



**SACOSS Submission to Australian Energy Regulator on SA Power  
Networks' 2015 – 2020 Regulatory Proposal**

**SACOSS Submission  
January 2015**

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## Executive Summary

South Australian households have endured steep electricity price increases during the current 5-year regulatory period that have not been matched by increases in the community's capacity to pay. South Australia has some of the National Energy Market's (NEM's) least affordable electricity and, as a result, has above levels of debt and disconnections. In our view this is a critical context for the SA Power Networks (SAPN) regulatory proposal.

Overall, SACOSS is of the view that the proposal is a misread of SAPN's role in the SA economy and their entitlement to a share of household budgets. In our experience, the SAPN approach to the proposal has been to seek ways to justify maintaining revenues in a context of lower costs of capital. In our view, the revenue ask in the proposal is at least 25% more than necessary.

SACOSS has calculated the impact of SAPN's proposal on an average residential customer including GST in nominal terms (Figure 12). Compared with the SACOSS proposal of at least a 25% reduction on SAPN's revenue ask, SAPN's proposal will cost the average customer an additional \$193 on average per annum.

The impact of the GFC on the cost of capital was the key driver for SAPN receiving a much greater revenue allowance in this current regulatory period (2010-2015) than it earned in the 2005-10 period. SAPN have acknowledged that the cost of capital is now lower but instead of a reduction in revenue, are proposing an expansive expenditure program that will offset the lower costs of capital and, in effect, hold revenues and prices relatively constant in real terms over the 2015-20 period. In SACOSS' view, there are too many households without the capacity to pay current electricity prices for this to be acceptable.

### Profitability

In 2012/13 SA Power Networks achieved a profit of about \$710 per connection. This suggests a profit rate for SAPN of about 4 times its UK sibling.<sup>1</sup> Calendar year results for SAPN for 2013 and 2012 report Underlying Profit after Tax of over \$360m on turnover (75% regulated) of just over \$1,100m in each year – over 30% of revenue.<sup>2</sup> A key issue for the AER is whether SAPN's customers should be funding such strong profits by SAPN.

### Rate of Return (Weighted Average Cost of Capital - WACC)

SAPN are proposing a nominal vanilla WACC of 6.84. An independent assessment of the WACC by the South Australian Centre for Economic Studies proposes a WACC of 5.15. As the AER has said:

*"The rate of return can make up approximately 50 per cent of the revenue needs for a service provider. Therefore, the rate of return is a key element of the network charges that consumers pay."<sup>3</sup>*

SACOSS propose that the lower SACES estimate is a more accurate WACC estimate than that proposed by SAPN.

### Other Core Concerns

Proposed SAPN expenditure includes around \$200m in capital expenditure and \$32m in operating expenditure over the five years for 'service improvements' that are justified on the basis of discrete choice willingness to pay (WTP) research. SACOSS supports the emphasis on consumer engagement in the current incarnation of the regulatory framework and sees the testing of willingness to pay (and variations on the same theme) as an important part of that engagement. However, in our view, while this is an important contribution to the engagement of consumers in the regulatory process we are not convinced that in SAPN's case, it is sufficiently robust to justify

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<sup>1</sup> Consumer Challenge Panel, Bruce Mountain presentation, AER Forum 10/12/14

<sup>2</sup> <http://sparkinfrastructure.com/investor/reports/fact-books>

<sup>3</sup> AER (2013) Explanatory Statement Rate of Return Guideline at <http://www.aer.gov.au/sites/default/files/AER%20Explanatory%20statement%20-%20rate%20of%20return%20guideline%20-%20December%202013.pdf> p. 14

such an expenditure program. The detailed reasons for this are provided in the section on Consumer Engagement.

In our view, the principal risk to efficiency (i.e. to efficient investment in accordance with the National Electricity Objective) in this possible future is that of stranded assets and who pays for them (refer to page 11). Under the current framework it will be consumers and we believe that such an expansive capital expenditure program is an obvious response by the business: i.e. SAPN are proposing to spend like all the risk of stranded assets does not lie with them. This misallocation of the risk of stranded assets must be corrected for in the AER's determination.

Clearly, incentives and risks must be appropriately aligned and shared or overall market efficiency will be compromised. In our view, in this determination, the AER must effectively determine how a prudent operator should efficiently respond to such an uncertain future.

The following sections present summaries of each chapter of this submission:

### **Asset Base and Capital Expenditure**

SAPN used its relatively modest real Regulatory Asset Base (RAB) growth from 2005 to 2013 as evidence of its "prudent investment in our network" (see figure 14 in this submission at page 42 of the SAPN proposal). However, the proposed capital expenditure program would increase the value of the RAB by around 47%<sup>4</sup> (approximately 30% in real terms) - see figure 15 in this submission. The proposed capital expenditure for 2015-20 totals nearly \$2.5 billion over 5 years<sup>5</sup> and represents an increase of around 50% on the 2010-15 regulatory period<sup>6</sup>.

This expenditure program would significantly increase the size of the regulatory asset base (RAB) and lock consumers into completely unsustainable future prices should the cost of capital return to GFC levels. This seems particularly inappropriate and imprudent given SAPN's own assessment of the future need for electricity distribution.

SACOSS is very concerned that SAPN is justifying a near doubling of 'replacement capital expenditure' (repex) on having the 'oldest average asset life of all NEM distributors' [Issues paper p. 12]. The proposal does not seem to discuss the extent that this result is skewed by the 85 year plus asset lives of the stobie pole compared with around half that for the timber poles used by other distributors. In the context of an uncertain future, it is our view that a prudent operator would be aiming to strategically reduce the asset base to minimize the risk of stranded assets over the foreseeable future. The proposal presented little evidence that this has been a consideration.

In terms of Network Augmentation capital expenditure (augex), it is our strong view that a much more prudent expenditure program is appropriate. It is noted that the +49% increase in augex can largely be accounted for by a \$300m increase in safety related expenditure [Issues paper p. 13]. We note that around \$200m of this is 'service improvements' justified on the basis of WTP research. For the multitude of reasons discussed in the later section on Consumer Engagement, SACOSS does not accept that this research is sufficiently robust to justify this expenditure. Further, it is entirely unclear that SAPN should be seeking electricity consumer revenue for services that may be more appropriately funded through other means - as is already the case for road safety. Further, the most efficient solutions to the risk of bushfires are more likely to be revealed from analysis of a broad range of technical and management options, not just those that SAPN believes can be funded through the regulatory framework.

### **Operating Expenditure**

SAPN is proposing to continue its upward trajectory of operating expenditure and to include some significant step changes in the 2015-20 Regulatory Period. This is illustrated in Figure 16 of this submission. In our view, this ongoing growth in operating expenditure is clearly unsustainable and

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<sup>4</sup> AER Issues Paper p. 16

<sup>5</sup> Regulatory Proposal Table 20.4 p. 179

<sup>6</sup> AER Issues Paper p. 11

needs to be presented in a way that reflects an overall strategy of containing these costs and generating efficiencies if it is to be considered to be in the long term interests of consumers.

**Consumer Engagement**

SACOSS does not believe that the resultant proposal is in the long term interests of consumers. Although the comprehensive SAPN proposal is still useful in that it can remain the basis for prioritizing expenditure up to the SACOSS proposed level of 25% less revenue than that proposed by SAPN.

## Contents

Executive Summary.....	i
Introduction .....	1
1. Summary .....	9
2. Profitability .....	13
3. Asset Base and Capital Expenditure.....	14
4. Operating Expenditure .....	17
5. Rate of Return (WACC parameters) .....	19
6. Consumer Engagement .....	23
7. Other Issues.....	34
8. Notes on prudence .....	37

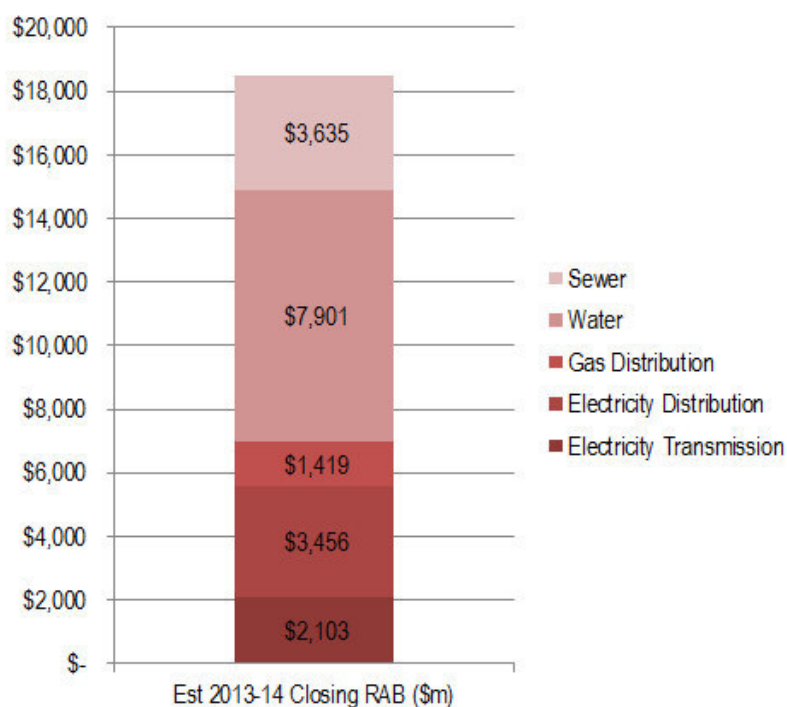
# Introduction

This is the third five-yearly Electricity Distribution Price Review that SACOSS has participated in and the second with the AER as regulator. We have also commented on similar determinations for electricity transmission, gas distribution and, in recent years, water distribution and retail. Each one has been different but there have been some common themes and often repeated arguments.

In simple terms, this process is how we work out how much to pay for SA Power Networks' (SAPNs') natural monopoly service of electricity distribution. The service itself is defined in detail by technical standards for reliability, safety and customer service but can be imagined as the electricity grid that connects electricity customers to each other and to the Transmission Network (which, in turn, connects all of the large customers and large generators and inter-connects our network to Victoria). The physical assets that deliver this service (the poles and wires, substations, IT and communications systems, vehicles, depots and workshops) are currently valued at around \$3.5 billion.

This Regulatory Asset Base (RAB) is a fundamental parameter in the revenue determinations of regulated energy and water businesses. Invariably, the majority of revenue allowances approved by regulators are to cover the return *on* and *of* capital. The return *on* capital is found by multiplying the Weighted Average Cost of Capital (WACC) by the RAB. The return *of* capital is determined by approved regulatory depreciation schedules. Combined, this revenue can be considered as representing the principal and interest repayments by consumers for the cost of the infrastructure.

Figure 1, below, consolidates the RABs of South Australia's regulated Utilities and shows that consumers are paying off assets worth over \$18 billion. Not surprisingly, consumers are sensitive to changes in interest rates – each % of WACC is worth \$180m per annum in interest alone. This money could have many alternate uses in the economy and absent a competitive market to allocate it efficiently the regulatory process seeks to mimic what such a market would do.



**Figure 1:** Estimate of the Regulatory Asset Bases of South Australian Utilities at end June 2013 (\$m). Source: SACOSS analysis of ESCOSA and AER Regulatory Determinations and Regulatory Information Notice (RIN) data provided by the businesses

Given that these RABs have a tendency to grow over time, the consumer interest is certainly tied to the long-term approach to the pairing of RAB and WACC across these regulated businesses. South Australia's electricity system is largely represented by the RABs of SAPN and ElectraNet. Figure 2 shows the growth in this combined RAB for South Australia.

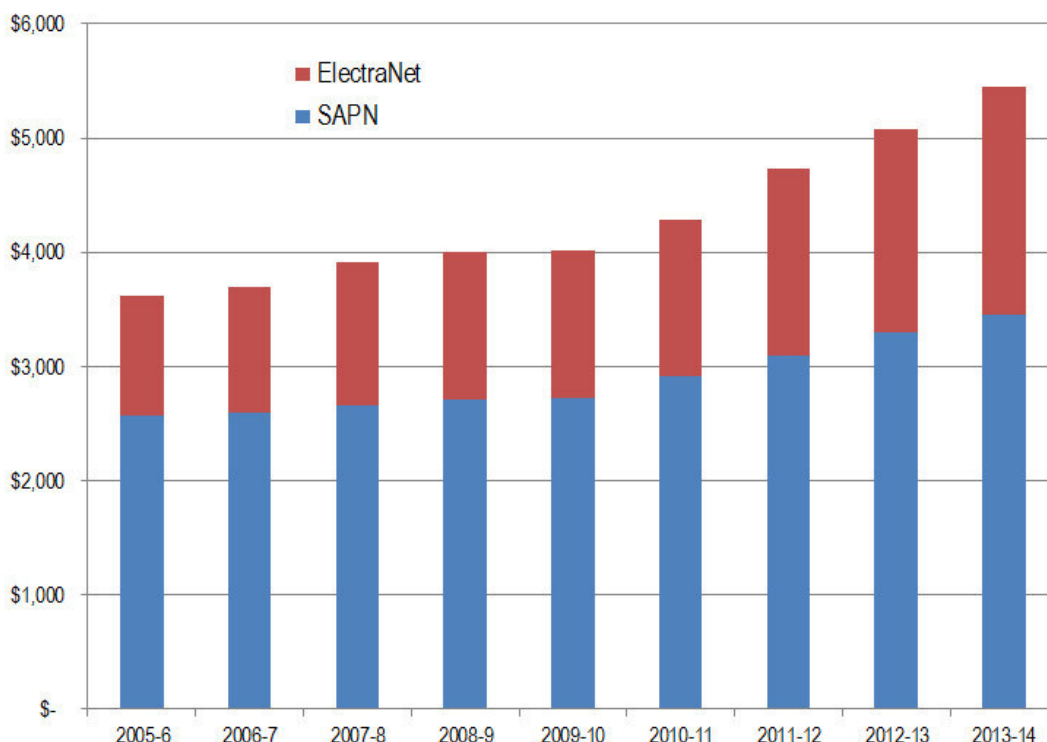


Figure 2: SAPN and ElectraNet Regulatory Asset Base (\$m) Source: NSP RIN responses to the AER.

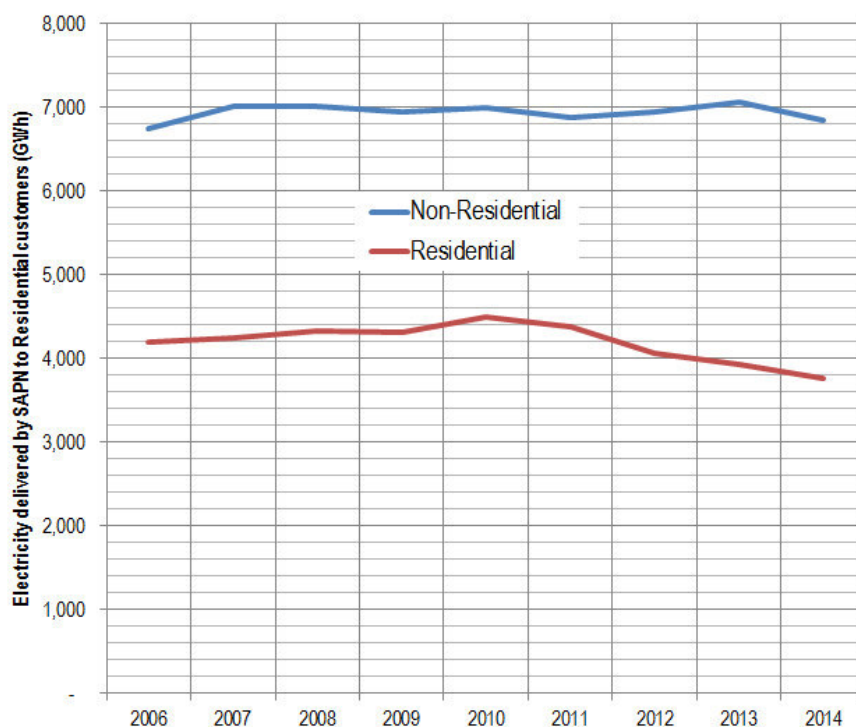
We understand that the WACC attempts to forecast the efficient cost of capital to be incurred by a prudent and efficient distributor - the benchmark entity - during the period in question (2015-20). We have also been involved in enough of these deliberations to have seen opposing arguments presented by the same proponents at different times depending on the stage of the economic cycle. SACOSS is of the view that the long term interests of consumers is most likely to be served, and most likely to align with the shareholder interest, if SAPN can provide stable, low risk returns to its owners. Our comments on the various parameters aim to reflect this view.

### The context for households

Residential customers provide around 50% of SAPN's regulated revenue and are therefore a key stakeholder group. However, as a group, households are buying less and less electricity from SAPN's grid and around one in four have now installed a solar power system.

Data from SA Power Networks (SAPN) shows a clear decline in residential consumption from the grid after 2010 – falling some 20% from its peak by 2014 while demand from non-residential customers remained relatively stable. This is illustrated in Figure 3 below:





**Figure 3:** Electricity volumes delivered by SA Power Networks to Residential customers 2006-14 (Source: SAPN RIN data published by the Australian Energy Regulator).

Of course, the reduction in volumes will impact on revenues unless prices are adjusted and this is what happened in the current regulatory period. The recovery of revenue from this customer group is also planned to change under tariff reforms planned to be implemented in 2017/18. Figure 4, below, shows how SAPN's revenues (the red columns) increased significantly during the current regulatory period (from 2010-11) and the business has, apparently, been able to restore a greater than 50% share of this revenue from residential customers<sup>7</sup> (the blue bars in \$ terms or the green line read off the LHS axis in % terms).

<sup>7</sup> Source: SAPN Economic Benchmarking Regulatory Information Notice (RIN) data published by the AER [www.aer.gov.au/node/24388](http://www.aer.gov.au/node/24388) residential was \$312m out of \$617m total revenue (51%) in 2010-11 and \$445m out of \$875m (51%) in 2013-14

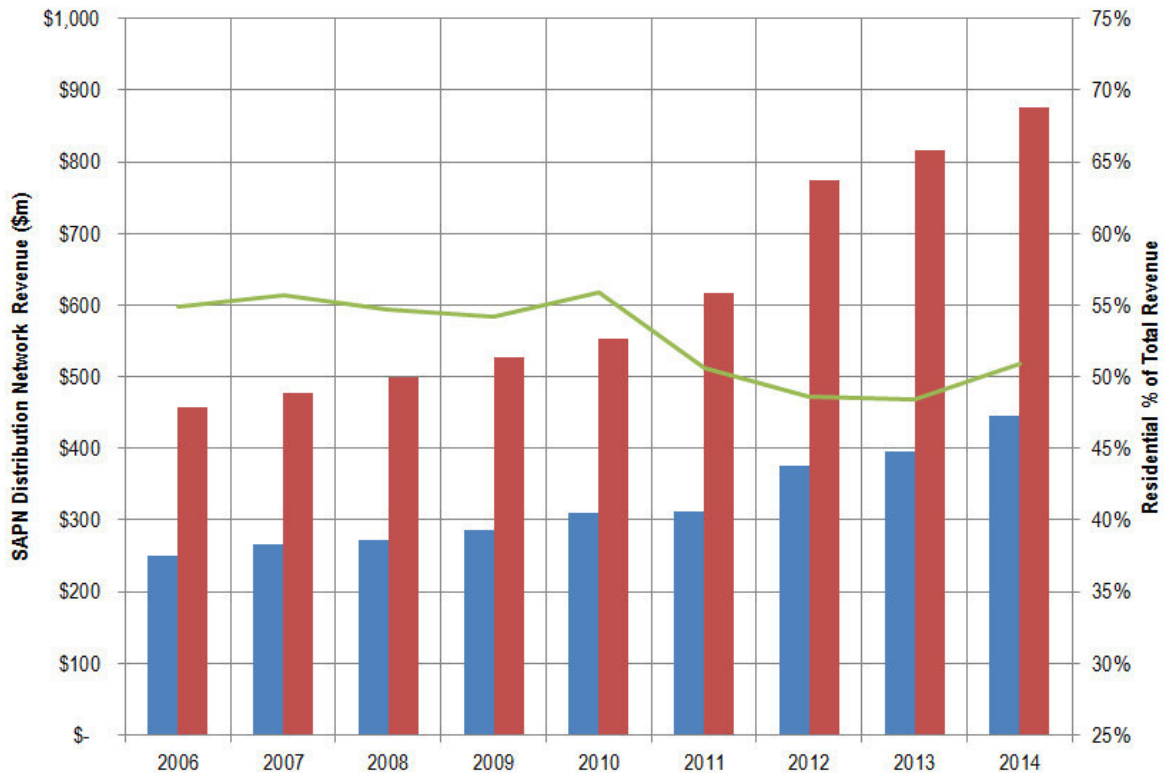


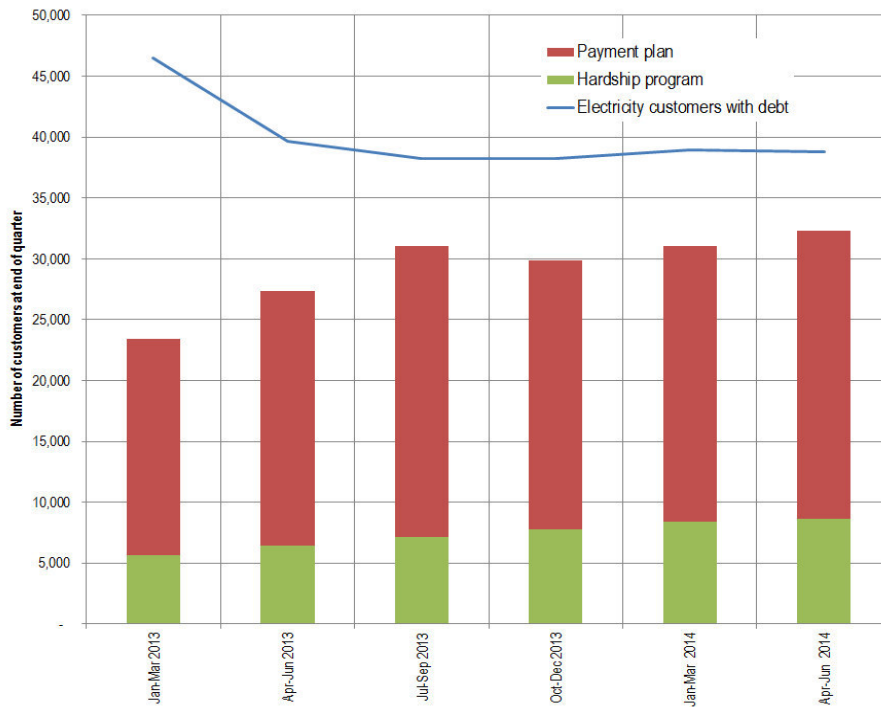
Figure 4: SAPN Regulated Revenue. Source: SAPN RIN data provided to the AER.

