs need to upgrade infrastructure it also seemed like a logical step forward for SAPN.
What issues does your business face in moving to a cost-reflective tariff?	Potential cost increase and inability to shift peak demand.	The predicted issues moving forward onto the cost reflective tariff analysis would be that cost will increase making it harder to run a business.	Majority of businesses feel that there is nothing they can do and that they expect their electricity costs to increase as a result. The issues moving forward are that not much can be changed for these businesses due to their work and operating hours which they cannot adjust. When facilitating people they need to provide an environment that is at a comfortable temperature level. They are unable to just stop using HVAC systems.	The cost increases will put more pressure on small business, times are already tough and these additional costs will add to that. It's also going to be very hard to make a lot of these changes such as load shifting, just due to the nature of there operations.	Businesses within this industry sector indicate that there is very little they can do to manage peak demand, as it is linked to equipment that can't really change the operations of. The smaller business also indicated that they have limited knowledge of opportunities that they could implement as managing electricity has not really been a high priority in the past due to the low contribution to operating costs.	Issues with the changes to a cost reflective tariff are that many of the wineries see the costs going up for them. This then puts additional strain on wineries. Need to have more visibility over their demand so that they can better manage their equipment use.	The main issue that business saw moving forward on the cost reflective tariffs were the potential price increases. Other issues for most businesses was related was the inability to produce capital quick enough for changes.
Do you think the proposed transition peak-demand period is appropriate for your industry sector?	Probably not as it doesn't reflect their operating hours.	Businesses though that part of the period is reflective of their operations, but unsure as to why it extends to 9pm. Businesses were unable to see how they could change their operations to minimise demand during this time.	Businesses feel it is probably not reflective of their operating hours, and therefore peak demand.	Majority of businesses indicated that their peak demand would fall within this period, agreeing that it would be reflective of their operations. However, were unsure as to why the period extends to 9pm as they are no longer operating.	Although the transition-peak demand period is reflective of their peak demand, the hospitality businesses did not like the proposed period due to their limited ability to distribute their peak demand. The tourism businesses, thought it was okay.	Seasonal the peak periods don't work. The time of vintage coincides with the highest seasonal peak, around summer. However the daily consumption time works ok because most of the work is done from about 7-12.	Business all had set operating hours that fall within the proposed peak demand period. The majority of businesses indicated that up until 5pm would reflect their peak demand period, however were unsure as to why the period extended to 9pm. Businesses did feel that the period was unfair as there is limited ability for then to change their operating hours and shift demand outside of the peak demand window. The wine industry did not think the daily peak times were too bad for their industry. Especially when it came to vintage because most of their equipment was early in the morning until midday. Some manufacturing businesses felt the same as they operated their equipment mostly in the morning. The wine industry had a real issue with the seasonal time of the peaks. Most of their consumption happens at vintage during the summer months which is when the peak is highest.
What price would your business be willing to pay for the installation of a smart meter to better understand their electricity costs prior to transitioning to cost-reflective tariffs?	Would not be willing to pay for an advanced meter upgrade, especially as some retailers are offering them to residential customers free of charge.	The businesses would not be willing to pay for the installation of a smart meter. To consider the installation more research into the benefits and role of the smart meter would need to be done and some felt that they should be provided as part of SAPn's service.	The cost factor was seen as too high for not enough benefit.	The businesses that having a smart meter would be the best way to monitor electricity demand and use. However the ones who had them already got them as part of a bulk deal and aren't aware of the cost.	Businesses would not be willing to pay for the installation of an advanced interval meter. One suggestion is that they should be free of charge due to the higher metering charges.	The estimate would be about 400-700 dollars for a smart meter. However the usefulness and potential value would need to be assessed before any decisions were made to install especially for the smaller businesses as this is a large upfront investment without understanding what the benefits might be.	For the businesses that have smart meters installed none of them know the price because they came in a bulk package either with the PV system installations or with the building premise. Some business predicted it would cost anywhere from $400-$700 dollars to get one installed. The businesses who didn't have a smart meter already installed said that more research into them would need to be done before purchasing them. They would need to know and understand the use of them and also the benefits of owning one. Some businesses said they would be willing to pay about $100-$150 dollars for them but would prefer them to be supplied from SAPN like they do for residential customers
Would your business be prepared to opt-in to a cost-reflective tariff without first installing a smart meter to better understand your energy use?	No.	All businesses response with no.	The businesses still don't fully understand the cost reflective tariff. They would need more information before any decision was made.	All businesses were unwilling to opt-in before they understood their demand and what the cost impacts would be.	No.	No was the common response	Every business responded against opting in at this moment. They either saw the tariff adjustment costing them too much or needed to further research it to understand the affect it will have.