For these reasons, we believe that SAPN’s regulatory proposal 2015-20 (the proposal) is of particular importance to residential customers. Further, it is our view that the proposal fails to take into account the community’s capacity to pay. As will be discussed in the section on Consumer Engagement, SACOSS does not accept that it is either prudent or efficient to be basing expenditure proposals on estimates of the willingness to pay of the average consumer. In our view, there is compelling evidence that thousands of South Australian households are in financial distress and do not have the capacity to pay their energy bills. We commend the submission from the South Australian Financial Counsellors Association (SAFCA) to the AER in support of this view.

South Australian households are afforded energy specific consumer protections as part of the National Energy Customer Framework (NECF). The NECF requires energy retailers to operate an approved Hardship Program where households are protected from disconnection if they meet the requirements of a repayment plan. As at the end of June 2014, around 8,600 South Australian households were participating in a retailer’s electricity hardship program.

The Australian Energy Regulator (AER) reported that in 2013-14, residential energy customers owed \$30m to energy businesses. At any one time, 38,000 electricity customers owed approximately \$25m – around \$650 each<sup>8</sup>. As shown in Figure 5, across the four quarters of 2013-14, about 80% of these were engaged in some sort of repayment plan (20% were participating in a retailer hardship program, 60% in an arrangement outside of the hardship provisions).

<sup>8</sup> The AER also reports 15-20,000 gas customers with a combined debt of around \$5m in 2013-14. It is understood that there is some overlap between these counts – i.e. some customers may appear in both the electricity total and the gas total so combining the two totals would overstate the number of customers in debt.



**Figure 5:** Numbers of SA households with electricity debts and repayment arrangements (2013-14) Source: AER

In order to demonstrate that South Australian households have reached or exceeded their capacity to pay, the following illustrates how we compare to other NEM jurisdictions. We acknowledge that debt and disconnection is present in all jurisdictions but wish to highlight the relatively high levels of hardship in SA. According to the AER<sup>9</sup>:

*“South Australia has an above average number of customers on payment plans with a high level of debt”*

South Australia also has the highest disconnection rate among those reporting to the AER under the NECF and second only to Victoria across all states as shown in the following table from the Victorian Essential Services Commission<sup>10</sup>.

<sup>9</sup> AER Board Member Jim Cox contained in AER media release 25 Nov 2014 “AER Retail Market Performance and Affordability Report - South Australia highlights” available from [www.aer.gov.au/node/28525](http://www.aer.gov.au/node/28525)

<sup>10</sup> Source: AER Retail Performance Data and Essential Services Commission 2014, *Energy Retailers Comparative Performance Report – Customer Service, 2013-14*, December 2014

**TABLE 4.2 DISCONNECTIONS, BY JURISDICTION — RESIDENTIAL ELECTRICITY**  
Per 100 customers, 2009-10 to 2013-14

Jurisdiction	2009-10	2010-11	2011-12	2012-13	2013-14
Victoria	0.59	0.77	1.02	1.07	1.47
New South Wales	0.60	0.61	0.80	0.83	1.03
ACT	0.56	0.26	na	0.05	0.17
South Australia	0.66	1.01	1.35	1.50	1.37
Queensland	0.90	1.22	1.16	0.94 <sup>a</sup>	1.31 <sup>a</sup>
Tasmania	0.59	0.51	0.08	0.46	0.68
Western Australia	0.39	0.90	0.87	0.72	0.97

<sup>a</sup> The Department of Energy and Water Supply calculated this ratio, based on information published by the Queensland Competition Authority. Queensland data may be marginally higher than reported, because the small market customer numbers include both small residential and small business customers.

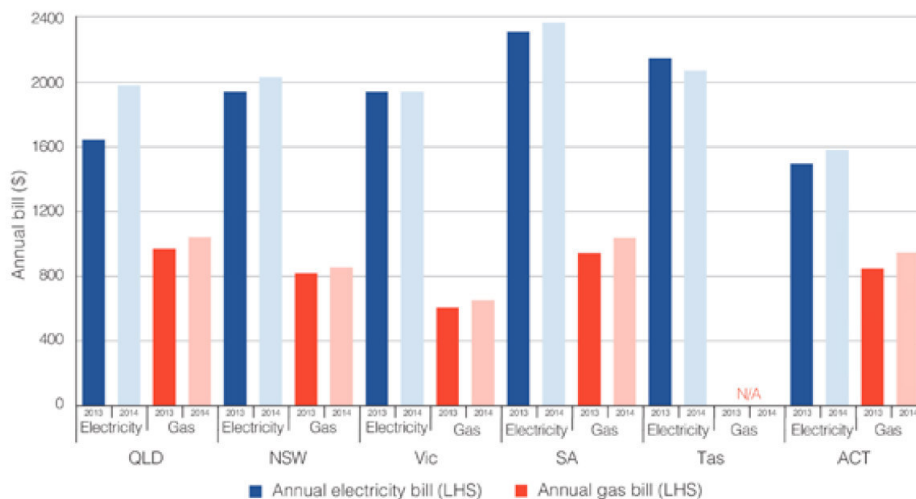
na – Not available.

Data sources: Independent Pricing and Regulatory Tribunal (NSW) (IPART), Essential Services Commission of South Australia (ESCOSA), Economic Regulation Authority (WA) (ERA), Department of Energy and Water Supply (Qld) (DEWS), Australian Energy Regulator (AER).

**Figure 6: Residential Electricity Disconnection Rates in Australia (2009-10 to 2013-14)** Source: ESCV<sup>11</sup>

South Australian households also endure some of the nation’s highest electricity and gas prices<sup>12</sup>:

Figure 3.2: Annual electricity and gas bills (6500 kWh and 24 000 MJ pa), June 2013 and 2014



**Figure 7 Comparative Annual electricity and gas bills for the same level of consumption in each jurisdiction (June 2013 and June 2014)** Source: AER<sup>13</sup>.

The AER State of the Energy Market Report 2014 shows that, after Tasmania, South Australians have the least affordable electricity in the national market<sup>14</sup>:

<sup>11</sup> Essential Services Commission 2014, *Energy Retailers Comparative Performance Report – Customer Service, 2013-14*, December 2014, p. 27 (<http://www.esc.vic.gov.au/getattachment/0fdace1d-e672-46bc-8b9b-b432340b2d34/Energy-retailers-comparative-performance-report-Cu.pdf>)

<sup>12</sup> Source: AER Annual Report on the Performance of the Retail Energy Market 2013-14 p. 40

<sup>13</sup> AER 2013-2014, Annual Performance Report of the Retail Energy Market,

<http://www.aer.gov.au/sites/default/files/Annual%20report%20on%20the%20performance%20of%20the%20retail%20energy%20market%202013-14.PDF>, p. 40.

<sup>14</sup> Source: AER SOEM 2014 figure 5.6

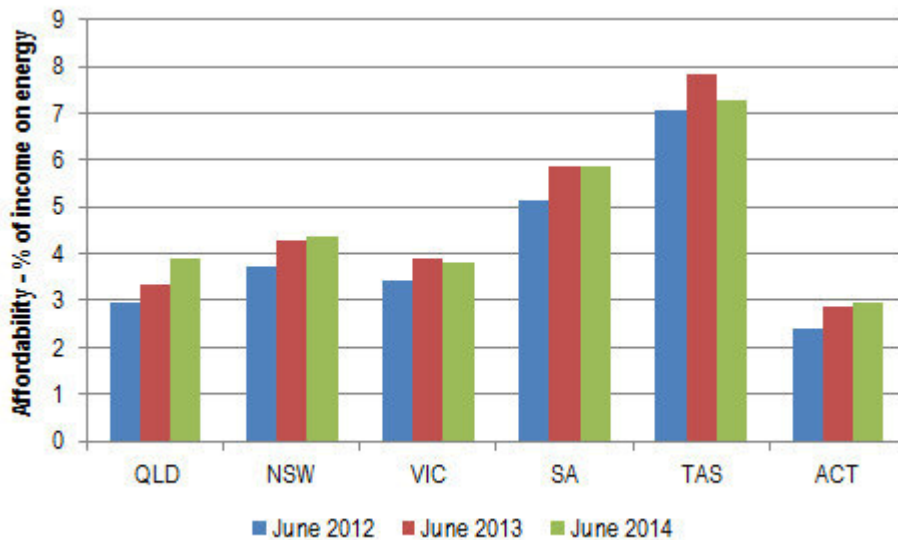


Figure 8: Affordability expressed as % of disposable income spent on dwelling energy (June 2012, 13, 14) Source: AER<sup>15</sup>.

The AER State of the Energy Market Report 2014 also shows how the Adelaide retail electricity price index has increased 85% above inflation since the start of the National Electricity Market in 1998<sup>16</sup>. The majority of this increase though has been since June 2010 - the start of the current SAPN regulatory period. SACOSS is well aware that distribution charges are only one part of these prices rises. However the intent is not to allocate proportion of blame but to highlight the context of rapid price rises that present genuine challenges to many in the community.

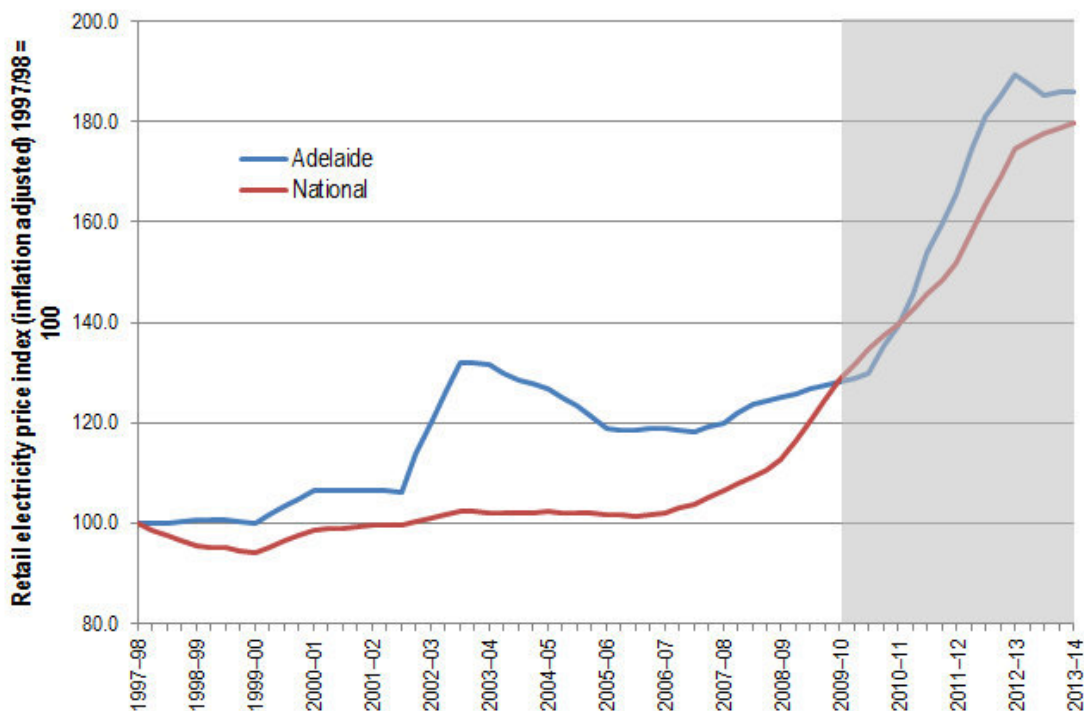
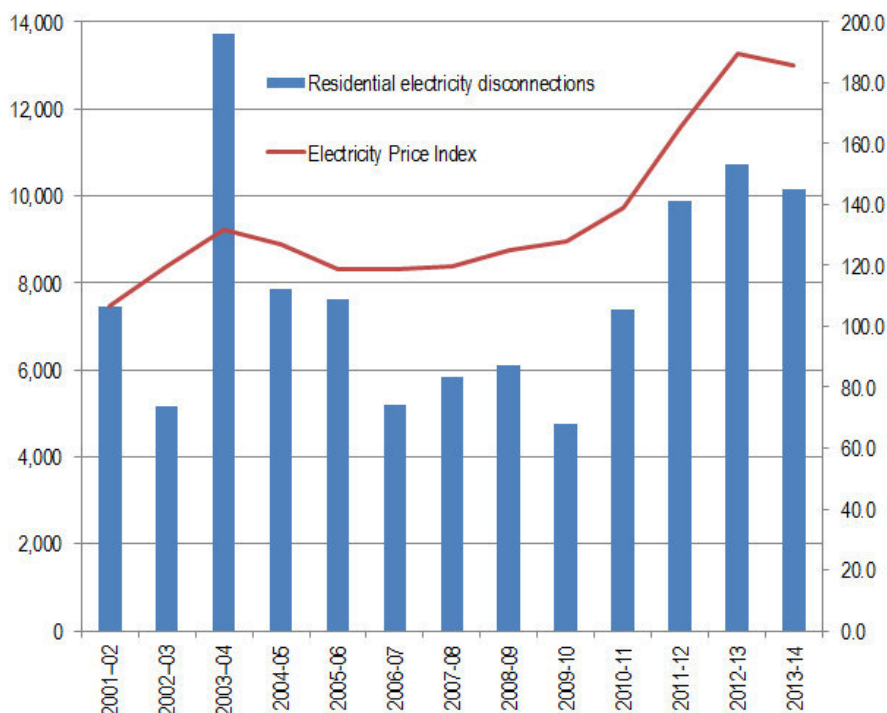


Figure 9: Retail electricity price index (inflation adjusted) Adelaide and Australia 1997/98=100 Source: AER State of the Energy Market 2014 based on ABS Consumer Price Index 6401.0 (Jun 2014)

<sup>15</sup> Source: AER SOEM 2014 figure 5.6

<sup>16</sup> Source: AER SOEM 2014 figure 5.4

To further emphasise the relationship between electricity prices and hardship, the following chart overlays electricity disconnection data (from ESCOSA and the AER) onto the electricity price index.



**Figure 10:** Retail electricity price index (inflation adjusted) Adelaide and Australia 1997/98=100 and annual residential electricity disconnections for non-payment. Source: AER Retail Statistics<sup>17</sup> ABS CPI (6401.0 Jun 2014), ESCOSA Retail Market Annual Performance Reports<sup>18</sup>

In summary, South Australian households have endured steep electricity price increases during the current 5-year regulatory period that have not been matched by increases in the community’s capacity to pay. SA has some of the NEM’s least affordable electricity and, as a result, has above levels of debt and disconnections. In our view this is a critical context for this regulatory proposal.

This submission aims to follow the format of the AER Issues Paper (December 2014) and respond to the questions raised. As requested, this submission is, as much as possible, supported by reasons, facts and analysis. We believe that the AER is primarily interested in receiving submissions on SAPN’s proposed approaches to opex, capex, the rate of return and consumer engagement. We have also identified what further information we consider SAPN would need to provide to justify aspects of their proposal<sup>19</sup>.

<sup>17</sup> AER Retail Statistics, <http://www.aer.gov.au/Industry-information/industry-statistics/retail>

<sup>18</sup> ESCOSA Annual Performance Reports, <http://www.escosa.sa.gov.au/electricity-overview/reporting-and-compliance/annual-performance-reports.aspx>

<sup>19</sup> AER (2014) SAPN Issues Paper, p. 9

# 1. Summary

SACOSS acknowledges the effort put into developing and presenting this proposal by SAPN. Our view though is that consumer engagement appears to have been approached more as an opportunity to 'sell SAPN' to consumers than to genuinely promote the consumer interest. Overall, SACOSS is of the view that the proposal is a misread of SAPN's role in the SA economy and their entitlement to a share of household budgets. In our experience, the SAPN approach to the proposal has been to seek ways to justify maintaining revenues in a context of lower costs of capital. In our view, the revenue ask in the proposal is at least 25% more than necessary. However, the comprehensive SAPN proposal is still useful in that it can remain the basis for prioritizing expenditure up to the SACOSS proposed level.

The impact of the GFC on the cost of capital was the key driver for SAPN receiving a much greater revenue allowance in this current regulatory period (2010-2015) than it earned in the 2005-10 period. SAPN have acknowledged that the cost of capital is now lower<sup>20</sup> but instead of a reduction in revenue, are proposing an expansive expenditure program that will offset the lower costs of capital and, in effect, hold revenues and prices relatively constant in real terms over the 2015-20 period. In our view, there are too many households without the capacity to pay current electricity prices for this to be acceptable.

SACOSS reminds the AER and SAPN that, under the National Electricity Rules (NER), a strong focus must be placed on what constitutes *prudent* expenditure and not just what can be argued as *efficient* expenditure. The Rules require that only the expenditure needs of a *prudent operator* can be approved<sup>21</sup> and *prudence* is a requirement of the AER Better Regulation Guideline "*Expenditure Forecast Assessment Guideline for Electricity Distribution (November 2013)*".

SACOSS does not accept that increasing capital expenditure by a half and operating expenditure by a third is either warranted or prudent.

Figure 11 reproduces SAPN's own data to illustrate the real cost of the distribution service to a notional average household (with consumption held constant over the 20 years and four regulatory periods):

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<sup>20</sup> The WACC proposed of 7.62% is lower than the 9.76% that applies in the current period

<sup>21</sup> NER clauses 6.5.6(c), 6.5.7(c)

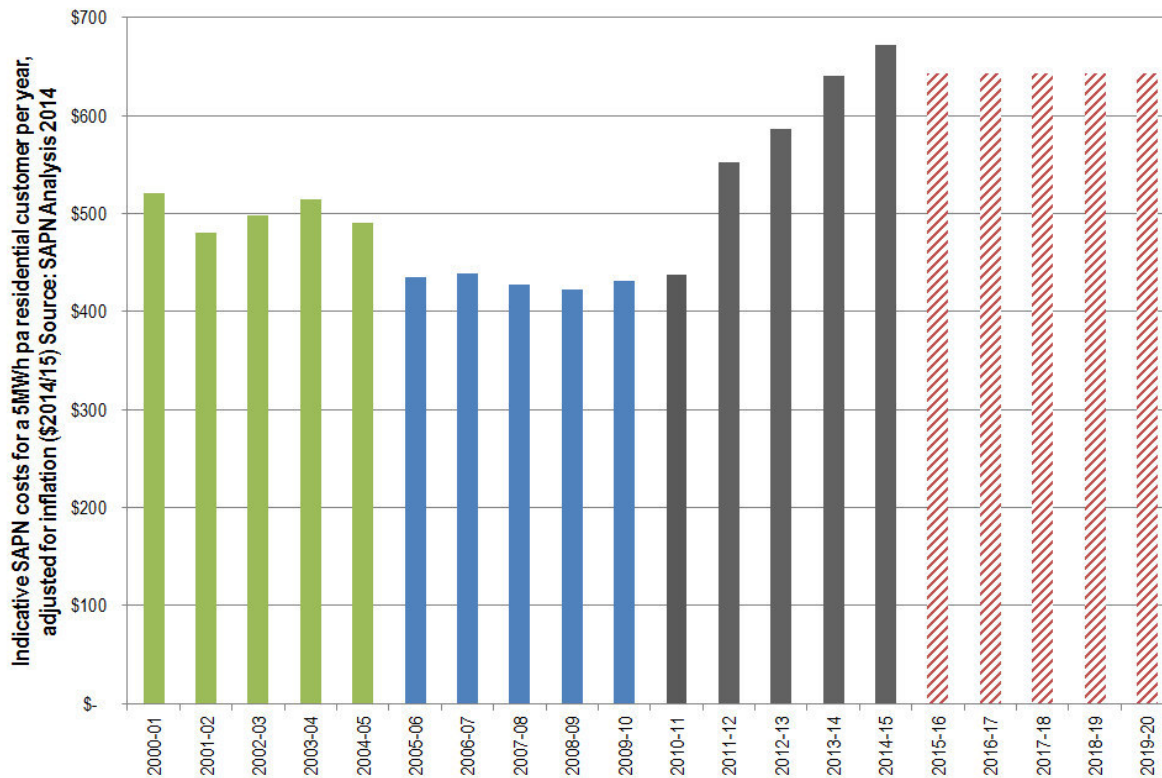


Figure 11: Cost of SAPN distribution service to a notional average household Source: SAPN<sup>22</sup>

In today's prices, SAPN are in effect proposing that the service provided for \$400 to \$500 pa up until 2010-11 is now priced at around \$650 pa. The AER process must determine whether such a step change can be justified.

SACOSS has calculated the impact of SAPN's proposal on an average residential customer including GST in nominal terms (Figure 12). Compared with the SACOSS proposal of at least a 25% reduction on SAPN's revenue figure, SAPN's proposal will cost the average customer an additional \$193 on average per annum.

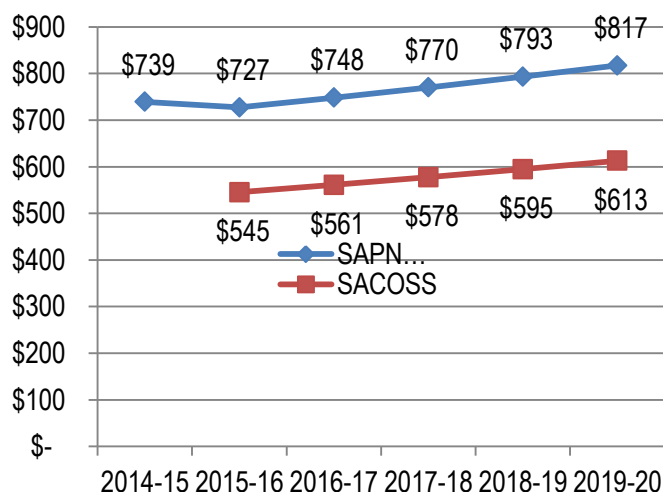


Figure 12: SAPN charges for average residential consumers compared with minimum SACOSS proposal (\$nominal, incl. GST) Source: SAPN proposal (2014) and SACOSS analysis

<sup>22</sup> Source: Regulatory Proposal 2015-20 "An overview for South Australian electricity customers" p. 5, Figure 7 followed by a reduction of 4.3% in 2015-16 and CPI only for the remainder of the regulatory period



Proposed expenditure includes around \$200m in capex and \$32m in opex over the five years for ‘service improvements’ that are justified on the basis of discrete choice willingness to pay (WTP) research. SACOSS supports the emphasis on consumer engagement in the current incarnation of the regulatory framework and sees the testing of willingness to pay (and variations on the same theme) as an important part of that engagement. However, in our view, while this is an important contribution to the engagement of consumers in the regulatory process we are not convinced that it is sufficiently robust to justify such an expenditure program. The detailed reasons for this are provided in the section on Consumer Engagement.

We also consider the use of safety to justify expenditure as questionable. The bushfire response needs to be much bigger than SAPN’s perspective on its role. We need to see a government-wide response to the Victorian Bushfire Royal Commission and to our own January 2015 fires. In our view, following the January 2015 bushfires near Adelaide, the issue is now too emotive for an objective assessment of any changes in expenditure levels in the AER’s timeframe and should be considered separately and financed via the pass through mechanism if required.

The AER has stated that it would like to hear views on how the National Electricity Objective (NEO) is best reflected in their determination<sup>23</sup>. In relation to electricity distribution, the NEO can be paraphrased as; *promoting efficient investment in, and efficient operation and use of electricity [distribution] services for the long term interests of consumers with respect to price, quality, safety, reliability and security of supply.*

We are certainly not challenging SAPN’s record in terms of quality, safety, reliability and security of supply. The element that we wish to challenge is that of *price*. In our view, the long term interests of consumers means a strong focus must also be placed on what constitutes *prudent* expenditure and not just what can be argued as *efficient* expenditure. The National Electricity Rules require that only the expenditure needs of a *prudent operator* can be approved<sup>24</sup> and *prudence* is a requirement of the AER Better Regulation Guideline “*Expenditure Forecast Assessment Guideline for Electricity Distribution (November 2013)*”.

In summary, we believe that the NEO will be best reflected in the AER’s Determination by emphasising *prudence* as well as efficiency. In our view, the basis for prudence must lie in the uncertainty facing SAPN over the time horizon relevant to the proposal. SAPN outline their new, riskier operating environment where the death spiral looms large as solar, storage and smart technologies combine:

[Regulatory Proposal p51] *“There is little doubt that the confluence of customer, technological, market, economic and regulatory changes now underway will drive a period of change in the distribution sector that is unprecedented.”*

[p231] *“The 2015–20 RCP will be a period that will see the most significant and transformative change in the distribution sector since the establishment of the NEM.”*

[p306] *“... the risk of electricity network businesses has changed dramatically in the very recent past... Essentially our business is confronted with two possible future scenarios, one in which we evolve and survive and the other in which our network progressively becomes redundant.”*

[p307] *“... it calls into question whether customer disconnections from the grid might be significant enough to put at risk the viability of the whole regulated price recovery system.”*

In our view, the principal risk to efficiency (i.e. to efficient investment in accordance with the NEO) in this possible future is that of stranded assets and who pays for them. Under the current

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<sup>23</sup> AER Issues Paper p. 38

<sup>24</sup> NER clauses 6.5.6(c), 6.5.7(c)

framework it will be consumers<sup>25</sup> and we believe that such an expansive capex program is an obvious response: i.e. SAPN are proposing to spend like all the risk of stranded assets does not lie with them. This misallocation of the risk of stranded assets must be corrected for in the AER's determination.

Clearly, incentives and risks must be appropriately aligned and shared or overall market efficiency will be compromised. In our view, in this determination, the AER must effectively determine how a prudent operator should efficiently respond to such an uncertain future.

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<sup>25</sup> see EUAA submission to Senate Inquiry and MEU Rule Change proposals

## 2. Profitability

Chapter 17 of the SAPN Proposal is titled ‘Service-price trade-off’ and discusses the ‘regulatory bargain’ that seeks to balance the objectives of consumers and the interests of SAPN. The aim being “... a **reasonable commercial return** in providing services to customers at an agreed standard” (p. 157, emphasis added). We accept the need for a reasonable return.

Information presented by Consumer Challenge Panel member Mr Bruce Mountain on the profitability of SAPN compared to its sister company in the UK<sup>26</sup> (and the financial statements of SAPN published by 49% owners Spark Infrastructure)<sup>27</sup> suggest that SAPN’s profitability may be well beyond our notion of a “reasonable commercial return”.

In our view, one clear implication of this is that the ‘benchmark entity’ upon which returns are modelled sets a very low standard compared to what is possible and says as much about the inefficiencies of other distribution businesses as it does about the efficiencies of SAPN. A key issue for the AER is whether SAPN’s customers should be funding such strong profits just because their contemporaries (not their competitors) are so far behind? And, if so, for how long?

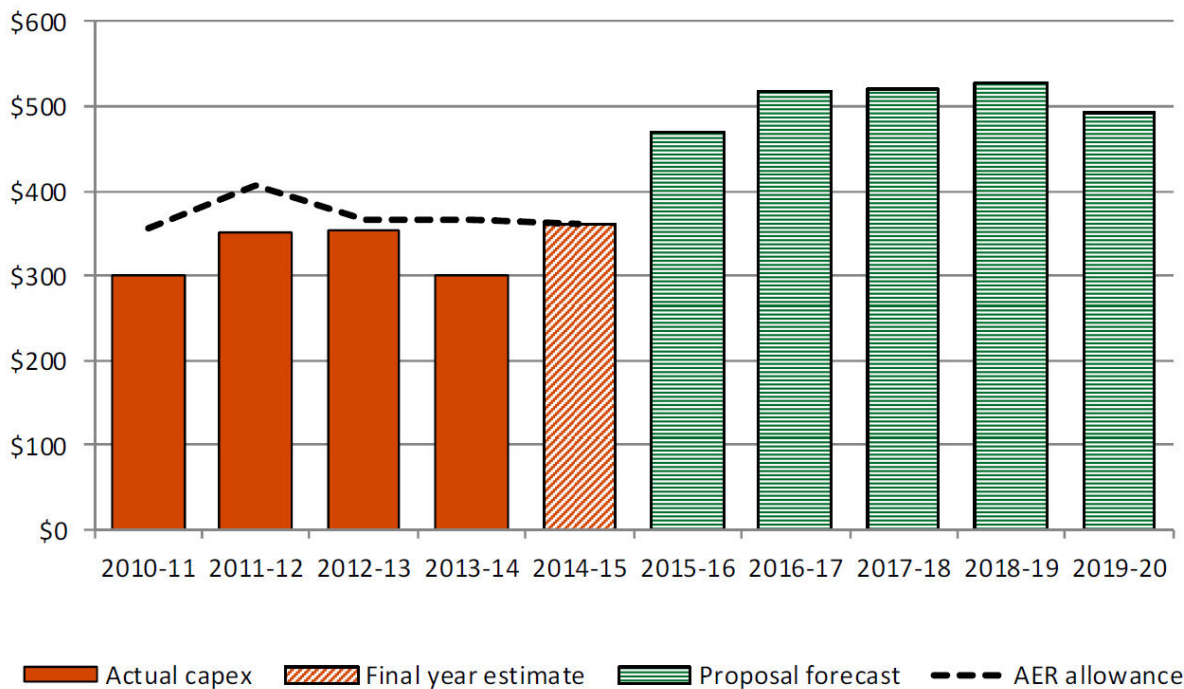
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<sup>26</sup> In 2012 UK Power Networks (majority owned by CKI), also a regulated electricity network business achieved profit before interest and taxes of £711m for delivering electricity to about 8 million entities, a cost per connection of \$161 per connection. In 2012/13 SA Power Networks achieved a profit of about \$710 per connection. This suggests a profit rate for SAPN of about 4 times its UK sibling. Source: Consumer Challenge Panel, Bruce Mountain presentation, AER Forum 10/12/14

<sup>27</sup> <http://sparkinfrastructure.com/investor/reports/fact-books> reports calendar year results for SAPN for 2013 and 2012 that report Underlying Profit after Tax of over \$360m on turnover (75% regulated) of just over \$1,100m in each year – over 30% of revenue.

### 3. Asset Base and Capital Expenditure

Despite spending less than was approved for the current regulatory period, SAPN is proposing a drastic increase in capital expenditure as illustrated below:



**Figure 13:** SAPN current and proposed Capital Expenditure programs (\$million, 2014-15). Source: AER Issues Paper Figure 2

The return on and of this RAB capital value represents the majority of total revenue in SAPN's 2015-20 Regulatory Proposal<sup>28</sup>.

SAPN used its relatively modest real RAB growth from 2005 to 2013 as evidence of its “prudent investment in our network” (see figure 14 below at page 42 of the proposal). However, the proposed capital expenditure program would increase the value of the RAB by around 47%<sup>29</sup> (approximately 30% in real terms) - see figure 15 below. The proposed capital expenditure for 2015-20 totals nearly \$2.5 billion over 5 years<sup>30</sup> and represents an increase of around 50% on the 2010-15 regulatory period<sup>31</sup>.

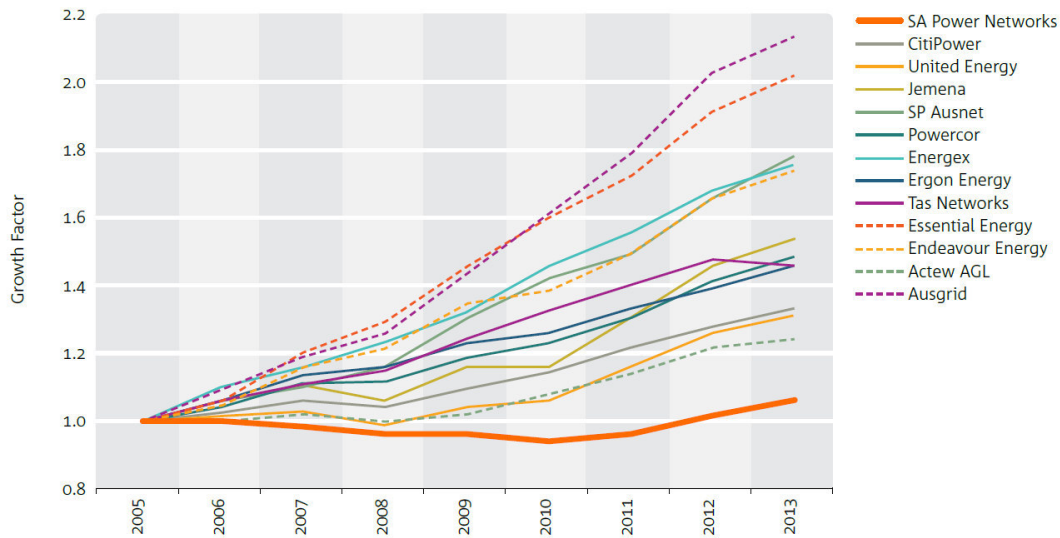
<sup>28</sup> See RP Table 2.5 for Standard Control Services: Return on Capital of \$1,606.6m plus Return of capital of \$862.2m out of total revenue requirement of \$4,419.5m = 56%

<sup>29</sup> AER Issues Paper p. 16

<sup>30</sup> Regulatory Proposal Table 20.4 p. 179

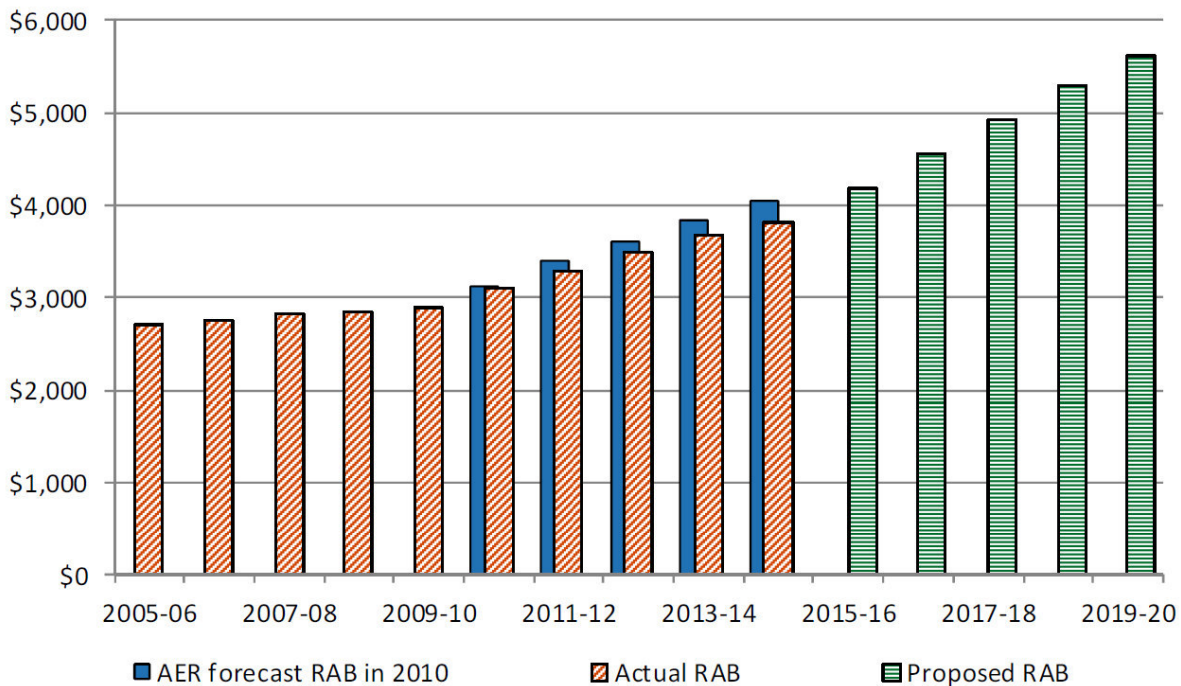
<sup>31</sup> AER Issues Paper p. 11

**Figure 4.7:** Real RAB growth — NEM DNSPs



SOURCE: SA POWER NETWORKS ANALYSIS, BASED ON AER BENCHMARKING DATA 2014

**Figure 14:** SAPN Analysis of the real growth in the RAB of Electricity Distributors in the National Electricity Market. Source: SAPN proposal Figure 4.7



**Figure 15:** SAPN historic and proposed Regulatory Asset Base (\$million, nominal). Source: AER Issues Paper Figure 5

This expenditure program would significantly increase the size of the regulatory asset base (RAB) and lock consumers into completely unsustainable future prices should the cost of capital return to GFC levels. This seems particularly inappropriate and imprudent given SAPN’s own assessment of the future need for electricity distribution.

Under the National Electricity Rules (NER), a strong focus must be placed on what constitutes *prudent* expenditure and not just what can be argued as *efficient* expenditure. The Rules require that only the expenditure needs of a *prudent operator* can be approved<sup>32</sup> and *prudence* is a

<sup>32</sup> NER clauses 6.5.6(c), 6.5.7(c)

requirement of the AER Better Regulation Guideline “*Expenditure Forecast Assessment Guideline for Electricity Distribution (November 2013)*”.

SACOSS is very concerned that SAPN is justifying a near doubling of ‘replacement capital expenditure’ (repex) on having the ‘oldest average asset life of all NEM distributors’ [Issues paper p12]. The proposal does not seem to discuss the extent that this result is skewed by the 85 year plus asset lives of the stobie pole compared with around half that for the timber poles used by other distributors. In the context of an uncertain future, it is our view that a prudent operator would be aiming to strategically reduce the asset base to minimize the risk of stranded assets over the foreseeable future. The proposal presented little evidence that this has been a consideration.

In terms of Network Augmentation capital expenditure (augex), it is our strong view that a much more prudent expenditure program is appropriate. It is noted that the +49% increase in augex can largely be accounted for by a \$300m increase in safety related expenditure [Issues paper p13]. We note that around \$200m of this is ‘service improvements’ justified on the basis of WTP research. For the multitude of reasons discussed in the later section on Consumer Engagement, SACOSS does not accept that this research is sufficiently robust to justify this expenditure. Further, it is entirely unclear that SAPN should be seeking electricity consumer revenue for services that may be more appropriately funded through other means - as is already the case for road safety. Further, the most efficient solutions to the risk of bushfires are more likely to be revealed from analysis of a broad range of technical and management options, not just those that SAPN believes can be funded through the regulatory framework.

We note that SAPN is proposing \$345m in demand driven augmentation expenditure<sup>33</sup>. It was disappointing to read of the limited potential for non-network Demand Management to impact on this expenditure<sup>34</sup>. In the context of flat or falling demand, such continued investment in such long-lived assets does not appear to have been reconciled against stranded asset risks. This is unlikely to satisfy the NEO.

It is noted that reliability expenditure is targeting some of the state’s lowest reliability feeders (and hence worst served customers) including remediation of the powerlines that supply Hawker and Elliston. We also note that the single largest item on the ‘Strategic Projects’ refers to the security of supply to Kangaroo Island. Whilst we support the focus on improving the service to the worst served customers it is unclear why such capital intensive network solutions are the most prudent and efficient. We support the proposed micro-grid trial<sup>35</sup> but question why it is not being developed as an explicit alternative to other expenditure – such as the low reliability feeders for Kangaroo Island.

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<sup>33</sup> RP Table 20.16

<sup>34</sup> RP p. 213

<sup>35</sup> \$2.8m for Trial of a combined distributed storage and centralised storage microgrid solution. Refer to RP p. 219

## 4. Operating Expenditure

SAPN is proposing to continue its upward trajectory of operating expenditure and to include some significant step changes in the 2015-20 Regulatory Period. This is illustrated in Figure 16.

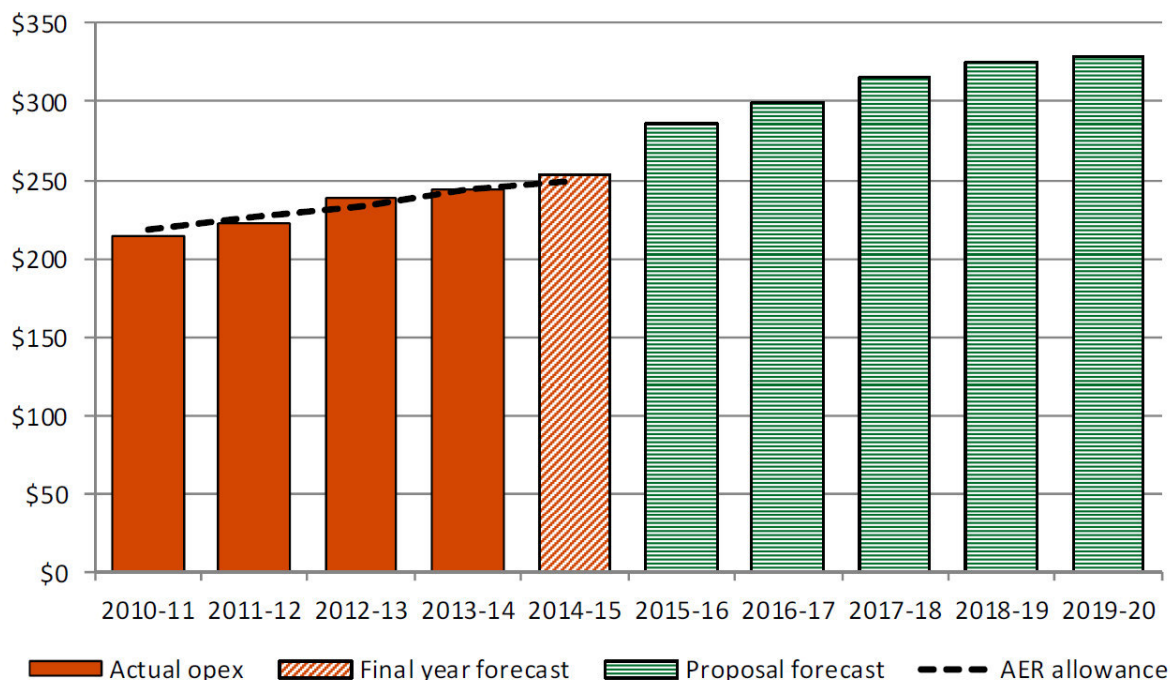


Figure 16: SAPN Opex actual and forecast Source: AER Issues Paper Figure 6

In our view, this ongoing growth in opex is clearly unsustainable and needs to be presented in a way that reflects an overall strategy of containing these costs and generating efficiencies if it is to be considered to be in the long term interests of consumers. Some items are worthy of specific comments such as:

- a. \$33.8m spend on “Demand Side Participation” appears extraordinary and excessive since the expenditure refers to the cost of implementing new cost reflective tariffs (not including the cost of meters). In our view, this must be offset with changes to the risk profile of the business and hence the cost of capital. If it is in the consumer interest it is unclear why it must come at such cost.
- b. The overall IT spend (capex and opex) appears to be part of a strategic re-positioning of the business to cement its monopoly on customer data. For example, according to reports in the energy media from a SAPN investor day presentation in December 2014:<sup>36</sup>

*[In response to questions from analysts, SAPN CEO Rob] Stobbe says that the power, so to speak, will lie with those entities that “own” the data. “They will be the ones that own the future,” he says. And, he notes, networks are a more trusted source of information, advice and service than retailers. “They (the retailers) are not highly regarded,” he said. “We are trusted. They (the customers) know we will be here in another 20, 30, 40 years.”*

It is unclear why it is in the consumer interest to provide SAPN with the funds to do this

<sup>36</sup> at RenewEconomy (<http://reneweconomy.com.au/2014/network-operator-sees-no-future-for-generators-retailers-24660>)

entirely out of regulated revenue.

- c. Step changes in relation to 'customer driven initiatives' are vegetation management 'service improvements' justified on the basis of WTP research. For the multitude of reasons discussed in the later section on Consumer Engagement, SACOSS does not accept that this research is sufficiently robust to justify this expenditure.
- d. Opex step changes based on impacts of capital program impacts are rejected as consequential to a capex program that cannot be justified as efficient or prudent.
- e. SACOSS does not accept the \$105m requested for 'legal and regulatory' changes. In particular, \$42m for asset inspections is not accepted as a 'step change' and is considered to be part of the routine activities of a prudent operator.
- f. SACOSS does not accept SAPN's claim that a 'productivity adjustment factor' should not apply to the proposal<sup>37</sup>. In our view, it is important that consumers are confident that efficiencies are being pursued and the benefits shared with consumers. The absence of such a signal serves to further remove the business from the economic realities faced by other businesses in the South Australian economy.