By how much do you think these tariff reforms will either increase or decrease the cost of your electricity bills?	Majority are unsure on the cost impact, one indicated it might increase as much as 20%.	All the businesses predict that the tariff reform will increase their bills, one businesses estimated a possible 10-15% increase.	All the businesses saw their electricity bills going up if the tariff reform comes in. Again are not 100% sure due to lack of knowledge.	Most businesses felt that it would increase their electricity costs.	All businesses thought changes to tariff structures would increase their electricity costs, however were unsure by how much.	All of the wineries predict the tariff reforms will lead to price increases, especially during their vintage period.	The vast majority of businesses predict an increase in overall costs. Some predictions were an increase of 10-20%.
Do you think you have enough information to the appropriate amount of information to determine what kind of impact these reforms may have on your electricity bills?	Businesses feel thy don't have the required information to make assess the impacts and make informed decisions.	No businesses thought they have close to enough information to determine the impact	None of the businesses have the right information yet to know what the impact will be.	3 businesses felt that the information provided to date was not enough for them to make informed decisions. 2 business felt since the tariffs were explained to them through this study that they had a better understanding of what was happening.	The business with an energy broker did make the company aware of what the impacts were going to be, but only after the move to a demand kVA had happened. Smaller businesses indicated that it would be very hard to determine what the impacts would be as the struggle to understand their current situation.	None of the wineries believed they had enough information about the tariff reform to assess the impacts that they may have on their business.	Not a single business in any sector thought they had close to enough information about the tariff re-structure to properly determine the impact it would have on their business.
Section 3: Understanding the ability for the business to change							
What options are there for your business to manage the move the move to cost-reflective tariffs in order to offset rising costs?	Businesses can't see much opportunity to manage their peak demand as it is linked to air conditioning that is required to maintain temperature to keep critical equipment operating (i.e. computer servers and laboratory equipment). One businesses indicated that as their air conditioner use is to maintain staff comfort levels, they would look at implementing staff engagement initiative to change behaviour patterns.	The only options businesses saw to manage these changes was potential facility upgrades. One business said they'd consider solar another said their only options would be equipment efficiency upgrades.	The options for businesses within this industry sector is very minimal due to demand being linked to maintaining patient comfort. Some minor improvements could be made in light retrofits. Issue is also that the majority of premises are leased, therefore changes in equipment are difficult to implement.	All of the businesses had already made considered able changes to their operations level of energy efficiency with changing in lighting and newer equipment. The only changes now would be slight adjustments such as change air conditioner times and upgrade some other lighting systems. Several businesses were constrained in the upgrades that they could make as equipment formed part of their lease arrangement.	Due to the nature of hospitality nothing can really be adjusted. Service times cannot be adjusted and equipment like ovens, fridges and freezers cannot be shut-off. For the tourism business there is greater ability to manage demand, as it is predominately linked to air-conditioning for staff comfort there is opportunity to change behaviours.	Wineries have already made significant upgrades to manage their electricity consumption. For some businesses their is still scope to manage demand though capital upgrades of equipment. 4 out of the 5 wineries already have solar installed to reduce consumption.	For most business the changes they can make are very limited. The vast majority could not alter the time of operations. One business could make some very minor changes such as the time it cleans the machinery. One cleaning businesses in the admin and support industry could potentially change their working times to start and finish their work earlier in the day. Across all industries the only potential changes that would be made was either the installation of PV systems or upgrading equipment and lighting to newer more effective products. These would all take to save the capital up for the changes.
Does your business have solar PV installed? If solar is installed, does it have storage to offset consumption outside of daylight hours? If no storage is installed why not? If solar is installed, does it have storage to offset consumption outside of daylight hours? If no storage is installed why not? If solar is not installed, would your business consider solar (with or without storage) to offset grid electricity consumption?	Two of the businesses do not have solar installed. Both businesses indicate that it would need to have a good business case for it to be a viable option for their business. One business is in the process of installing a 30kW system which it anticipated to be installed within the next 4 weeks.	Businesses have looked at it in the past but the business case was not viable or there were physical/environmental constraints which hindered them proceeding. Battery storage was not investigated by any business.	None of the businesses have a PV system an none have they been approached by a supplier. One business would considered solar in the future but more research would need to be done before installing. The reasons two of the businesses don't have solar is due to them renting/leasing the premise so its not an option.	2 business have solar PV installed. 2 businesses have looked at it in the past but did not proceed as the buildings are leased. One business is currently in the process of reviewing solar. Businesses that have solar did not look into battery storage as the cost was too high.	All businesses have looked at solar PV in the past, but none have been able to proceed due to a Varity of physical/environment constraints. One hospitality indicated if they could proceed with solar then they would consider battery storage once the technology advances.	4 out of the 5 wineries already have solar PV installed. All have looked at battery storage in one way or another. However none yet think it is appropriate, due to the lack of technological development.	Only about 25% of businesses currently have solar installed. Others either didn't have the facilities to installed panels or the capital needed. The vast majority of businesses had looked at solar at one point. Only about half of the businesses with solar installed have looked at battery storage but most didn't think the technology was right yet or was too expensive.