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<sup>37</sup> RP p. 269



## 5. Rate of Return (WACC parameters)

SACOSS agree with the AER that since the 2010-15 determination, both interest rates and perceptions of economy wide risks have eased [AER Issues Paper p. 24]. SACOSS has commissioned an independent estimate of WACC for SA Power Networks from the South Australian Centre for Economic Studies (SACES). The SACES work (Attachment 1 derives a nominal vanilla WACC of 5.15% as indicated in the table below:

Table 3.8: WACC Parameters and Assumptions

Parameter		Australian Energy Regulator	SA Power Networks	SACES
Description	Notation	Point estimate	Point estimate	Point estimate
<b>WAC Capital parameters</b>				
Proportion of equity in total financing	E/V	0.4	0.4	0.4
Proportion of debt in total financing (i.e. gearing)	D/V	0.6	0.6	0.6
Risk free rate <sup>a</sup>	$r_f$	2.72	2.72	2.72
<b>Parameters for estimating return on equity</b>				
Cost of equity	$E(k_e)$	7.27	9.75	5.72
Market risk premium	$(r_m - r_f)$	6.5 (5.0 to 7.5)	7.72	6.0 (3.1 to 7.4)
Equity beta	$\beta$	0.7 (0.4 to 0.7)	0.91 <sup>b</sup>	0.5 (0.3 to 0.8)
Equity risk premium		4.55	7.02	3.2
<b>Parameters for estimating return on debt</b>				
Credit rating		BBB+	BBB	BBB+ <sup>c</sup>
Bloomberg BBB BVAL				
RBA				4.80
Weighted average of above (50%:50%)		4.91 <sup>d</sup>	4.91 <sup>d</sup>	
New Issue Premium			0.30	0.21
Debt allowance		4.91	5.21	5.01
<b>Imputation credits</b>				
Value of imputation credits	$\gamma$ (gamma)	0.5	0.25	0.36
Payout ratio (i.e. distribution rate)	$F$	0.7	0.70	0.8
Utilisation rate	$\theta$ (theta)	0.7	0.35	0.45 (0.437 to 0.623)
Nominal Vanilla WACC	$WACC_{vanilla}$	5.85	6.84	5.15

**Notes:**

- a In order to allow approaches to be compared, the average yields for 10 year Australian Government bonds for the twenty trading days up to 22 January 2015 has been used as an input to the model and for the SACES, AER and SAPN parameters where it is relevant (RBA 2015b).
- b Based on a weighted average of equity betas for the four financial models: Sharpe-Linter (0.82), Black CAPM (0.90), Fama-French (0.93) and dividend discount model (0.94).
- c Although the indicative credit rating proposed is BBB+ we recommend a weighted average of the A- and BBB data series be used to set the debt allowance (with the latter series itself combining bonds with credit ratings of BBB+, BBB and BBB-).
- d Bond rates, including those in the RBA series have dropped sharply in the latter part of 2014. For illustrative purposes to assist in comparing the three sets of parameters, the December 2014 values for the BBB bond series in the RBA data (2015a) have been used as if they are the average of the Bloomberg and RBA series for both the AER and SAPN proposals as we do not have access to the Bloomberg data. If, as was the case when SAPN produced their regulatory proposal, the Bloomberg estimates are slightly lower than the RBA series then this will slightly overstate the costs of debt proposed by AER and SAPN.

Source: Australian Energy Regulator (2013b,c), SA Power Networks (2014), RBA (2015a, b), calculations SACES.

Figure 17: WACC Parameters and Assumptions Source: SACES (2015) p.18

SACOSS was disappointed, but not surprised, to see that SAPN has made some departures from the AER's Rate of Return guidelines. We also note that SAPN is proposing to annually update the return on debt. Combined with the AER moving to 'trailing' average' approach to estimating bond yields, the move to a revenue cap and the introduction of more 'cost reflective' tariffs, we feel that this is another example of the relatively low risk environment in which SAPN operate.

Our comments on the WACC elements follow:

## Market Risk Premium (MRP)

The SACES analysis of three approaches to estimating the MRP for investment in Australian equities is summarised below:

The most reliable guide to estimating the MRP is the long run average of 'excess returns to the stock market'. Further this should be based on the period from 1998 (following the introduction of dividend imputation in 1998 and the deregulation of Australia's financial markets in 1980) if the estimates are to be relevant to the contemporary market.

The geometric mean of 'excess returns' should not be dismissed (as recommended by SFG Consulting for SAPN) but incorporated with the arithmetic mean in a weighted average. SACES recommends a point estimate of 4.6%. SACES agrees that this should be converted to a 'with imputation credit' equivalent using the estimate of the parameter gamma.

SAPN rely heavily on the Dividend Growth Model (DGM) developed by SFG Consulting for SAPN and others as part of the Australian Competition Tribunal Limited Merits Review process regarding the parameter gamma in the current determination. SACES identifies key limitations with DGMs and their reliance on assumptions around key inputs. Further the market response to going ex-dividend is more reflective of changes in short-term economic and market conditions than the required return on equity for longer term capital. However, SACES does see a need for inclusion of a longer time series and has incorporated the DGM estimates. SACOSS is of the view that DGM estimates should either not be used or be discounted in a weighted average to reflect the uncertainties and assumptions.

SACES is dismissive of MRP estimates derived from surveys of market participants as is SFG Consulting for SAPN. SACOSS is of the view that estimates from surveys should either not be used or be discounted in a weighted average to reflect the uncertainties and assumptions.

Relying on a simple average of the 'excess returns' estimate for post-1998 and the DGM estimates with a correction for the utilisation of imputation credits (at SACES preferred estimate of the parameter gamma) provides an estimate of MRP of -6% compared to the 6.5% of the AER's draft decisions for the NSW businesses (Issues paper p. 25) and SAPN's 7.7%.

## Equity Beta

The SACES report confirms that the 'regulatory precedent' of 0.7 for the 'equity beta' ( $\beta$ ) in the AER's draft decision for NSW represents the high point on a range with a strong evidence base pointing toward 0.5.

This parameter estimates the volatility in returns of the benchmark entity against the market at large as considered in developing the MRP estimate. SACOSS is of the view that the regulatory framework has provided for an even lower risk operating environment in the coming regulatory period (also see SACES page 15):

- SAPN is proposing to annually update the return on debt.
- The AER is moving to a 'trailing' average' approach to estimating bond yields – smoothing revenue volatility for SAPN
- The move to a revenue cap and the introduction of more 'cost reflective' tariffs will largely insulate SAPN from revenue risk

SACOSS notes a recent article in The Australian<sup>38</sup> that used SAPN owner Spark Infrastructure's climbing share price as evidence that:

*"Investors aren't buying claims of a death spiral in the electricity distribution business ... The climbing share prices highlight expectations that the distributors will find a way to overcome expectations that distribution charges should be falling in light of reduced demand."*

Further, in relation to the move to revenue caps:

*As analysts at JP Morgan said in a note to clients yesterday, the new model cannot come soon enough. "Given the slide in demand registered in the half, we feel a sense of relief that revenue cap tariffs are just around the corner for both the VIC and SA businesses".*

*"While the next reset will be conducted under the new (and more stringent) regulatory rules, expected returns will no longer be dictated by volume performance compared to regulatory forecasts."*

In our view, such an investor response is another example of the relatively low risk environment in which SAPN operate. On this basis SACOSS supports an estimate of 0.5 for the equity beta.

### Cost of Debt

SACOSS was disappointed to see SAPN arguing to deviate from the Rate of Return Guidelines and argue for a BBB benchmark (compared to BBB+) when its own credit rating is A-/A3<sup>39</sup>. SACES recommends a weighted average of bond yields that incorporates a proportion of A-series yields and not the B-series alone (which already incorporate BBB-, BBB and BBB+)<sup>40</sup>.

In our view, the spread in the cost of debt between the assumed 'benchmark' and the frontier represented by SAPN is too large to be considered as an incentive for efficient financing arrangements and is instead an opportunity for windfall gains at the expense of consumers.

Following the SACES recommendation yields a cost of debt estimate of 4.8%. SACES has also considered the SAPN proposal for a 'new issue premium' as reasonable.

### Value of imputation credits

We understand that SAPN has proposed a value of 0.25 for the parameter 'gamma' ( $\gamma$ ) and the advice we received from SACES is that evidence is emerging for a value below the 0.5 in the Rate of Return guidelines – such as the 0.4 determined by the AER in its Draft Decision on the NSW Electricity Distribution Businesses (Nov 2014). SACOSS supports the use of a value of at least 0.4 for gamma in this regulatory period in concert with the other parameter values as determined by SACES.

SACOSS notes the strong reliance being placed by SAPN (and other DNSPs) on estimates of gamma derived from dividend drop-off studies by SFG Consulting. SACES has however recommended that estimates derived from dropped dividend studies be disregarded and we encourage the AER to consider the reasoning contained in the SACES report attached (p19). SACES are of the view that these studies reflect the behaviour of active traders who are a minority

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<sup>38</sup> Andrew White, The Australian August 27<sup>th</sup> 2014 "Investors pull plug on talk of 'death spiral' in electricity distribution"  
[www.theaustralian.com.au/business/mining-energy/investors-pull-plug-on-talk-of-death-spiral-in-electricity-distribution/story-e6frg9df-1227037930026](http://www.theaustralian.com.au/business/mining-energy/investors-pull-plug-on-talk-of-death-spiral-in-electricity-distribution/story-e6frg9df-1227037930026)

<sup>39</sup> Source: Spark Infrastructure Fact Book: HY2014 available from <http://sparkinfrastructure.com/investor/reports/fact-books>

<sup>40</sup> SACES Report p. 16

of equity holders whose behaviour is not necessarily representative of the median investor in the benchmark entity.

SACOSS also notes the apparent differences in interpreting the role of imputation credits in the regulatory framework. It is disappointing in the extreme that such basic differences in opinion can exist after such effort went into developing the Rate of Return guidelines (and the other outputs of the AER's Better Regulation Program).

We understand that the NSW Distribution Businesses have rejected the value of 0.4 and have re-submitted their original 0.25 in their Revised Proposals to the AER. It is understood that further work has been commissioned from SFG Consulting. Given the previous success in arguing for a gamma of 0.25 at the Australian Competition Tribunal, it is probably not surprising that this parameter is lining up as a likely candidate for a Limited Merits Review again. It is very difficult for consumers to have confidence in the regulatory arrangements when there is such a difference in views. In our view, the AER must ensure a consistent and holistic treatment of the role of imputation credits in both the estimates of Market Risk Premium and the Tax Allowance.

## 6. Consumer Engagement

The SA Power Networks (SAPN) 2015-20 Regulatory Proposal has been developed from a consultation program called 'Talking Power'. SACOSS acknowledges the effort put into developing and presenting this proposal by SAPN. Our view though is that consumer engagement was approached more as an opportunity to 'sell' more of SAPN to consumers than to genuinely promote the consumer interest. Overall, SACOSS is of the view that this proposal is a misread of SAPN's role in the SA economy and their entitlement to a share of household budgets. In our experience, the SAPN approach to this proposal has been to seek ways to justify maintaining revenues in a context of lower costs of capital.

SACOSS is generally disappointed with the processes and outcomes of SA Power Networks consumer engagement strategy. Very few of SACOSS's organisational members were directly consulted by SA Power Networks, although it is evident that these organisations are key stakeholders in the revenue determination processes. SACOSS consistently communicates with its members on issues relating to energy pricing and we are constantly aware of how important an issue this is for our members. For example, SACOSS has held two major Conferences on the topic of Affordability and Hardship in Energy and Water. Attendance at these Conferences has included a significant number of SACOSS members. With as many as 100 individuals participating, SACOSS considers this is an example of the evidence which indicates widespread interest in energy pricing issues, including from SACOSS members. SACOSS organisational membership is currently over 100 organisations from the health and community sector.

Of those SACOSS members who had been consulted by SA Power Networks, SACOSS is aware that there is agreement that SA Power Networks did not adequately convey information about price and cost implications of possible expenditure options during its consumer engagement activities. SACOSS is extremely disappointed that SAPN did not provide SACOSS with options and scenarios for service and price trade-offs at any time during its consumer engagement. Although participants in SA Power Networks consultations were asked to indicate their preferences about expenditure priorities, SACOSS believes that they were not given sufficient information which would enable these assessments to be made. SACOSS considers that this was a significant failure in SA Power Networks' Talking Power program.

The above two examples are reasons why SA Power Network's consumer engagement processes were not satisfactory to SACOSS. However, there is another more salient reason for SACOSS' conclusions about the inadequacy of SA Power Network's consumer engagement and that relates to outcomes. SACOSS is strongly of the view that although SA Power Networks were able to engage with a number of consumers, the SA Power Networks regulatory proposal fails to reflect one of the priority concerns for consumers which is a strong desire for reduced electricity prices.

In 2014, SACOSS commissioned Colmar Brunton Research (CBR) to conduct research into electricity usage and perceptions of pricing amongst South Australians (refer to Attachment 2). Particular attention was given to the impact of pricing changes, households that have experienced financial hardship, and usage responses to extreme temperatures. 600 South Australian households were contacted through computer assisted telephone interviews (CATI). The research was conducted between the 2nd and 9th of April 2014.

The research found that 93% of respondents would like to see a reduction in the price of electricity, with only 7% saying they were comfortable with the current electricity pricing. Furthermore, "there is evidence of stress in some households for paying electricity bills (which is heightened during heat waves). Overall 10% of households indicated difficulty paying bills on time, 20% were concerned about their ability to pay their next electricity bill, and 15% of bill payers indicated they

felt “very stressed” about their capacity to pay their electricity bills in general.”<sup>41</sup>

Given the very high proportion of consumers who would like to see a reduction in the price of electricity and the related stress experienced by a significant number of consumers, SACOSS finds the price outcome of SA Power Networks Regulatory Proposal is not possible to accept. And because the consumer engagement strategy is what underpins the price outcome of SA Power Networks Regulatory Proposal, SACOSS has concluded that the consumer engagement strategy has to have been fundamentally flawed.

Furthermore, the consumer engagement by SA Power Networks failed to offer SACOSS the opportunity to explore several key areas for SACOSS as they relate to SAPN’s operations. These include: SAPN’s RAB and WACC, SAPN’s consumers capacity to pay, tariff structures and repex priorities. SACOSS notes that SACOSS was invited to discuss concerns relating to SAPN’s consumer engagement at a meeting on 1 October 2014. At this meeting, SACOSS expressed general concerns about consumers not being provided with information about cost and price implications of expenditure priorities, and SACOSS believes repex priorities are one such example. The meeting also discussed the WACC and consumer concerns about SAPN not discussing that. SACOSS agreed with that sentiment. There was also discussion about consumers’ capacity to pay and tariff structures. In particular, SACOSS raised the issue of tariff structures as a priority for SACOSS and we indicated that we are keen to meet with SAPN to discuss their proposals for tariff structures over 2015-19. SACOSS has since written to SAPN on 15 October 2014 to request a meeting on tariff structures and we are extremely disappointed that we are yet to have a reply to that request.

#### AER Consumer Engagement Guideline for Network Service Providers

The key elements of the Consumer Engagement Guideline for Network Service Providers (the Guideline) which SACOSS believes were not satisfied by SAPN included:

- Failing to provide all of the relevant information that consumers need to provide adequate feedback to SAPN about what consumers would like to see in SAPN’s proposal;
- Engaging with relevant end user groups – SACOSS notes many of its members were not engaged by SAPN during their consultations. See for example, the SAFCA submission;
- Failing to engage consumers and consumer representatives on more complex issues such as the weighted average cost of capital and tariff structures;
- Failing to provide adequate information to consumers to enable consumers to participate in a meaningful way to seek outcomes that are in the consumers’ interests (see comments above regarding cost and price implications);
- Failing to highlight how consumer input on some of the major areas of a revenue proposal would affect business operations and the 2015-20 expenditure proposal, for example WACC;
- Not developing a range of key performance indicators to measure engagement strategies and activities;
- Not developing systems to allow for regular measurement of key performance indicators (KPIs); and
- Failing to publish progress against KPIs.

In summary, SACOSS does not believe that the resultant proposal is in the long term interests of consumers. Although the comprehensive SAPN proposal is still useful in that it can remain the basis for prioritizing expenditure up to the SACOSS proposed level of 25% less revenue than that proposed by SAPN.

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<sup>41</sup> Colmar Brunton Research (2014) ‘Energy Payment Research’ p. 8

## Critique of Willingness to Pay for Service Improvements

The Regulatory Proposal includes around \$200m of capital expenditure and \$32m in operating expenditure on 'service improvements' justified on the basis of *willingness to pay* (WTP research). For the multitude of reasons discussed below, SACOSS does not accept that this research is sufficiently robust to justify this expenditure.

The SA Power Networks (SAPN) 2015-20 Regulatory Proposal has been developed from a consultation program called 'Talking Power'. This program included some specific research to measure the consumer willingness to pay for additional levels of vegetation management around power-lines and targeted undergrounding of the network. Significant expenditure is then justified on the basis of this research<sup>42</sup>.

The SAPN Regulatory Proposal 2015-20 [pp65-66] states:

### 6.3.4 Willingness to Pay survey

As the customer initiated principles and proposals for undergrounding and vegetation management do translate to a range of investment levels, SA Power Networks considered it prudent to test Willingness to Pay using discrete choice modelling techniques. This Willingness to Pay research was independently carried out by The NTF Group during January and February 2014 and involved responses from 895 customers aged 18 to 65 plus. We also undertook some qualitative research on these matters with hardship customers in April 2014.

The service improvements tested in the Willingness to Pay research comprised combinations of vegetation management activities and undergrounding power lines in high bushfire risk areas (HBFRA), bushfire risk areas (BFRA) and non-bushfire risk areas (NBFRA).

Community consultation confirmed majority support and Willingness to Pay for the following service enhancements:

- implementing a program for 2.5% removal and replacement of vegetation in NBFRA, HBFRA and BFRA;
- move from a 3 year to a 2 year trimming cycle for vegetation near power lines in NBFRA;
- undergrounding up to 135kms of power lines in HBFRA; and
- undergrounding power lines around 20 traffic black spots in NBFRA.

The research results and the revised strategies were subsequently fed back to the March 2014 briefing discussed above. The research summary prepared by The NTF Group is available on our TalkingPower.com.au website, in Attachment 6.8, and further discussed in Chapters 11 and 15.

The service improvements proposed result in significant capital and operating expenditure:

- \$32 million in opex over 5 years for vegetation management
- \$128.6 million in capex for undergrounding in HBFRA
- \$77.5m in capex for undergrounding at traffic black spots.

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<sup>42</sup> The NTF Group (NTF) report "SAPN Targeted Willingness to Pay Research – Research Findings July 2014"

SACOSS supports the emphasis on consumer engagement in the current incarnation of the regulatory framework and sees the testing of willingness to pay (and variations on the same theme) as an important part of that engagement. However, when such significant expenditure is attached to this approach it was considered prudent to test two questions:

- Has the research accurately revealed WTP?
- Has SAPN correctly implied levels of investment based on the stated WTP?

The above questions are now discussed in turn but, first, SACOSS would like to thank SAPN for their efforts in responding to our questions. We asked for a copy of the survey instrument used in the WTP study and this was provided (and published on the Talking Power website). We also challenged the conversion of WTP to expenditure and SAPN were able to answer all of our questions and provide a written response.

SACOSS agrees with SAPN's choice of service improvements to test; these do seem to represent issues of importance for many in the community. We also think it was important for SAPN to test customers' willingness to pay. However, in our view, while this is an important contribution to the engagement of consumers in the regulatory process we are not convinced that it is sufficiently robust to justify over \$200m in capital expenditure and over \$6m in ongoing operating costs.

The reasons for our unwillingness to accept the WTP work as justification for expenditure are discussed below. In short we do not believe that the research has accurately revealed willingness to pay and we also do not believe SAPN has correctly converted the derived WTP estimates to expenditure proposals. As a consequence the expenditure for service improvement cannot be accepted. The key issues are:

- The use of online surveys
- Sample size and uncertainty
- The threshold of acceptance is arbitrary
- Re-weighting of results
- Did respondents understand the costs implied by their choices?
- The costs don't appear to accumulate in the survey
- The cost scenarios have already expired
- Residential WTP is not enough to fund the projects
- Willingness to Pay vs Capacity to Pay

Each of this is discussed further below

#### The use of online surveys skews the sample

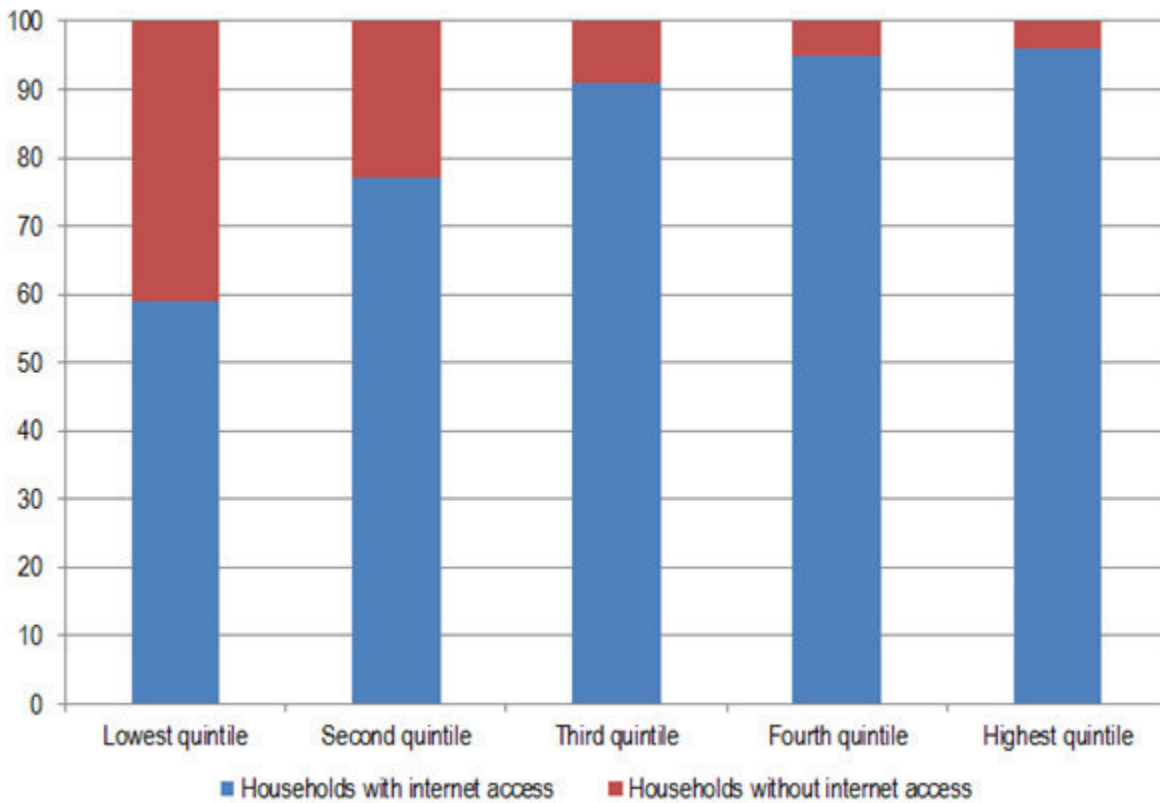
We are not convinced that reliance on an online survey to be representative of SAPN's customer base is appropriate. We note from the NTF report that two "modes of recruitment"<sup>43</sup> were used – telephone recruitment (directing people to the online survey) and an "online panel".

We would like to draw the AER's attention to the challenges to participation this presents for lower income households, particularly the elderly. The Australian Bureau of Statistics (ABS) publishes data on household and personal Internet Access and Usage in 8146.0 – Household Use of Information Technology, 2012-13. According to the ABS, 17% of households did not have internet access at that time. Figure 18 relates households with and without internet access by equivalised household income quintile and shows that over 40% of households in the bottom quintile report not having home internet access.

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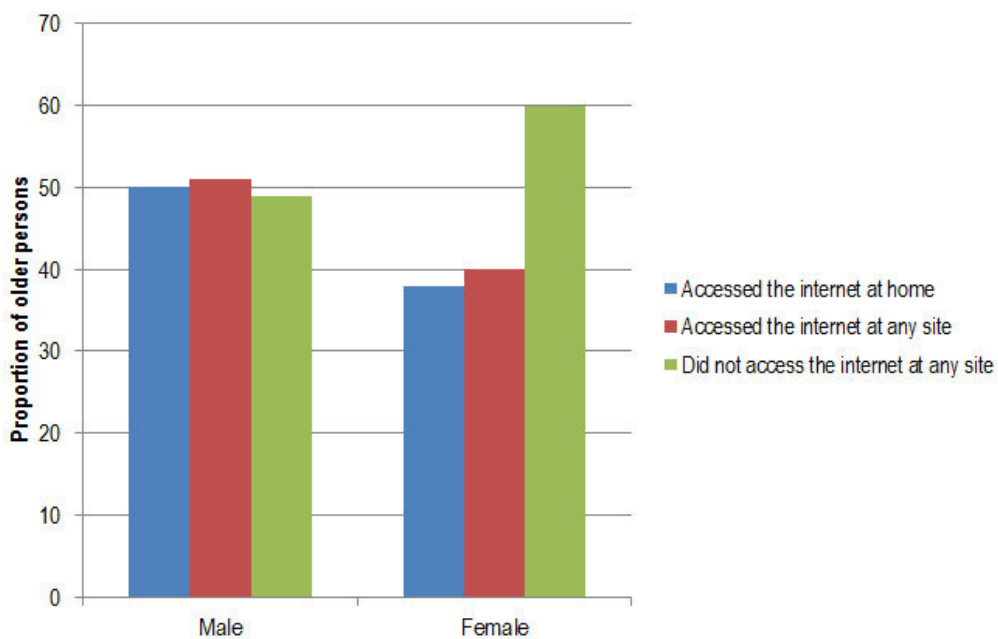
<sup>43</sup> NTF Group (2014) SAPN Targeted Willingness to Pay Research – Research Findings at <http://www.aer.gov.au/sites/default/files/SAPN%20-%206.8%20PUBLIC%20-%20NTF%20Targeted%20Willingness%20to%20Pay%20Research%20Findings.pdf> p. 9



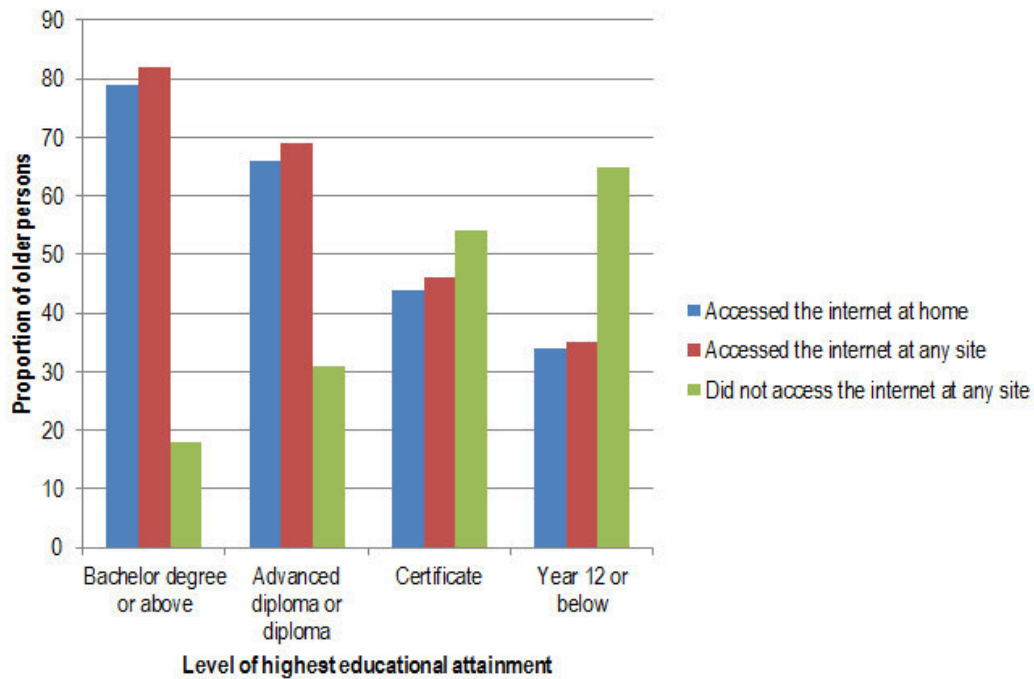


**Figure 118:** Household Internet Access by Equivalised household Income Quintile. Source: ABS 8146.0 2012/13

The issue seems to be more acute for older Australians (over 65) as illustrated in figure 19. These figures indicate that a majority of older Australians do not access the internet. While we acknowledge that the sample was reweighted based on age this does not imply a representative weighting of other relevant attributes – especially when such a significant group is effectively excluded. This is particularly the case for those without tertiary education qualifications as illustrated in 20.



**Figure 19:** Internet Access by older persons. Source: ABS 8146.0 2012/13



**Figure 20:** Internet Access by older persons in relation to level of education attainment. Source: ABS 8146.0 2012/13

We note that the NTF Report<sup>44</sup> also refers to an additional set of 30 in-depth interviews which were conducted with hardship customers. However we understand that this was to capture attitudes and motivations rather than data for the WTP study.

### Sample size and uncertainty

Unfortunately, the NTF report<sup>45</sup> does not incorporate any estimates of uncertainty on their findings. Further, it is unclear just how many of the overall sample of 895 is reflected in the final results. We note from the WTP Survey Instrument that “survey respondents were randomly allocated to one of two ‘base case’ pricing structures”;<sup>46</sup>

- Scenario 1 – No real increase in distribution costs; and
- Scenario 2 – Assumes a 4% reduction in distribution costs (a \$6.90 reduction in the average bill)

It then appears as though the second scenario is adopted for the final report but it is not clear if responses based on the first scenario were included or discarded nor the final sample size of each category:

*“At the time of the WTP research, certain aspects of SA Power Networks’ price modelling remained uncertain. Consequently, two then-likely scenario outcomes were used as a basis for the WTP research, one in which the distribution component of the bill is assumed to remain constant in real terms (Scenario 1) ; the second where distribution costs are assumed to reduce by 4% for the current service level (Scenario 2).*

*As work program development progressed, it became apparent that the -4% scenario most closely approximated the planned approach that would form the basis of consultation in*

<sup>44</sup> NTF Group (2014) op cit

<sup>45</sup> NTF Group (2014) op cit

<sup>46</sup> NTF Group (2014) Survey Instrument at [http://talkingpower.com.au/wordpress/wp-content/uploads/SAPN\\_WTP-Survey-Instrument.pdf](http://talkingpower.com.au/wordpress/wp-content/uploads/SAPN_WTP-Survey-Instrument.pdf) p. 26

May 2014. Therefore the 'assumed 4% reduction in distribution costs' scenario is modelled in the Willingness to Pay Research Findings, July 2014 report.<sup>47</sup>

### The threshold of acceptance is arbitrary

The consultants have selected 55% acceptance as a threshold of support for a proposal:

*In WTP research there are no accepted deterministic rules governing the level of WTP support that mean a given proposal has community endorsement. Service improvements receiving greater than 50% WTP represent majority customer support. To use an analogy from Federal Elections or Referendums, a political party or proposal garnering a 55% majority (in two-party-preferred terms) is deemed to have attracted a significant majority of community support.*

*Therefore, in NTF's opinion SA Power Networks has an evidence based case for improvement proposals where 55% of the community or more are willing to fund the proposal.<sup>48</sup>*

It is interesting from the results that acceptance for all of the proposals put forward ranged from 49-63% in the HBRA cases (with 40% accepting all proposals), 45-65% in the NBFRA cases (with 45% accepting all proposals) and 56% accepting the blackspots proposal. Given the inherent uncertainty in these techniques, 55% seems rather arbitrary. For example, another defensible measure of a clear majority – 2 out of 3 or 66% would have meant that none of the proposals have sufficient support.

### Re-weighting of results

As is the case with all surveys, there are issues with the selection of participants and the weighting of their results so as to ensure that the sample is representative of the broader population. The breakdown of results by customer category (mainstream, solar and hardship) tended to indicate that solar customers had greater financial resources and were more willing to pay than others. Hardship customers tended to indicate a lower willingness to pay and clearly a reduced capacity to pay. The sample was post-weighted to mimic census data for age and gender and then further weighted to reflect the proportion of solar households in SA. The sample was 'overweight' with solar customers and they have been re-weighted from 39% to 28%. Hardship customers represent 19% of the results after weighting. The selection of these weights is contestable and the results could have been sensitivity tested range of values.

Further, given that significant expenditure related to BFRA's it may have been prudent to ask respondents whether they lived in a BFRA in order to test for any impact on preferences. This would have been particularly relevant given that the survey was conducted at the height of bushfire season in South Australia (January-February).

### Did respondents understand the costs implied by their choices?

An obvious criticism of choice studies is that "it's not real money" and that respondents will tend to overstate their willingness to pay. Further, SACOSS has heard the WTP research described as "push polling". Again, these are obvious criticisms, but ones that must be further explored given the expenditure at stake.

The NTF Survey Instrument provides sample screens from the online survey. For example:

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<sup>47</sup> NTF Group (2014) op cit p. 3

<sup>48</sup> NTF Group (2014) SAPN Targeted Willingness to Pay Research – Research Findings p. 5

0%  100%

### Traffic Blackspot Scenarios

Here you are able to choose one of **three improvement options**, or to **maintain the current network**.

	MAINTAIN CURRENT Network & Service	MINOR IMPROVEMENT	MODERATE IMPROVEMENT	MAJOR IMPROVEMENT
<b>Undergrounding Powerlines</b>	Current Service Offering	Reduce potential for vehicle collisions by undergrounding powerlines in <b>10 Traffic Blackspots</b> . Approximately 5 intersections and 5km of road.	Reduce potential for vehicle collisions by undergrounding powerlines in <b>20 Traffic Blackspots</b> . Approximately 10 intersections and 10km of road.	Reduce potential for vehicle collisions by undergrounding powerlines in <b>30 Traffic Blackspots</b> . Approximately 15 intersections and 15km of road.
<b>Change in your quarterly bill</b>	A \$6.90 average decrease in your current bill.	Additional \$0.75, which is the equivalent of an average \$6.15* decrease in your quarterly bill.	Additional \$1.55, which is the equivalent of an average \$5.35* decrease in your quarterly bill.	Additional \$2.35, which is the equivalent of an average \$4.55* decrease in your quarterly bill.
<b>Choose</b>	<input type="button" value="CHOOSE"/>	<input type="button" value="CHOOSE"/>	<input type="button" value="CHOOSE"/>	<input type="button" value="CHOOSE"/>

\* Includes GST



Figure 21: Sample screen of the NTF online survey Source: NTF<sup>49</sup>

<sup>49</sup> Targeted Willingness to Pay Survey Instrument: Prepared for the NTF Group for SA Power Networks, January 2015 available from <http://talkingpower.com.au/your-views/> or [http://talkingpower.com.au/wordpress/wp-content/uploads/SAPN\\_WTP-Survey-Instrument.pdf](http://talkingpower.com.au/wordpress/wp-content/uploads/SAPN_WTP-Survey-Instrument.pdf)

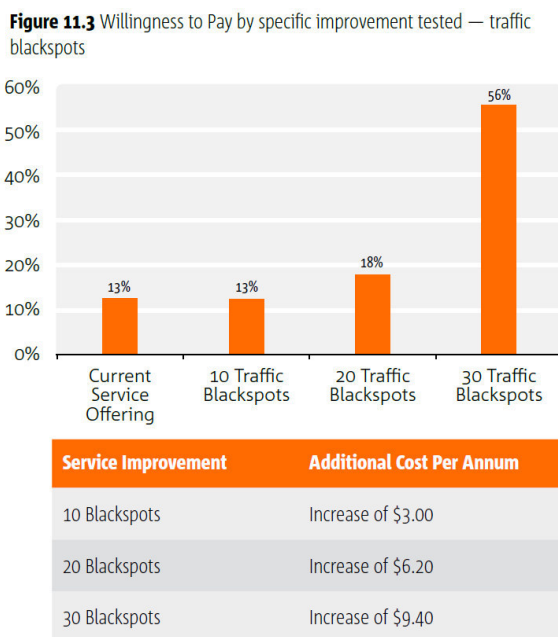
In this case it appears that respondents were, in effect, asked to what extent they would be willing to forego a reduction in their current bill to implement the three levels of improvement (minor, moderate, major). This seems to us as being quite different to the results presented.

For example, the NTF Group Research Findings report states:

*“The majority of customers (56%) support undergrounding 30 traffic blackspots, representing an increase of \$9.40 on their annual electricity bill.”<sup>50</sup>*

The Regulatory Proposal states:

*“The Willingness to Pay discrete choice modelling research, Figure 11.3, identified that the majority (56%) of those surveyed were willing to pay up to an additional \$9.40 annually for a targeted program of undergrounding power lines ...”<sup>51</sup>*



SOURCE: THE NTF GROUP, SA POWER NETWORKS TARGETED WILLINGNESS TO PAY RESEARCH — RESEARCH FINDINGS, THE NTF GROUP PTY LTD, JULY 2014.

**Figure 22:** Presentation of Willingness to Pay for service improvements in SAPN 2015-20 Regulatory Proposal (figure 11.3)

The Regulatory Proposal states:

*“SA Power Networks is proposing a level of expenditure of \$77.4 million (June 15 \$). This is \$30.3 million below the level supported by customer’s Willingness to Pay responses.*

*We have reduced the proposed expenditure after giving consideration to the overall capital expenditure program and the related impact on customers’ bills”<sup>52</sup>*

SACOSS is not convinced that an online survey that couches costs in terms of: “your bill will be \$6.90 lower per quarter, would you like to spend \$2.35 (i.e. a third) of this to make a “major

<sup>50</sup> NTF Group (2014) SAPN Targeted Willingness to Pay Research – Research Findings p. 18

<sup>51</sup> SAPN (2014) Regulatory Proposal p. 18

<sup>52</sup> SAPN (2014) Regulatory Proposal p. 108

improvement” and “reduce potential for vehicle collisions ...”<sup>53</sup> is really the same as the question “are you willing to pay an additional \$9.40 per annum”.

It is similarly very difficult to accept that \$77m in capital expenditure can be justified on the basis of surveying consumers on whether they would be prepared to accept a bill reduction of \$4.55 instead of \$6.90.

A similar approach appears for increasing the frequency of tree trimming in NBFRA's where the improved service is costed as “additional \$7.65, which is the equivalent of an average \$0.75 increase in your quarterly bill”.<sup>54</sup> This 75c every three months becomes \$13.5m in expenditure over 5 years.

In our view the overall approach to the presentation of costs in the survey instrument is highly contestable and open to being considered misleading. This is expanded on further below.

#### The costs don't appear to accumulate in the survey

It appears that each set of choices is presented without costs accumulating. It is unclear if this is a valid method of eliciting WTP for multiple measures: \$12 in BFRA, \$3.40 in NBFRA's and \$9.40 for traffic blackspots – a combined WTP of \$24.80 per annum – all of which were based on the same scenario of a “ ... \$6.90 average decrease in your current bill”. This is not possible if the respondent has already expressed a WTP for an earlier proposal.

#### The cost scenarios have already expired

The WTP survey was conducted in the first quarter of 2014. The DUoS component of residential tariffs increased on July 1<sup>st</sup> 2015. For the average 5000kWh pa customer the net increase was \$24. This included \$28 as a Vegetation Management charge following the approval of a pass-through application to the AER by SAPN. For the median 4000kWh pa customer, the net increase was \$14 including \$21 as a Vegetation Management charge.

It is unclear if the survey would have elicited the same responses if the questions had been prefaced with ‘from July you will be paying an extra \$28 in vegetation management charges ...’. It is particularly unfortunate that the combined WTP of \$24.80 is almost identical to the prices already imposed by SAPN since the research was conducted.

#### Residential WTP is not enough to fund the projects

SACOSS performed an initial review of whether the WTP figures used (\$ per customer per annum) would be enough to cover such a significant expenditure program. Our view was that the revenue generated by the WTP amounts would not be enough to cover the expenditure.

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<sup>53</sup> NTF Group (2014) Survey Instrument p. 30

<sup>54</sup> NTF Group (2014) Survey Instrument p. 27

Project	Activity	WTP (\$pa)	Annual total (\$m)	NTF Ref	Capex (\$m)	Opex 15-20 (\$m)	Opex pa (\$m)	SAPN Ref
BFRA	Remove and replace 2.5% vegetation pa. Underground 135km.	\$12.00	\$ 9.0	3.1.1	\$ 128.6	\$ 9.2	\$ 1.8	Table 11.1, 11.2
NBFRA	Remove and replace 2.5% vegetation pa. 2 yearly trim cycle. Arborists. Comms.	\$ 3.40	\$ 2.6	3.1.2		\$ 22.7	\$ 4.5	Table 15.2
Traffic Blackspots	Targeted undergrounding at 20 sites	\$ 6.20	\$ 4.7	3.1.3	\$ 77.5	-		Table 11.1
	TOTALS	\$ 21.60	\$ 16.2		\$ 206.1	\$ 31.9	\$ 6.4	

**Figure 23:** Summary of estimated WTP and subsequent expenditure proposals. Source: SACOSS analysis of SAPN Regulatory Proposal

Multiplying the WTP by SAPN's 750,000 residential customers yielded revenue of \$16.2m pa. Opex needs \$6.4m pa leaving just under \$10m to pay the principal and interest on \$200m in capex. At SAPN's proposed cost of capital (7.62%) the return on capital is \$15.7m (averaging \$15m over the first five years) and straight-line depreciation over 50 years would return just over \$4m pa of the initial capital. A revenue shortfall of around \$10m pa is apparent. This was queried with SAPN and a prompt response received.

Based on SAPN's response, the shortfall can be accounted for by their assumption that since 48% of total revenue is collected from residential customers, expenditure of  $1/0.48 = 2.1$  times the expressed WTP can be justified. That is, the WTP expressed by individuals can be extrapolated to be represented of all of SAPN's customers.

SACOSS does not believe that this is a valid approach to justifying such a significant expenditure program.

#### Willingness to Pay vs Capacity to Pay

The qualitative analysis of the face-to-face interviews with hardship customers highlights a key issue of concern for SACOSS – households expressing a willingness to pay beyond their capacity to pay. The NTF report states:

*“While this group exhibited a diversity of opinion, there was broad support for the improvement initiatives tested, even if generally these customers don't necessarily have the financial capacity to pay more.”<sup>55</sup>*

It would be easy to dismiss this as the influence of the \$30 Coles-Myer gift voucher presented at the interview but we are of the view that this highlights the problem of selling service improvements to the 'average customer' but asking all customers to pay for it.

As shown in the introduction, we are of the view that customer hardship, debt and disconnection data is evidence of an electricity market that has already taken prices beyond the community's capacity to pay.

<sup>55</sup> NTF Group(2014) SAPN Targeted Willingness to Pay Research – Research Findings p. 33

## 7. Other Issues

The AER Issues Paper identifies a number of other key issues with the proposal. We note that significant changes are proposed for the regulatory period in relation to the reform of metering and tariffs. SAPN are also proposing changes to the Service Target Performance Incentive Scheme (STPIS) to include additional incentives to improve supply reliability during major storms and heatwaves. We note that both of these include aspects that are ‘service improvements’ but unlike the topics of vegetation management, bushfires and road safety – and despite being of a similar dollar value - were not subjected to willingness to pay research in order to test the cost effectiveness of proposals. Each is discussed in turn:

### 7.1 Metering

SAPN have provided a comprehensive plan for substantial changes to metering and tariffs for households and small business in the coming regulatory period. Our summary perspective is that, in the absence of clear policy guidance, SAPN have taken the opportunity to propose an arrangement that will maximize their likely share of the future metering market.

We agree with the AER’s initial view that the proposed metering arrangements, including the proposal for significant meter ‘exit fees’ are likely to inhibit the development of effective competition in the provision of metering services<sup>56</sup>. The development of an efficient market for metering is considered essential to the implementation of tariff reform and greater demand-side participation. SACOSS oppose the charging of meter exit fees.

The SACOSS experience in relation to metering continues to be one of disjointed policy and practice. The SAPN proposal refers repeatedly to a *draft* policy position from the South Australian Government regarding new and replacement metering<sup>57</sup> and the COAG Energy Council’s “Expanding competition in metering and related services” Rule Change *proposal* (AEMC Ref ERC 0169 and RRC0002 are yet to reach a draft determination). While policy guidance remains vague it is not surprising that SAPN are proposing an arrangement that will maximize their commercial interests.

Similarly, we understand the commercial imperative behind not consulting on the plan before lodging the regulatory proposal. In our view however, such ambiguity increases the risks consumers will be left to pay for the inefficiencies that result – such as SAPN saying that only from 2015 will they be able to stop installing the *known-to-be-obsolete* ‘dumb’ accumulation meters<sup>58</sup>.

According to SAPN, metering (categorized, and referred to, as Alternative Control Services) requires \$178.5m in revenue over 2015-20 and has an Asset Base of \$85m that is projected to grow to over \$100m by 2020<sup>59</sup>. This represents 3.9% of SAPN’s proposed total revenue<sup>60</sup> and a larger proportion of the revenue collected from the household market<sup>61</sup>. A market of this size is obviously attractive to competitors, especially retailers, in a time of declining sales volumes.