If the move to cost-reflective tariffs leaves you with a higher overall electricity cost are you able to pass this cost onto		Businesses indicated they would not be able to pass on the costs to customers if their electricity prices increased.	costs that businesses in this industry sector are able to change predominately regulated, therefore they are unable to pass on costs to patients.	Businesses were indicated they were unable to pass the costs to customers. If it was possible, businesses would be very hesitant to do so.	All businesses would absorb the costs as price increases would upset their customers. Businesses all felt that maintaining customer satisfaction is	The ability for wineries to pass on these increased costs is either impossible or very close to it. The market has an over supply which makes it heard to increase price sand	Only about 20-25% of businesses would be able to past these costs onto customers. A few would potentially look into it as an option but the vast majority would be forced to wear these costs to keep their products/services competitive.
How long do you think it would take your business to make the appropriate changes to its operations in order to manage the move to cost-reflective tariffs?	Not long for behavioural changes. Capital upgrades would take awhile between 6 - 5 years (depending on the available capital of the business).	Businesses felt that there were only small changes which they could make, therefore wouldn't take them long to adjust.	All the businesses said it would take about 3 months for them to change operations to assist in managing the move to costs-reflective tariffs as improvement opportunities are not linked to costly capital upgrades.	Businesses estimated it would take anywhere between 3-12months to make the changes. To make capital upgrades it would take them longer as they need to save for largest upgrades.	All businesses indicated that they would need in excess of 12 months to be adequately prepared to manage the move to cost-reflective tariffs.	For the majority of wineries implementing changes would take at least 2 years for them to save-up the capital and then implement the upgrades. Quick win opportunities could be implemented quickly, however larger capital upgrades take time. Two of the smaller wineries indicated that it wouldn't take them long to adjust provided they had the information they required.	Businesses had mixed views on how long it would take to adjust to the tariff changes. If only small changes were possible then they typically didn't require much time. Businesses that would need to make capital upgrades indicated that they would need a period of up to 2 years to adequately plan and implement upgrades. Overall businesses indicated that they would first need to understand their demand and the potential impacts from the tariffs prior to look at upgrade options.
Section 4: What assistance							
What assistance would be of most help to businesses in each sector in transitioning to cost-reflective tariffs?(i.e. expert advice on improving load factors and shifting loads or installing peak shaving equipment.)	More information around understanding your demand profile, along with general education and training around the proposed tariff structure changes. Would like additional information on load-shifting opportunities. All businesses indicated factsheets with provision for face-to-face or phone facilities to ask questions.	More information on what was happening and what it means for their business would be the greatest help, ideally outlining the purposed changes and how businesses can manage these changes when they come in. Provide a way to ask questions and get proper responses in an appropriate time frame.	All businesses agreed on needing a lot more information to understand what is happening and how it will impact them. Preferable method of information delivery would be short workshops or printable material such as factsheets.	Businesses said the best information for them would be to first receive the facts and figures about the changes. Then to find out how it's going to affect them. Other helpful tools would be getting advice from experts about load management , load shifting and peak shaving.	More information is required. A way to provide business with an easy understanding of the changes. Workshops are a preferred deliver method of information dissemination. Assistance on how to manage these changes and identifying was to reduce energy use would benefit businesses in this industry sector.	The general consensus was for a better understanding of what's going to happen and how its going to affect them. Preferred delivery method would be through workshops or short seminar (needs to be short as wineries are time poor). Ideally if the information was provided by an independent third party (i.e. consultants) that would be preferable.	All the businesses said they'd need a lot more information about the changes, how they are going to effect them and what potential options they have to minimise their impact. More information about their alternatives like load shifting or peak shaving equipment Some methods of delivering this information includes; - Information factsheets - Workshops or interactive question and answer sessions
Who would the business prefer to go to for advice on managing move to cost- reflective tariffs? (i.e. private consultant, SA Power Networks, Business SA or industry association such as SA Wine Industry Association, State Government, Federal Government etc.)	Predominately use private consultants of Business SA.	Business SA would usually be the go to for responses of this nature.	Business SA would be the go to for all the businesses to acquire any additional information.	Business SA was the preferred point of assistance for the majority of businesses in the retail/wholesale industry sector.	The hospitality businesses would prefer to use either an energy broker or private consultant for issues like this. However both use Business SA of more industry related issues. One hospitality business also indicated that there would be a lot of small hospitality businesses that would probably turn to Business SA for this type of advice.	SAWIA is the preferred point of contact	On a whole businesses would go to Business SA for information. Other options would be going to industry associations like SAWIA. Other businesses also used private consultant, their retailer or energy broker. No businesses indicated that they would turn to SAPN for assistance.