We note that the AER’s Draft Decision for the NSW DNSPs dealt with the residual costs of legacy accumulation meters not with ‘exit fees’ but by allowing the residual value to be transferred back to the Standard Control Service Regulatory Asset Base<sup>62</sup>. From here, these sunk costs are recovered from all consumers (including the consumer who ‘exited’ the meter). SACOSS is of the view that more detailed consultation on the tariff and metering proposal is required but is of the view that the

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<sup>56</sup> AER Issues Paper , p. 31

<sup>57</sup> [www.sa.gov.au/topics/water-energy-and-environment/energy/energy-providers-and-bills/advanced-electricity-meters-consultation](http://www.sa.gov.au/topics/water-energy-and-environment/energy/energy-providers-and-bills/advanced-electricity-meters-consultation)

<sup>58</sup> SAPN Regulatory Proposal Attachment 14.3 SAPN Tariff and Metering Business Case 1.0 p. 28

<sup>59</sup> SAPN RP Attachment 25.2b “Post Tax Revenue Model ACS metering”

<sup>60</sup> SAPN RP Overview page 17 Figure 22 and 23: SCS Total revenue of 4396.9m, ACS Total revenue of 178.5m

<sup>61</sup> This issue is only relevant to small customers. Residential comprises approx. 90% of small customers by number. Residential customer provide approx. 50% of SAPN’s regulated revenue (Source: SAPN RIN data)

<sup>62</sup> AER – Draft Decision Ausgrid Distribution Determination – Attachment 16 – Alternative Control Services November 2014



AER's approach in NSW is reasonable. We note that SAPN also appear to be open to alternatives:

*[RP p. 357] "As discussed, SA Power Networks is open to considering options which avoid the imposition of exit fees and reduce the administration costs where meters are transferred or replaced provided these alternative options keep SA Power Networks whole in terms of recovering costs including residual value of meters."*

We also understand that SAPN are proposing to transition to monthly reading for all customers during 2017/18. SACOSS is very concerned about the replacement volumes in this proposal and at this stage, does not support SAPN's proposal.

SACOSS is quoted in the SAPN Tariff and Metering Business Case (Attachment 14.3 pp. 31 and 39) as supporting a move to monthly billing for households. In our experience, customers – especially those struggling with affordability – are much less likely to suffer 'bill shock' if they are receiving more frequent feedback on their actual consumption. In that sense we agree with the following SAPN comment (p. 272).

*"Significant beneficiaries are vulnerable customers, who are most susceptible to the bill shock that can be associated with quarterly billing."*

However, SACOSS has not been consulted on the details of the proposal or the proposed additional cost of \$49.2m over the five years (including around \$13m pa from 2017/18). This equates to around \$15 per annum for each small customer and, in our view, warrants more scrutiny than simply being presented as one small part of the regulatory proposal. Especially when this adds to the \$33.8m in opex proposed for the implementation of cost-reflective tariffs:

*[RP p. 257] "We will also incur additional operating IT and Telecommunications expenditure associated with IT system upgrades necessary to accommodate more advanced metering in South Australia, including third-party smart meters. The forecast cost of this initiative is \$33.8 million (June 2015 \$) over the five years."*

To emphasise the lack of consultation on the costs of the proposal, we would like to contrast the quote attributed to SACOSS by SAPN and the source from which it was taken:

SAPN RP Attachment 14.3 – Tariff and Metering Business Case 1.0 p. 31:

Customer surveys have found that the majority of customers in South Australia have a preference for monthly billing [38]. Consumer advocates also cite monthly billing as a key tool to assist vulnerable customers in managing their electricity use and avoiding 'bill shock'. In its 2014 submission in response to DMITRE's new and replacement meter policy proposal, the South Australian Council of Social Services (SACOSS) wrote:

*"SACOSS is of the view that the metering-related issue of most immediate importance to the consumers we represent is the issue of monthly billing based on actual meter reads – whether these be manual or remote reads." [39, emphasis as in original]*

However, the complete paragraph from the referenced SACOSS submission talks directly about the costs of doing so<sup>63</sup>:

<sup>63</sup> [www.sa.gov.au/topics/water-energy-and-environment/energy/energy-providers-and-bills/advanced-electricity-meters-consultation](http://www.sa.gov.au/topics/water-energy-and-environment/energy/energy-providers-and-bills/advanced-electricity-meters-consultation)

SACOSS is of the view that the metering-related issue of most immediate importance to the consumers we represent is the issue of monthly billing based on actual meter reads – whether these be manual or remote reads. SACOSS is developing policy proposals to expand monthly meter reading to vulnerable consumers at little or no direct cost.

Similarly, from our submission to the AEMC’s “Competition in Metering Rule Change” Issues Paper<sup>64</sup>:

SACOSS is of the view that the metering-related issue of most immediate importance to the consumers we represent is the availability of monthly billing based on actual meter reads at no-cost or low-cost. Overall, while there are many other benefits of smart(er) meters, SACOSS is concerned that the distribution of costs and benefits between consumers may be such that a net benefit does not accrue to the consumers we represent.

Unfortunately this probably characterises our experience of Talking Power: agreement on principles is easy until you have to talk about cost.

Overall, SACOSS has not been able to reconcile all of the metering and tariff related elements of the proposal. The inclusion of some expenditure under Alternative Control Services (ACS) and related expenditure under Standard Control Services (SCS) has compounded the complexity. In our view, a consolidated presentation of all related proposals and expenditures is required in order to justify the combined expenditure. SACOSS is disappointed with the level of consultation on such an important aspect of the coming regulatory period but understands the impact of clear policy guidance.

SACOSS is willing and able to provide a consumer perspective into the negotiation of a longer term approach to metering in South Australia that meets the needs of consumers at modest cost.

### 7.3 Additional incentive to improve supply reliability during major storms and heatwaves

The AER Issues Paper also identifies an SAPN proposal to change the financial incentives it is paid for supply reliability (Issues Paper p. 33). The proposal involves changes to the Service Targets Performance Incentive Scheme (STPIS)<sup>65</sup> that the AER estimate has the potential to increase customer bills by 1%.

SACOSS notes that “Responding to severe weather events” was identified in the SAPN Directions and Priorities publication earlier in 2014 but was unaware of the details prior to reviewing the Regulatory Proposal. We are of the view that the proposal should discuss the relationship with the process of setting service standards through the Essential Services Commission of SA<sup>66</sup>. The service standards established prior to the lodgment of SAPN’s Regulatory proposal refer to the treatment of ‘Major Event Days’ and SAPN should explain to consumers how these two processes align and provide for consistent treatment and incentives.

SACOSS commends SAPN for their work during extreme weather events and is of the view that the framework should both reward this performance and incentivise continuous improvement. However, as much as we trust SAPN to deliver a high quality service we also have faith in their ability to generate substantial revenue in doing so. Overall, SACOSS accepts this as an area of priority in a more prudent expenditure program rather than an avenue for additional revenue.

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<sup>64</sup> AEMC Expanding competition in metering and related services, <http://www.aemc.gov.au/Rule-Changes/Expanding-competition-in-metering-and-related-serv>

<sup>65</sup> SAPN proposal p. 292

<sup>66</sup> ESCOSA SA Power Networks Service Standard Framework 2016 – 2020, <http://www.escosa.sa.gov.au/projects/194/sa-power-networks-service-standard-framework-2015-to-2020.aspx>

## 8. Notes on prudence

Define Prudent: [www.merriam-webster.com/dictionary/prudent](http://www.merriam-webster.com/dictionary/prudent)

: characterized by, arising from, or showing [prudence](#) [: having or showing careful good judgment]: as

*a* : marked by wisdom or [judiciousness](#) <*prudent* advice>

*b* : [shrewd](#) in the management of practical affairs <*prudent* investors>

*c* : marked by circumspection : [discreet](#)

*d* : [provident](#), [frugal](#) [: careful about spending money or using things when you do not need to : using money or supplies in a very careful way : simple and plain : characterized by or reflecting [economy](#) in the use of resources]

.....

[Better Regulation] Expenditure Forecast Assessment Guideline for Electricity Distribution November 2013.

The AER is required under the National Electricity Law (NEL) to perform its tasks in a manner that will or is likely to contribute to the achievement of the national electricity objective (NEO).[ NEL, section16(1)(a). ]

[p. 6] In essence, the NEO places an overarching requirement on the AER to make distribution determinations that will deliver efficient outcomes to the benefit of consumers in the long term ...

When we make a distribution determination, we must decide whether or not we are satisfied that a DNSP's proposed total capex forecast and total opex forecast reasonably reflect the capex criteria and opex criteria (collectively, the expenditure criteria). These criteria are NER, clauses 6.5.6(c), 6.5.7(c):

- (1) the efficient costs of achieving the capex and opex objectives
- (2) the costs that **a prudent operator** would require to achieve the capex and opex objectives
- (3) a realistic expectation of the demand forecast and cost inputs required to achieve the capex and opex objectives.

When considering whether forecasts reasonably reflect the expenditure criteria, we must have regard to the capex and opex factors (collectively, the expenditure factors).<sup>12</sup> [NER, clauses 6.5.6(c), 6.5.7(c)]

If satisfied, we must accept the DNSP's forecast.<sup>13</sup> [NER, clauses 6.5.6(c), 6.5.7(c), 6.12.1(3)(i), 6.12.1(4)(i). ] If we are not satisfied, we must not accept the forecast <sup>14</sup> [NER, clauses 6.5.6(d), 6.5.7(d)] and estimate a total forecast that we are satisfied reasonably reflects the expenditure criteria.<sup>15</sup> [NER, clauses 6.12.1(3)(ii), 6.12.1(4)(ii). ] That is, we must either amend the DNSP's estimate or substitute it with our own estimate. Whether we accept a forecast or do not accept it, we must provide reasons for our decision.<sup>16</sup> [NER, clause 6.12.2.]

At page 9: “**Efficiency and prudence are complementary**

We consider that the notion of efficient costs complements the costs that a prudent operator would require to achieve the expenditure objectives. **Prudent expenditure is that which reflects the best course of action, considering available alternatives.** Efficient expenditure results in the lowest cost to consumers over the long term. That is, prudent and efficient expenditure reflects the lowest long term cost to consumers for the most appropriate investment or activity required to achieve the expenditure objectives.”

Also on page 9:

**Past expenditure was sufficient to achieve objectives**

When we rely on past actual expenditure as an indication of required forecast expenditure, we assume that the past expenditure incurred by the DNSP was sufficient for it to achieve the expenditure objectives. That is, the DNSP's past expenditure was the amount required to manage and operate its network at that time, in a manner that achieved the expenditure objectives.

When we make this assumption, expenditure forecasts need to account for changes to the assumed efficient starting point expenditure. Accounting for such changes (including in demand, input costs, regulatory obligations and productivity) ensures the DNSP receives an efficient allowance that **a prudent operator** would require to achieve the expenditure objectives for the forthcoming regulatory control period.

And page 14: “We expect DNSPs to justify and explain how their forecasting methodology results in a prudent and efficient forecast, so if a methodology (or aspects of it) do not appear reasonable, we will require further justification from the DNSP.”

From the issues paper consultation:

“In particular, PIAC notes that the AER itself has referred in the Issues Paper to the need to take a long-term perspective on the expenditure proposals, saying:

The concept of efficiency contained in the NEO and the revenue and pricing principles reflects a longer-term perspective, addressing the interests of consumers and the implications of investment requirements over the long term. **In this context we will be assessing expenditure proposals from a whole of life perspective**, with the NSPs expected to provide evidence that they have considered investment and operational decisions over this timeframe.<sup>12</sup> (PIAC emphasis) <sup>12</sup> = AER, *Expenditure Forecast Assessment Guidelines – Issues Paper*, 2012., 18-19.



SOUTH AUSTRALIAN  
**CENTRE FOR ECONOMIC STUDIES**



ADELAIDE & FLINDERS UNIVERSITIES

# **Independent Estimate of the Weighted Average Cost of Capital (WACC) for SA Power Networks, 2015 to 2020**

## **Final Report**

Report commissioned by the  
**South Australian Council of Social Services**

Report prepared by the  
**South Australian Centre for Economic Studies**

**January 2015**

## Contents

<b>Executive Summary</b>	<b>(i)</b>
<b>1. Introduction</b>	<b>1</b>
<b>2. WACC Approach and Estimates</b>	<b>2</b>
2.1 Weighted average cost of capital in regulation	2
2.2 The AER's approach	3
2.3 The SAPN proposal	4
<b>3. SACES Assessment of Key Parameters</b>	<b>6</b>
3.1 Broad approach to the calculation of WACC	6
3.2 Is the risk free rate 'abnormally low'	6
3.3 Market risk premium	7
3.4 Equity beta	11
3.5 Equity risk premium	13
3.6 Cost of debt	13
3.7 Value of imputation credits	14
3.8 Summary of WACC parameter estimates	17
<b>Bibliography</b>	<b>19</b>

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## Executive Summary

The South Australian Centre for Economic Studies (SACES) was commissioned by the South Australian Council of Social Services (SACOSS) to provide them with an independent assessment of the Weighted Average Cost of Capital (WACC) to be used in the SA Power Networks 2015 to 2020 determination.

The available timeframe and budget for the assessment precluded substantial new analysis with the focus instead on critically assessing the existing published evidence.

The results of our assessment are summarised in Table E.1

**Table E.1: WACC Parameters, SACES Recommendations**

Parameter		SACES
Description	Notation	Point estimate
<b>WACC parameters</b>		
Proportion of equity in total financing	$E/V$	0.4
Proportion of debt in total financing (i.e. gearing)	$D/V$	0.6
Risk free rate <sup>a</sup>	$r_f$	2.72
<b>Parameters for estimating return on equity</b>		
<b>Cost of equity</b>	<b><math>E(k_e)</math></b>	<b>5.72</b>
Market risk premium	$(r_m - r_f)$	6.0 (3.1 to 7.4)
Equity beta	$\beta$	0.5 (0.3 to 0.8)
Equity risk premium		3.2
<b>Parameters for estimating return on debt</b>		
	$E(k_d)$	
Credit rating		BBB+ <sup>b</sup>
Bloomberg BBB BVAL		
RBA		4.80
Weighted average of above (50%:50%)		
New Issue Premium		0.21
<b>Debt allowance</b>		<b>5.01</b>
<b>Imputation credits</b>		
<b>Value of imputation credits</b>	<b><math>\gamma</math> (gamma)</b>	<b>0.36</b>
Payout ratio (i.e. distribution rate)	$F$	0.8
Utilisation rate	$\theta$ (theta)	0.45 (0.437 to 0.623)
<b>Nominal Vanilla WACC</b>	<b><math>WACC_{vanilla}</math></b>	<b>5.15</b>

**Notes:** a In order to allow approaches to be compared, the average yields for 10 year Australian Government bonds for the twenty trading days up to 22 January 2015 has been used to as an input to the model and for the SACES, AER and SAPN parameters where it is relevant (RBA 2015b).

b Although the indicative credit rating proposed is BBB+ we recommend a weighted average of the A- and BBB data series be used to set the debt allowance (with the latter series itself combining bonds with credit ratings of BBB+, BBB and BBB-)

**Source:** Australian Energy Regulator (2013), RBA (2015a, b), calculations SACES.

In calculating the market risk premium we believe the most reliable guide is the average of the historic excess returns on the Australian stock exchange, calculated from 1988 as the introduction of dividend imputation credits represents a regime change. However, as this means there are only 23 years of returns data available for the calculation we also incorporate the AER's estimates derived from dividend growth models.

We regard the estimates of  $\beta$  from Henry (2014) and ERA (2014) as reliable estimates, and recommend that the point estimate reflect the mean value across the estimation methods and key parameter choices. Whilst we agree with the AER that the theoretical basis of the Black CAPN suggests S-L CAPM's may underestimate the degree of risk for firms or portfolios with a  $\beta$  below 1, this is offset by the reduction in risk resulting from the shift to a revenue cap.

We believe that the benchmark efficient entity has a credit rating of BBB+, but because data for narrow credit rating is unavailable we recommend the use of a weighted average of the RBA's 10 year A- and BBB non-financial corporate bond yields.

In calculating  $\gamma$  we recommend the use of Hanley's estimate of 0.8 for the payout ratio (2014), and an equal weighted average of the ATO's FAB data (from Hathaway 2013) and data from the ABS's national accounts on the ownership of equity for the utilisation rate.



## **1. Introduction**

SA Power Networks is the licensed operator of South Australia's monopoly electricity distribution network. Its activities are subject to regulation by both the Essential Services Commission of South Australia (ESCOSA) and the Australian Energy Regulator (AER). The latter has commenced a process to determine efficient prices for SA Power Network's electricity distribution services for the next regulatory control period which spans from 1 July 2015 to 30 June 2020.

As part of the regulatory determination process SA Power networks is due to submit its regulatory proposal on 31 October 2014. AER will be accepting public submissions in relation to the proposal up to 2015 before publishing a draft distribution.

An important input into the price determination process will be an estimate of the weighted average cost of capital (WACC) for SA Power Networks. The WACC is the expected cost on average for all the various components of capital (equity and debt) used by the firm. Alternatively, it represents an estimate of the expected rate of return on company assets. All other things being equal, the higher the estimated WACC then the higher will be the efficient prices allowed by a regulator.

As part of its submission in response to SA Power Networks (SAPN) regulatory proposal, the South Australian Council of Social Service (SACOSS) is interested in proposing a WACC that is supported by independent analysis. SACOSS has consequently approached the South Australian Centre for Economic Studies (SACES) to review SAPN's WACC proposal with regard to the National Electricity Objective and develop an independent estimate of the WACC.

The remainder of the report is organised as follows. Chapter 2 reviews the preferred WACC methodology nominated by AER including proposed point and range estimates for certain parameters. SAPN's proposed parameter values and overall WACC estimate, including deviations from the SAPN approach, are also considered in this section. Chapter 3 details SACES derivation of an independent WACC estimate for SAPN, including the rationale for selecting particular parameter values.

## 2. WACC Approach and Estimates

### 2.1 Weighted average cost of capital in regulation

Network utilities such as electricity network businesses comprise natural monopolies. In Australia, such entities are subject to regulatory oversight to ensure that such businesses do not abuse their market power and that electricity markets operate in an efficient, reliable and secure manner. As part of the regulatory process the Australian Energy Regulator (AER) is responsible for setting the prices charged for using energy networks. In setting prices AER must take into account the need to ensure sufficient investment to meet customer demand and service quality standards while ensuring that network businesses can earn a fair return on their capital investment.

Under the National Electricity Rules, the return on capital is calculated by applying an *allowed rate of return* to the value of the regulatory asset base in respect of each regulatory year. The allowed rate of return is defined in terms of achieving the *allowed rate of return objective*. The allowed rate of return objective in turn states that:

“...the rate of return for a Distribution Network Service Provider is to be commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to the Distribution Network Service Provider in respect of the provision of standard control services”.<sup>1</sup>

Furthermore, the National Electricity Rules (NER) state that the *allowed rate of return* for a regulatory year must be:

- “a weighted average of the return on equity for the regulatory control period in which that regulatory year occurs...and the return on debt for that regulatory year...”; and
- “determined on a nominal vanilla basis that is consistent with the estimate of the value of imputation credits referred to in clause 6.5.3” [i.e. the estimation of the cost of corporate income tax]”.

The weighted average of the return on equity and debt is otherwise known as the Weighted Average Cost of Capital (WACC). In mathematical terms the AER expresses WACC as follows:

$$WACC_{vanilla} = E(k_e) \frac{E}{V} + E(k_d) \frac{D}{V}$$

where  $E(k_e)$  is the expected return on equity (post-tax);

$E(k_d)$  is the required return on debt (pre-tax);

$E/V$  is the proportion of equity in total financing; and

$D/V$  is the proportion of debt in total financing.

The return on equity represents the return that is required in order to induce equity investment (i.e. purchase of common or preferred stock) into the company, or ensure that existing shareholders continue to invest. The required return on debt is more straight forward, simply being the interest rate paid on debt. Assumptions regarding the return on equity and, to a lesser degree, return on debt represent the key variables in the WACC formula and are discussed further below.

The proportion of equity and debt in total financing is determined with reference to the most optimal mix of financing that would be adopted by a benchmark entity. Empirical evidence regarding the optimal gearing ratio (i.e. the value of debt to total capital) for a benchmark entity is used to identify the proportion of debt in total financing, with the proportion of equity then falling out as the remainder. After considering four different approaches that indicated a level of gearing ranging from 59 to 66 per cent, the AER proposed maintaining its existing gearing assumption of 60 per cent (2013a). The gearing ratio

<sup>1</sup> National Electricity Rules (NER), Version 65, Section 6.5.2 (c)

appears to have broad agreement with SAPN adopting the assumptions proposed by the AER – refer Table 2.1 which shows the WACC parameters proposed by AER and SAPN.

Before considering the return on equity and debt it is worth clarifying the definition of benchmark entity as it has implications for estimating both the return on equity and debt.

### **Benchmark Efficient Entity**

As stated above, determination of the rate of return for a regulated network provider is predicated on the basis of efficient financing costs for a benchmark efficient entity with a similar degree of risk. The rationale here is that by assessing the overall return on the basis of an efficient benchmark entity rather than the individual business in question, the latter will face incentives to operate in an efficient manner. Information including market data and other publically available information about such benchmark equities is consequently used to determine parameter assumptions for estimating the rate of return.

For the purpose of regulating electricity and gas network providers the AER (2013, p.153) defines the benchmark entity as a “pure play”, regulated energy network business operating within Australia”. ‘Pure play’ here refers to an entity that effectively has a single business focus or activity (e.g. electricity distribution services). As a consequence, vertically integrated utilities, such as an economic utility that provides generation, transmission, distribution and retail services, would be considered outside the scope of a benchmark firm. While the functions of electricity industry (i.e. generation, transmission, distribution and retail) has been unbundled into separate businesses in most states and territories, the pure play nature of the benchmark entity needs to be borne in mind when considering international comparisons.

The identification of other parameters for the WACC is based on what would be expected from a typical network service provider when it is being operated efficiently.

## **2.2 The AER’s approach**

The AER’s broad proposed approach is set out in the three volumes of the rate of return guidelines (2013a, b, c)

### **Return on Equity (E(ke))**

The return on equity that stockholders require in order to invest in a company comprises the broader market risk premium required by investors to compensate for the additional risks of holding equity, together with the idiosyncratic risk of investing in a particular equity. Neither of these factors are directly observable on an *ex ante* basis. One must consequently estimate the required return on equity indirectly using available *ex post* data.

The Sharpe-Lintner Capital Asset Pricing Model (CAPM) represents the original instance of the capital asset pricing model. The Sharpe-Lintner CAPM postulates that the expected return of an equity should be equal to the return on a theoretical risk free asset and the expected return on the market taking into account the asset’s systematic or market risk (i.e. the degree to which the performance of the asset varies relative to the market wide average). It may be expressed mathematically as:

$$E(Re) = R_f + \beta(R_m - R_f)$$

where  $E(R_e)$  is the required rate of return on equity

$R_f$  is the risk free rate;

$\beta$  is the equity beta coefficient for the particular stock or portfolio; and

$(R_m - R_f)$  is the market risk premium for investing in a diversified portfolio of equities (typically defined as a broad stock index such as the ASX All Ordinaries).

The AER has proposed that the Sharpe-Lintner CAPM be used as the “foundation model” for estimating a point estimate and range for the expected return on equity (AER 2013). However, rather than estimating the model directly, the AER proposes that each component of the model will be identified from the range of data sources that are regarded as most reliable. In most cases this involves identifying a plausible range for the parameter in question, and then selecting a point estimate. The exception to this is the risk free rate which is defined as the Australian Government 10 year bond rate averaged over the 20 days prior to the determination.

In estimating the market risk premium the AER drew on historical excess returns to stocks, evidence from surveys of market practitioners, financial market indicators, estimates from other regulators, and estimates from a range of dividend growth models to identify a plausible range for the parameter, with the point estimate identified based on the mean values of the sources of evidence, the strengths and weaknesses of each of the approaches and expert judgement.

The plausible range for the equity beta was identified based on the Sharpe-Lintner CAPM's for the nine network service providers which were listed on the Australian stock exchange over recent times using the AER's preferred MRP value. The preferred point estimate from within that range was selected with reference to the theory underpinning the Black CAPM.

The estimate for the value of imputation credits drew on ATO data for the payout ratio, and drew on four sources for an estimate of the utilisation rate; giving a high weight to ownership of equity data from the ABS's national accounts and analysis of ATO data from Hathaway (2013), and a low weight to dividend drop-off analyses and Lally's 'conceptual goalposts' approach.

### **Return on Debt ( $E(kd)$ )**

An important consideration in respect of the benchmark entity is the credit rating assigned to the benchmark entity. For regulatory decisions the AER proposes a benchmark credit rating of BBB+ or its equivalent. The credit rating is selected based on empirical evidence regarding credit ratings for existing businesses that closely match the benchmark entity. The AER's choice is based on a median credit rating of BBB+ for the period from 2002 to 2012, although it noted some recent credit rating downgrades such that the median credit rating in 2013 was BBB. In selecting its preferred credit rating assumption AER gave greater weight to the historical results.

## **2.3 The SAPN proposal**

SAPN's regulatory proposal differs from AER in a number of respects.

It recommends that the cost of equity be calculated using the results of four equity pricing models, the Sharpe-Lintner CAPM, the Black CAPM, the Fama French model and a dividend discount model, with no weight being given to evidence from the historic average rates of return to the equity market. Their preferred point estimate was calculated by taking a weighted average of four estimates prepared by SFG Consulting, with the dividend discount model given a weighting of 25 per cent, the Fama French model 37.5 per cent, the Shape-Lintner CAPM 12.5 per cent and the Black CAPM 25 per cent (SAPN 2014, p.319)).

In terms of the cost of debt, SAPN (2014) proposes a credit rating of BBB on the basis that “the median rating of comparable firms is currently only BBB”. They also propose the inclusion of an allowance of 30 basis points to allow for the 'new issue premium'.

In calculation of the value of imputation credits, SAPN concurs with the AER that the ATO data is the best source of the payout ratio, but recommend that the utilisation rate be derived solely from the results of a dividend drop-off analysis undertaken by SFG Consulting.

In considering the parameters set out in Table 2.1 it is important to keep in mind that the variable elements of the SAPN proposal for the WACC such as the risk free rate were the values as at the preparation of their proposal and are subject to updating to reflect up-to-date values at the time of the determination.

**Table 2.1: WACC Parameters, AER Rate of Return Guidelines and SAPN Regulatory Proposal 2015–20**

Parameter		Australian Energy Regulator	SA Power Networks
Description	Notation	Point estimate	Point estimate
<b>WAC Capital parameters</b>			
Proportion of equity in total financing	E/V	0.4	0.4
Proportion of debt in total financing (i.e. gearing)	D/V	0.6	0.6
<b>Parameters for estimating return on equity</b>			
Risk free rate	$r_f$	-	3.43
Market risk premium	$(r_m - r_f)$	6.5 (5.0 to 7.5)	7.72
Equity beta	$\beta$	0.7 (0.4 to 0.7)	0.91 <sup>a</sup>
Cost of equity (including risk free rate)	$E(k_e)$		
Sharpe Linter CAPM			9.74
Black CAPM		na	10.35
Fama-French Model		na	10.57
Dividend discount model		na	10.72
Weighted average cost of equity estimate		na	10.45
<b>Parameters for estimating return on debt</b>			
	$E(k_d)$		
Credit rating		BBB+	BBB
Bloomberg BBB BVAL			5.29
RBA			5.60
Weighted average of above (50%:50%)			5.44
New Issue Premium			0.30
Debt allowance			5.74
<b>Imputation credits</b>			
Value of imputation credits	$\gamma$ (gamma)	0.5	0.25
Payout ratio (i.e. distribution rate)	$F$	0.7	0.70
Utilisation rate	$\theta$ (theta)	0.7	0.35
<b>Nominal Vanilla WACC</b>	<b>WACC<sub>vanilla</sub></b>		<b>7.62</b>

**Note:** a Based on a weighted average of equity betas for the four financial models: Sharpe-Linter (0.82), Black CAPM (0.90), Fama-French (0.93) and dividend discount model (0.94).

**Source:** Australian Energy Regulator (2013b, c) and SA Power Networks (2014).

### 3. SACES Assessment of Key Parameters

#### 3.1 Broad approach to the calculation of WACC

We agree with the AER that a 'building block' approach of sourcing the highest quality and most appropriate elements of the WACC from a range of sources rather than seeking to use a consistent set of data to source all estimates, is the most appropriate approach.

The key components of the WACC over which there is some disagreement are:

- the appropriate market risk premium for equity investment in Australia;
- the extent to which returns on equity for utilities are correlated with those of the broader equity market (the parameter  $\beta$ , which combined with the overall market risk premium gives the equity risk premium for the "benchmark efficient entity");
- the approach to transitioning to a 10 year trailing average approach to calculating the cost of debt;
- the most appropriate value for the cost of debt for the "benchmark efficient entity" (and in particular which credit rating should be used to benchmark costs);
- what allowance to make for capital raising costs; and
- the value of imputation credits to the median investor in the "benchmark efficient entity".

We have no view on the best approach to transition towards the trailing average approach, but each of the other issues is reviewed in this chapter in turn.

#### 3.2 Is the risk free rate 'abnormally low'

There is a consensus amongst stakeholders that the Australian Government 10 year bond rate represents an appropriate proxy for the risk free rate in general circumstances. However, SAPN in their regulatory proposal contend that the current levels of Australian Government bond rates are abnormally low and if used in the WACC would lead to insufficient returns on equity. (2014, pp. 303-305)

This view is expounded at greater length in work undertaken by SFG consulting for IPART. SFG Consulting observed that "the combination of low government bond yields and a constant market risk premium estimate led to estimates of the required return to equity holders which seemed implausibly low, as they occurred during periods of above-average volatility in equity market returns and share prices which were low compared to earnings and dividends". (IPART, 2013)

SFG argued that there were at least two possible explanations for low bond yields which have different implications for selecting the appropriate MRP. The first is the emergence of low inflation expectations which implies that the real expected return on equity is normal, meaning a constant market risk premium of 6.0 per cent may be appropriate. On the other hand, there may be a 'flight to safety' as increased uncertainty leads investors to seek the safest security available, in this case government bonds, resulting in downward pressure on yields. Indeed, financial markets during and immediately following the GFC are well characterised as behaving in this manner. In this situation a normal market risk premium of 6.0 per cent may be too low.

We do not believe that there is currently any robust evidence to suggest that the market for Australian Government securities is sufficiently distorted by increases in the risk aversion of investors that it should not be used in setting the WACC (although a case could be made for such a distortion in US\$ and € denominated government bonds). In this context we think it is important to note that the ASX has been experiencing strong but not excessive returns over the past few years (the ASX All Ordinaries Accumulation Index increasing by roughly 10 per cent from 2011 to 2012 and a similar amount from

2012 to 2013, S&P Dow Jones Indices LLC 2014), and importantly the falls in the 10 year Australian Government 10 year bond yields from 3.15 per cent in December 2012 to 2.96 per cent in December 2014 have been accompanied by even larger falls in the yields on corporate debt. The RBA's measure of the spread from Australian Government Securities to A- non-financial corporate debt falling from 215 basis points to 152 basis points from December 2012 to December 2014, and the spread to BBB rated debt falling from 347 basis points to 217 basis points over the same period. This suggests that risk aversion has been falling rather than increasing, and as **such there is no reason not to use current Australian Government bond yields in calculating the WACC.**

However, we do believe that the AER should reserve the right in the determination to use a 'pre-crisis' average Australian Government bond rate in determining the WACC should another financial crisis occur.

### 3.3 Market risk premium

The central element of the required rate of return to equity is the market risk premium; that is, the margin over the rate of return offered by government bonds that investors require in order for them to be willing to invest in equities.

There is no clear reason why a substantial market risk premium exists for equity investment (relative to bills or corporate bonds); however the existence of such a premium is clearly evident in the data, across a range of time periods and countries. As it exists it needs to be taken into account in setting the allowed rate of return for the benchmark efficient entity, and so the challenge is to identify an approach that accurately characterises investor behaviour.

There are a range of approaches that can be taken to estimating the required rate of return, from the computationally simple such as calculating long-term average returns of stock market indexes or surveying market participants through to computationally more complex approaches such as dividend discount models. Each of the possible approaches to assessing the market risk premium has limitations, and in general they have all exhibited a poor degree of fit to the data due to the extreme volatility in stock prices.

There is also the more fundamental issue that the variable required for the price setting is a **prospective** expectation of investors' minimum expected rate of return that is required for their portfolio of investments to include Australian equities. This is of course impossible to measure and instead all of the potential techniques are limited to capturing the ex-post rate of return achieved by investors in Australian equities.

Due to the limitations of all available approaches we recommend that the market risk premium be constructed from a range of sources of evidence.

We believe that the available evidence suggests that the following three approaches are most likely to deliver a reliable estimate of the market risk premium required for investment in Australian equities in a manner that is consistent with the 'building blocks' approach:

- the long-run average of 'excess' returns of the Australian stock market (defined as the ASX All Ordinaries accumulation index) over the risk free rate (Australian Government 10 year bonds);
- dividend growth model estimates of the long-run expected excess return of the stock market (ASX200 index) over the risk free rate implied by current stock prices and the expected rate of growth in dividends; and
- surveys of market participants as to their required rate of return for equity investment.

## Long run average

The analysis commissioned by the AER from Professor Handley includes market risk premia calculated over a range of dates covering the full period over which data was available at the time, namely 1883 to 2012. These averages, calculated over a range of time intervals, are presented in table 3.1.

**Table 3.1: Estimates of historical market risk premia from Handley (2011)**

Period	Arithmetic mean (AM)	SE of AM	p-value of AM	Geometric mean
1883-2010	0.061	0.015	0.00	0.047
1937-2010	0.057	0.023	0.02	0.037
1958-2010	0.061	0.031	0.05	0.036
1980-2010	0.058	0.041	0.17	0.032
1988-2010	0.050	0.039	0.22	0.031

Source: Handley 2011, p. 5.

Whilst using the longer time intervals significantly increases the statistical power of the estimates, there are a number of weaknesses related to the quality of the data and changes in the institutional environment which suggest shorter timeframes may be optimal, in particular:

- values for the index prior to 1958 were reconstructed by Lamberton (1958) and involved years where the composition of the index was significantly narrowed (e.g. excluding finance in some years), a period from 1941 to 1947 where price controls were in place, and interpolation of data to address missing observations; (Brailsford et al. 2008, pp. 78-82)
- changes in the liquidity and transaction costs within markets, together with changes in investor preferences mean that older historical data may not be relevant in assessing the current equity premium required by investors; (Welch, 2000) and
- specifically in the case of Australia, deregulation of financial markets in 1980 and the introduction in 1988 of dividend imputation may have changed the premium investors require to hold equity relative to government bonds. (Brailsford et al 2008, p. 75)

As a result of these concerns we believe that given the extent of institutional change, analysis should, as a minimum, be restricted to post-1980 (e.g. after the deregulation of financial markets). There is little point in having a well-defined estimate of a parameter if it represents a distant historical relationship rather than current preferences and market conditions.

We recommend the use of the average “excess return” post-1988 as this appears to best reflect the current institutional and preference structures likely to underpin demand for equities over the regulatory period. In particular, it seems likely that given Australian owners who could potentially benefit from dividend imputation hold almost 50 per cent of listed Australian equity by value (ABS 2014, see Table 3.7) the introduction of dividend imputation would have had a material impact on the average pre-imputation MRP required of Australian stocks.

The arithmetic mean has often been used in calculating the market risk premium and some researchers regard it as clearly superior to the geometric mean for calculating expectations (SFG Consulting, 2014a p. 44). However, this is only the case if annual returns on the stock market represent an independent and identically distributed process, which is not the case for equities which exhibit strong year to year negative serial correlation in returns.<sup>2</sup> (DeLong and Magin 2009, p. 197) It is also the case that some authorities in the field of calculating equity premia regard geometric means as a better measure of the risk premium (see for example Dimson et al. 2011).

<sup>2</sup> E.g. a year of above average growth is more likely to be followed by a year of below average growth. In an i.i.d. process whether or not the current year is likely to experience below average returns would be randomly determined and not be influenced by the recent history of returns.



In simulation studies, researchers have found that in cases where a stock market series exhibits negative serial correlation the arithmetic mean exhibits an upward bias and the geometric mean a downwards bias (Indro and Lee (1997) and Jacquier, Kane and Marcus (2003), quoted in McKenzie and Partington, (2012), p. 6). This suggests that the true value lies between the two averages.

One option would be to treat the two averages as an upper and lower bound and use other information to pick a point estimate from within them. However, as for our purposes we need a single point estimate to combine with other estimates of the market risk premium, we have adopted the weighting scheme proposed by Jacquier, Kane and Marcus (2003) which gives the geometric mean a weight equal to the ratio of the investment horizon and the time period over which the average has been calculated (quoted in McKenzie and Partington, 2012, p. 7). Using the post-1988 returns and assuming the relevant investment horizon equals the five year regulatory period, this would mean giving the geometric mean a weight of  $5/23$  and the arithmetic mean a weight of  $18/23$ .

This gives our preferred value for the market risk premium calculated from the long run historical average sits in the range of 3.1 per cent to 5.0 per cent with a point estimate of 4.6 per cent. Converting this into the 'with imputation credit' required return using Officer's (1994) formula, and our preferred estimate of gamma (see section 3.7), gives a required return of **5.29 per cent**.

### **Dividend growth models**

In theory a dividend growth model should provide the best estimate for the market risk premium, as for rational well informed investors the expected value of a stock should be its stream of dividends discounted back to current value terms.

In practice, use of a dividend growth model faces the significant limitation that the estimates are very sensitive to the assumptions used, and there is no clear guide as to what the values for the assumptions should be. For example, in their multi-stage dividend growth models the AER use average analyst forecasts of short-term dividend growth as a proxy for investor's short term expectations, and the long-run average growth rate in real GDP (adjusted downwards to allow for the impact of new listings and new equity issues) as a proxy for investor's long-term expectations of dividend growth. There is, however, no way of knowing whether these (plausible sounding) assumptions actually match the expectations of the median investor.

The estimates calculated by the AER using these assumptions are shown in Table 3.2. As can be seen, all of the estimates exceed the post-1980 point estimate of market risk premium observed in the market data, and only the two-stage model estimate with an assumed long-run growth rate of 4 per cent is at the post 1957 point estimate market risk premium observed in the market data. This disconnect from the market data is somewhat troubling (although the pre-2008 dividend growth model estimates accord much better with the trends in the market data).

**Table 3.2: Estimates of MRP calculated using dividend growth models from AER 2013c,  $\gamma=0.5$**

Assumed long-run growth rate for dividends	Two stage model estimate	Three stage model estimate
4.0	6.1	6.6
4.6	6.7	7.1
5.1	7.1	7.5

Source: AER 2013b, p. 119.

The variability in the MRP estimates proposed by the AER is also troubling, as the variations would seem to be driven by changes in short-term economic and market conditions (and therefore market analysts' dividend growth expectations) rather than by changes to the required rate of return for equity investors. For example, reading start of year MRP estimates from the graph provided by the AER

(2013b, p. 118) gives MRP estimates of 4 per cent in 2008, 10 per cent in 2009, 6 per cent in 2010 etc. It seems completely implausible that the MRP itself is this variable, and as such if the AER is to use estimates from dividend growth models we recommend the use of a long-run average (perhaps a rolling 15 year average).

The AER's estimates adjust for the value of imputation credits using the preferred value for these credits from their rate of return guideline, 0.5. As set out in section 3.7 we believe that the available evidence supports a lower value of imputation credits ( $\gamma=0.36$ ). Without access to the AER's dataset it is not possible to produce a completely accurate re-estimation of the MRP using the alternative estimate of  $\gamma$ , however using a rough adjustment (effectively treating the DGMs as if they were single period models) gives an adjusted average across two stage and three stage models and the three assumptions about the long-run growth rate in dividends of **6.72 per cent** from a range of 5.98 to 7.36 per cent.

### Surveys of market participants

As the market risk premium is a measure of investor preferences, surveying investors is a credible approach to estimating it. The AER in the appendices to their rate of return guidance (2013c) report the results of a number of surveys of Australian investment professionals as to their estimate of the additional rate of return required to convince investors to invest in equities rather than bonds (or bills). The mean and median estimates of these studies (as reported by the AER) are reproduced below.

It appears likely that more recent data better reflects the current preferences of investors, and so we would recommend using only those studies undertaken after the GFC (this means excluding not only those studies released in 2008 or earlier, but also Bishop 2009, as that used valuation reports prepared over the period 2003 to 2008. (Lally, 2013b, p. 29)

**Table 3.3: Estimates of MRP calculated from surveys of market participants, AER 2013c**

	Number of responses	Mean	Median
KPMG (2005)	33	7.5	6.0
Capital Research (2006)	12	5.1	5.0
Truong, Partington and Peat (2008)	38	5.9	6.0
Bishop (2009)	27	-	6.0
Fernandez (2009)	23	5.9	6.0
Fernandez and Del Campo (2010)	7	5.4	5.5
Fernandez et al. (2011)	40	5.8	5.2
Asher (2011)	45	4.7	5.0
Asher (2012)	49	4.6	5.0
Ernst and Young (2012)	17	6.26	6.0
Fernandez et al. (2013)	73	5.9	6.0
KPMG (2013)	23	-	6.0
Fernandez et al. (2013)	17	6.8	5.8

Source: AER 2013c, p. 92.

SFG Consulting (2014a, pp. 66-70) raise concerns about the approach (or the transparency of the approach) of a number of the studies collated by the AER, recommending that the studies undertaken by Asher, Fernandez (and colleagues), and KPMG be excluded from the analysis. Following their recommendation leaves only Ernst and Young (2012) as a possible source of evidence, a study that involved compiling required return estimates used in independent valuation reports. As this is only a single study, and as independent expert reports represent a slightly different form of evidence (and are prepared for a somewhat different purpose) than surveys of market participants, **we recommend that evidence from surveys not be included in the estimate of the MRP for this determination period.**

### Preferred value for Market Risk Premium

Combining these estimates from the long-run excess returns to the stock market and the results of the AER's dividend discount models suggests that the market risk premium for Australian equities is likely to sit within the range of 3.1 per cent and 7.4 per cent.

Averaging the two sources of evidence with an equal weighting gives a point estimate of the market risk premium of **6.0 per cent**.

### 3.4 Equity beta

Having identified the general market risk premium required by investors to hold equity rather than Treasury bonds, it is also necessary to identify the degree of volatility in returns to holding equity in utility firms relative to the broader market portfolio. This is because the volatility adjusted expected return of any new investment should match the expected return of the broader market portfolio.

If returns to equity in utility firms are more volatile than the market as a whole then investors would require higher expected returns to hold the stock, if returns are less volatile then required expected returns will be lower. The extent to which returns are correlated (in terms of volatility) to the broader market is denoted by  $\beta$ , with a value above 1 indicating volatility of returns in excess of the market portfolio and values below 1 indicating below average volatility.

In keeping with the broader approach of calculating the WACC for a 'benchmark efficient entity' the question of interest is how the volatility of returns to Australian electricity utilities as a whole compares with the broader market.

This can be assessed through a "standard" Sharpe-Lintner CAPM, or through a more complex capital asset pricing models such as the Fama-French model.

Professor Henry (2014) has prepared a detailed analysis of  $\beta$  calculated using a Sharpe-Linter CAPM using a range of approaches to defining the sample and structuring the analysis, and using both Ordinary Least Squares and Least Absolute Deviation (LAD).

**Table 3.4: Preferred estimates of  $\beta$ , Henry 2013**

	OLS mean	median	LAD mean	median
Firm level analysis, longest available sample, weekly frequency	0.5233	0.3285	0.4382	0.3195
Fixed portfolio construction, equal weighting, longest available sample, weekly frequency	0.4687	0.4759	0.4628	0.4584
Fixed portfolio construction, value weighting, longest available sample, weekly frequency	0.4893	0.4358	0.4972	0.4580

Source: Henry, 2014, pp. 17, 37, 39 and 63.

Henry determined that the most reliable results were those calculated using: the widest available sample; weekly data; and either individual firms, or a fixed portfolios of firms. He concludes that the evidence points to the point estimate of  $\beta$  lying between 0.3 and 0.8 (p. 63), with the average value from this set of reliable results being 0.4463 (or 0.480 if the average is calculated only from the means).

The ERA (2013) also produced estimates of  $\beta$  within a CAPM framework, but in their case tested a wider range of regression techniques, using robust GMM and Theil Sen estimators as well as OLS and LAD (see Table 3.5). The estimates all fall within a relatively narrow band, and concur with those

produced by Henry (2013). The average value for  $\beta$  across the potential sample frames and regression techniques was 0.4933.

**Table 3.5: Preferred estimates of  $\beta$ , ERA 2013**

	OLS	LAD	Robust GMM	Theil Sen
2013 Monthly (individual businesses)	0.50	0.49	0.52	0.48
2013 Monthly (portfolio equal weighted)	0.48	0.53	0.51	0.47
2013 Monthly (portfolio value weighted)	0.47	0.51	0.50	0.46

Source: AER 2013c, pp. 56.

The degree of agreement in these S-L CAPM estimates of  $\beta$  – across four different regression techniques, between estimates calculated using weekly and monthly returns, and between estimates made at the individual firm level and across portfolios of firms – is striking, with the means covering a range of 0.44 to 0.53. This increases the confidence that the regulators can have in these estimates of  $\beta$ .

SFG consulting, in a report prepared for six Australian utilities firms, has calculated  $\beta$  for utility companies using the Fama French model. They have undertaken this calculation both on Australian and US data.

The key limitation of the Fama French model in a regulatory setting is that whilst it can be empirically demonstrated that returns for a portfolio of stock are (or are not) correlated with the two additional factors included in the model (the difference between the returns on small cap stocks and large cap stocks; and the difference between returns of stocks with a high book to market value ratio and those with a low book to market ratio) there is no basis in theory or practice to know what this correlation means. Proponents of the use of the Fama French model have advanced a range of hypotheses for what the underlying meaning of these correlations are, in general proposing that the two factors act as proxies for correlation between the portfolio of interest and specific risks which are not captured by the correlation with overall market returns, however if it is indeed specific forms of risk that are driving the correlation then the regressions should be undertaken with the risk specifically included, as the correlation with any proxy is always going to be imperfect.

More importantly to this specific case, the outputs of the Fama French model cannot be used in the building block model as it calculates the equity risk premium based on the degree of correlation with the market and on the degree of correlation with the excess returns of small cap stocks and the degree of correlation with the excess returns of “value” stocks. This means that it cannot provide an estimate of  $\beta$  for use in constructing an estimate of the equity risk premium through a building blocks approach as the other two factors modelled are not included in the building blocks model. Instead, if the Fama French model were to be used it can only be used as a direct estimate of the equity risk premium.

The use of the Black CAPM faces similar issues, with the additional limitation that whilst its estimation approach is well grounded in theory there is no accepted process by which the zero beta portfolio should be identified creating an additional source of uncertainty. As such we recommend against its use in calculating either element of the equity risk premium (although there is scope for it to be used as it is by the AER (2013a) in selecting point estimates from within a bound.

Averaging across the mean estimates from Henry (2014) and ERA (2013) and rounding to 1 decimal place to reflect the uncertainty regarding the appropriate value for  $\beta$  **gives a point estimate of 0.5 with a range of 0.3 to 0.8** (the range of individual firm level results from Henry’s analysis).

Drawing on work related to the Black CAPM, the AER has highlighted evidence suggesting that the S-L CAPM may systematically understate the risk of firms with values of  $\beta$  below 1. This evidence leads the AER to choose a point estimate for  $\beta$  that sits at the top of their preferred range of 0.4 to 0.7 (2013b, pp. 85-6). Whilst we agree that the evidence for higher than expected returns for low  $\beta$  stocks is suggestive, we think it is important to consider the broader context of the current determination. Of particular note is the switch to a revenue cap for this determination period, which effectively removes the volume risk facing SAPN. As the calculations of the overall risk faced by the 'benchmark efficient entity' ( $\beta$ ) were made using data from when utilities *did* face volume risk they are likely to overstate the risk in the determination period. This should be considered as a potentially offsetting factor in determining where within the range the point estimate of beta should be selected from, suggesting the point estimate should be taken from closer to the middle of the range.

### 3.5 Equity risk premium

Combining the range of estimates of the market risk premium with Henry's estimate of the most likely range for  $\beta$  suggests that the equity risk premium for a typical Australian utility (inclusive of the value of imputation credits) lies between 0.9 per cent and 5.9 per cent.

Combining the preferred point estimates of the market risk premium and beta gives a point estimate for the equity risk premium of **3.0 per cent**.

### 3.6 Cost of debt

#### Credit rating

The most important question in assessing the cost of debt to use in calculating the WACC is the debt rating that should be assigned to the benchmark efficient entity.

Kanangra Ratings Advisory Services (2013) has compiled the credit ratings assigned to Australian NSPs from both Standard and Poor's and Moody's Investor Services. The frequency distribution of these ratings is shown in Table 3.6.

**Table 3.6: Frequency of current credit ratings for Australian NSPs, as at June 2013**

Rating	S&P Number	Rating	Moody's Number
A-	1	A3	2
BBB+	3	Baa1	2
BBB	5	Baa2	3
BBB-	1	Baa3	1
Not rated	0	Not rated	2

Source: Kangara Ratings Advisory Services.

If it can be assumed that these ratings form an ordinal sequence, then these ratings can be averaged. If an A- or A3 is assigned as 3, BBB+/Baa1 as 4 etc. (assuming the ordinal sequence starts with A+/A1) then the geometric average of the credit ratings is 4.5 for Standard and Poor's and 4.3 for Moody's, e.g. between BBB+/Baa1 and BBB/Baa2, but slightly closer to the former.<sup>3</sup>

<sup>3</sup> SAPN recommend the use of a BBB credit rating as this is the median credit rating of the network service providers as at 2013 (2014, p. 338), however we believe that a mean is more consistent with the approach adopted for other parameters of the WACC such as the market risk premium

However, neither of the available data sources for Australian 10 year non-financial corporate bond yields (RBA and Bloomberg) publishes estimates of BBB+ yields. Instead, because of the small number of non-financial bond issues with longer term structure both sources aggregate bonds with yields of BBB+, BBB and BBB- into their "BBB" series.

As this would lead to the use of a rate that overstates the average risk of Australian utilities firms, we recommend that data from the A- series also be used in calculating the benchmark return on debt. We recommend the use of a weighted average of the two series, with the A- series given a weight of 0.175 and the "BBB" series a weight of 0.825, reflecting the average proportion of utilities rated A- by S&P or A3 by Moody's at the time Kangara undertook their analysis. This use of rates from a wider range of credit ratings also accords with the recommendation of Lally (2013), although he recommends an equal weighting (p. 22).

On the choice of dataserries, we would recommend the use of the RBA series only, as the methodology underlying its index is transparent (see Arsov et al., 2013) whereas we could not find equivalent details on the construction of the Bloomberg index. Should such details become available to the AER then (assuming that the approach used is acceptable) we would recommend using an equal weighted average of the two series.

Based on December 2014 data from the RBA series this gives a weighted average return on non-financial corporate 10-year debt of **4.80** per cent.

It is our understanding based on Arsov. et al. (2013) and the notes attached to the spreadsheets that the rates reported in the RBA series as 'Non-financial corporate BBB-rated bonds – Yield – 10 year' represent implied yields on 10 year securities, having been adjusted from the raw data for each bond issue using its effective tenor and the spread to swap rate. As such no additional adjustments should be required for the RBA dataserries.

### **Additional costs of debt**

A report by Incenta Economic Consulting, submitted to the determination process by SAPN identifies several additional costs faced by network service providers in managing their debt in an efficient manner. These costs are:

- debt raising transaction costs of 9.9 basis points;
- costs associated with Standard & Poor's liquidity requirement to maintain an investment grade credit rating of 7.6 basis points for SAPN; and
- costs associated with Standard & Poor's requirement that debts be financed 3 months in advance (essentially the difference in return between SAPN's expected cost of debt and the return on 90 day BBB rated debt) of 3.7 basis points. (2014 p. 3)

The combined impact of these factors is to increase the cost of debt by 21 basis points. The approach used to calculate these costs appears reasonable, and so we have incorporated them into our estimate of the cost of debt.

## **3.7 Value of imputation credits**

The post-income tax value of a dividend stream to an Australian domiciled investor will (on average) be higher than an equivalent return on the face value of the payments as dividend imputation means that a lower rate of tax is payable on dividends (where the company has paid corporations tax in its profits) increasing the post-tax return.

There are two elements to this calculation, the distribution rate (F) and the value of distributed credits ( $\theta$ ).

The distribution rate proposed in the AER's rate of return guidance was a value of 0.7, a proposal that did not meet with any substantive objections in the submissions made in response to the consultation on the AER's rate of return guidance (AER, 2014a, p. 164). This value also accords with the value identified by Hathaway (0.71) as the access fraction observed in the ATO taxation statistics Franking Account Balance (FAB) data (2013, p. 38). However, Hanley (2014, p. 29) points out the ATO data relates to *all* issuers of equity including private firms, whereas for the benchmark efficient entity, the pattern for listed entities is more appropriate. Restricting the analysis to listed firms, Hanley identifies an **average distribution rate from the ATO data of 0.8**. We concur with Hanley's assessment that this is the most appropriate estimate for the distribution rate.

There are a number of potential approaches to estimating the value of distributed credits to holders of Australian equity, with the AER identifying four approaches in their explanatory statement (AER 2013a):

- ownership of equity;
- taxation data;
- dropped dividend analyses; and
- the 'conceptual goalposts' approach recommended by Lally.

There appeared to be a consensus in advice to the AER (c.f. Handley 2014, SFG 2014d) that the conceptual goalposts approach was not appropriate as a method for assessing the value of imputation credits in a regulatory setting. We concur with this assessment and will not incorporate the approach in our estimates.

### **Ownership of equity**

Ownership of equity is sometimes regarded as providing an upper bound to the estimate of theta, as whilst it indicates the proportion of equity holders who could theoretically benefit from dividend imputation, not all domestic owners of equity would be able to do so, either because they are not required to lodge a tax return, their marginal tax rate is below 30 per cent and so they do not receive the full value of the imputation credits, or they are not eligible to claim the credits under the 45 day rule. On the other hand the best available data source for equity ownership – ABS national accounts data – holds information on the value of equity held, not the value of imputation credits. Given stock which issues fully franked dividends delivers a greater post-tax rate of return for any given value of dividend to Australian domiciled investors than other Australian stocks it is not unreasonable to assume that the Australian ownership rate for listed stock which pays fully franked dividends (as would be expected for the benchmark efficient entity) would be higher than for the market as a whole. We believe that these two countervailing factors mean that the ownership of equity approach is a plausible method to use in assessing the value of distributed credits.

**Table 3.7 Ownership of Equity in Australian Listed Firms by Domicile of Equity Holder**

	Eligible domestic equity (\$ million)	Other equity (\$ million)	Eligible share (per cent)
Average 2004-2014	626,278	644,872	49.3
Average 2009-2014	613,548	720,559	46.0

Note: Eligible domestic equity holders are those which can take advantage of dividend imputation, e.g. households, pension funds and life insurance firms.

Source: ABS 2014, Tables 32 and 33.

Data from the ABS's national accounts on the share of total equity in listed Australian firms held by domestic entities that could potentially benefit from dividend imputation is shown in Table 3.7. The data from the period after the GFC appears to us a better guide as to the potential ownership of the "benchmark efficient entity" and so our preferred estimate of theta from the ownership data is 0.46.

### **Taxation statistics**

Hathaway (2013) notes that there is a substantial discrepancy between the two sets of ATO data that could be used to calculate the utilisation factor for dividend imputation credits from taxation statistics. The franking account balance data (FAB) records \$292.2 billion in credits distributed over the period 2004 to 2011, whereas the financial data only records \$204.7 billion in credits as having been distributed. Over the same period the financial data shows \$127.6 billion in credits as having been redeemed by taxpayers. As it is not clear which of the data series is accurate (or indeed whether either is accurate) he recommends that data derived from taxation statistics be used with caution.

Nonetheless, given the paucity of alternative data on the utilisation of dividend imputation credits we believe that the ATO data should be central to any analysis.

Two assumptions can give upper and lower bound estimates from the taxation data. If it is assumed that the FAB data is the most accurate then it should be assumed that the 'missing' credits were not redeemed and so the utilisation factor is 0.437. If, however, it is assumed that either the financial data is more accurate than the FAB data, or that the missing credits were redeemed at the same rate as the other credits, then the utilisation factor is 0.623.

Hathaway indicates that it is his belief that the FAB data is more likely to be accurate than the financial data (p. 39), suggesting that a utilisation rate of 0.437 should be used. This also matches quite well with the ownership data, increasing its plausibility.

### **Dividend drop-off analyses**

In terms of gamma it is important to note that the dividend drop-off analyses will only provide information on the degree to which those who purchase shares in the analysis period value dividends. If the characteristics of a typical buyer do not match the characteristics of a typical stock holder then the analysis will not be informative.

In order for a dividend drop-off study to provide useful evidence of the value of franking credits to a representative owner of equity three conditions need to be met:

- the studies being drawn on need to be of high quality;
- the equity holders who buy shares in the period after dividends are issued need to be representative of the whole class of equity holders; and
- the equity for which data is drawn on for the dividend drop off study needs to be representative of the overall stock of equity in the Australian economy

We would contend that only the first of these three conditions is definitely met.

The studies included by SFG consulting in their review of estimates for theta all appear to be of good quality and are undertaken in a manner which reflects the current best practice in the literature.

However, purchase of stocks in any given period is dominated by a relatively small share of equity holders who engage in active trading equities. Overall ownership of equities, however, is dominated by those who trade infrequently. As such there is no reason to believe that the value placed on franking credits by active traders of equities is the same as that placed on franking credits by those who trade infrequently.



On the third point, listed firms are also only part of the stock of Australian equity. Data from the ABS's 'Australian National Accounts: Financial Accounts' indicates that as at June 2014 unlisted shares comprised 44.5 per cent of the total value of shares in private firms (rising to 49.7 per cent if equity in government non-financial corporations is included).

Due to the unrepresentative nature of both traders in stock, and the ownership of listed stock, we believe that dropped dividend studies cannot be assumed to be informative about the value placed by a median investor in the 'benchmark efficient entity'. As such, **we recommend that estimates derived from dropped dividend studies be disregarded.**

### ***Preferred estimate for gamma***

Averaging the lower bound estimate from the ownership data, and the estimate Hathaway derives from the FAB, gives a value for the utilisation factor of 0.45.

**As such we would recommend the use of 0.8 as the access fraction and 0.45 as the utilisation factor**

**This gives a value for  $\gamma$  of 0.36.**

## **3.8 Summary of WACC parameter estimates**

Our preferred estimates for the parameters of the WACC are set out in Table 3.8, using the most up-to-date data available at 27 January 2015. They will need to be adjusted at the date of the determination to reflect the prevailing 10 year Australian Government bond yields and corporate debt yields.

Equivalent parameters derived from the AER's explanatory statement and the SAPN regulatory proposal have been included in the table for comparative purposes. Adjustments have been made to the parameters identified by the AER and SAPN to reflect the most recent 10 year Australian Government Bond rates available in the published RBA data (2015b).

These equivalent parameters are based on the existing published parameters, and may not reflect the current proposals of the AER and SAPN.

Table 3.8: WACC Parameters and Assumptions

Parameter		Australian Energy Regulator	SA Power Networks	SACES
Description	Notation	Point estimate	Point estimate	Point estimate
<b>WAC Capital parameters</b>				
Proportion of equity in total financing	$E/V$	0.4	0.4	0.4
Proportion of debt in total financing (i.e. gearing)	$D/V$	0.6	0.6	0.6
Risk free rate <sup>a</sup>	$r_f$	2.72	2.72	2.72
<b>Parameters for estimating return on equity</b>				
<b>Cost of equity</b>	<b><math>E(k_e)</math></b>	<b>7.27</b>	<b>9.75</b>	<b>5.72</b>
Market risk premium	$(r_m - r_f)$	6.5 (5.0 to 7.5)	7.72	6.0 (3.1 to 7.4)
Equity beta	$\beta$	0.7 (0.4 to 0.7)	0.91 <sup>b</sup>	0.5 (0.3 to 0.8)
Equity risk premium		4.55	7.02	3.2
<b>Parameters for estimating return on debt</b>				
Credit rating		BBB+	BBB	BBB+ <sup>c</sup>
Bloomberg BBB BVAL				
RBA				4.80
Weighted average of above (50%:50%)		4.91 <sup>d</sup>	4.91 <sup>d</sup>	
New Issue Premium			0.30	0.21
<b>Debt allowance</b>		<b>4.91</b>	<b>5.21</b>	<b>5.01</b>
<b>Imputation credits</b>				
Value of imputation credits	$\gamma$ (gamma)	0.5	0.25	0.36
Payout ratio (i.e. distribution rate)	$F$	0.7	0.70	0.8
Utilisation rate	$\theta$ (theta)	0.7	0.35	0.45 (0.437 to 0.623)
<b>Nominal Vanilla WACC</b>	<b>WACC<sub>vanilla</sub></b>	<b>5.85</b>	<b>6.84</b>	<b>5.15</b>

**Notes:**

- a In order to allow approaches to be compared, the average yields for 10 year Australian Government bonds for the twenty trading days up to 22 January 2015 has been used to as an input to the model and for the SACES, AER and SAPN parameters where it is relevant (RBA 2015b).
- b Based on a weighted average of equity betas for the four financial models: Sharpe-Linter (0.82), Black CAPM (0.90), Fama-French (0.93) and dividend discount model (0.94).
- c Although the indicative credit rating proposed is BBB+ we recommend a weighted average of the A- and BBB data series be used to set the debt allowance (with the latter series itself combining bonds with credit ratings of BBB+, BBB and BBB-)
- d Bond rates, including those in the RBA series have dropped sharply in the latter part of 2014. For illustrative purposes to assist in comparing the three sets of parameters, the December 2014 values for the BBB bond series in the RBA data (2015a) have been used as if they are the average of the Bloomberg and RBA series for both the AER and SAPN proposals as we do not have access to the Bloomberg data. If, as was the case when SAPN produced their regulatory proposal, the Bloomberg estimates are slightly lower than the RBA series then this will slightly overstate the costs of debt proposed by AER and SAPN.

**Source:** Australian Energy Regulator (2013b,c), SA Power Networks (2014), RBA (2015a, b), calculations SACES.

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# South Australian Council of Social Service.

Energy payment research.

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# Contents

1. Executive summary .....	6
1.1. Introduction.....	6
1.2. Key findings.....	7
1.3. Conclusions and recommendations.....	10
2. Introduction.....	12
2.1. Background .....	12
2.2. Research objectives .....	13
3. Methodology in Brief .....	14
3.1. Interpreting This Report.....	15
4. Findings .....	17
4.1. Electricity usage profile and attitudes .....	17
4.2. Electricity prices and financial stress .....	27
4.3. Payment arrangements .....	33
4.4. Heat waves.....	46
5. Sample Profile .....	50
6. Appendix A: Quantitative Questionnaire .....	55

# Index of Tables

Table 1: Definitions	15
Table 2: Use of top electricity providers by household income and concession holder status	18
Table 3: Use of top electricity providers by home ownership and size of quarterly bill	19
Table 3: Agreement with provider's power to cut energy supply	25
Table 4: Agreement with provider's power to cut energy supply	26
Table 5: Concern towards ability to pay next electricity bill	29
Table 6: Concern towards ability to pay next electricity bill continued	30
Table 7: General stress levels in relation to electricity bills by household income and receipt of government allowance	31
Table 8: General stress levels in relation to electricity bills by quarterly spend and ownership status	31
Table 9: Households that are concerned, stressed or have experienced difficulty, by demographics	32
Table 10: Awareness of payment arrangements, by household income and receipt of concession	33
Table 11: Awareness of payment arrangements, by ownership and quarterly spend	34
Table 12: Awareness of payment arrangements, by location and receipt of government allowance	34
Table 13: Difficulty in paying electricity bill in last 5 years	35
Table 14: Difficulty in paying electricity bill in last 5 years	35
Table 16: Preference towards \$5 cost for monthly read by home ownership and Government allowance	43
Table 17: Preference towards \$5 cost for monthly read by quarterly spend and incidence of difficulty paying a bill	43
Table 18: Interest towards prepayment meter	44
Table 19: Interest towards prepayment meter	45
Table 20: Household structure	50
Table 21: Number of people in households	50
Table 22: Number of people in households by age group	51
Table 23: Gross household income	51
Table 24: Ownership status	53
Table 25: Ownership status	53
Table 26: Main source of household income	53
Table 27: Multilingual households	54

# Index of Figures

Figure 1: Use of SA electricity providers	17
Figure 2: Receipt of State Government energy concession	18
Figure 3: Average quarterly spend by income	20
Figure 5: Average quarterly spend by income	21
Figure 6: Changed energy providers in the past	21
Figure 7: Changed energy providers by quarterly spend	22
Figure 8: Changed energy providers by income	22
Figure 9: Trust in energy provider	23
Figure 10: Trust in energy provider, by provider	23
Figure 11: Have changed providers and level of trust	24
Figure 12: Reasons for low levels of trust in energy provider	24
Figure 13: Agreement with provider's power to cut energy supply	25
Figure 14: Difficulty in paying bills on time	27
Figure 15: Change in financial situation in recent years	28
Figure 16: Concern towards ability to pay next electricity bill	28
Figure 17: Reasons for concern towards ability to pay next electricity bill	29
Figure 18: Awareness of payment arrangements	33
Figure 19: Utilisation of payment plans for those experiencing financial hardship	34
Figure 20: Difficulty in paying electricity bill in last 5 years	35
Figure 21: Awareness of payment plans for financial difficulty overall	36
Figure 22: Awareness of payment plans, by difficulty paying electricity bill in last 5 years	36
Figure 23: Previous assistance requests	37
Figure 24: Representation in bill discussions and payment negotiations	37
Figure 25: Outcome of bill discussions and payment negotiations	38
Figure 26: Perception of outcome if represented in bill discussions and payment negotiations	38
Figure 27: Confidence in obtaining representation	39
Figure 28: Use of CentrePay	39
Figure 29: Preferred timing of electricity bills	40
Figure 30: Preferred process for estimating electricity consumption	41
Figure 31: Reaction to \$5 cost for monthly 'actual read'	42
Figure 32: Preference towards \$5 cost for monthly read by household income	42

Figure 33: Interest towards prepayment meter	44
Figure 34: Concern about electricity prices during recent heat waves	46
Figure 35: Air conditioner use during recent heat waves	46
Figure 36: Impact of electricity prices on air conditioner usage	47
Figure 37: Left home for a cooler destination during recent heat waves	47
Figure 38: Impact of a 10% increase in electricity prices during summer months	48
Figure 39: Impact of a 20% increase in electricity prices during summer months	49
Figure 40: Income (gross) per week by household structure	52



# 1. Executive summary.

## 1.1. Introduction

Colmar Brunton Research (CBR) was approached by the South Australian Council of Social Service (SACOSS) to conduct research into electricity usage and perceptions of pricing amongst South Australians. Particular attention was given to households that have experienced financial hardship as well as the impact of pricing changes and extreme temperatures on usage.

The objectives of this research were:

- To determine the capacity of households to pay their energy bills in their current situation;
- To evaluate consumer perceptions of their energy provider, including fairness and willingness to negotiate with those experiencing financial hardships;
- To determine the awareness and use of formal strategies available to households to assist in dealing with financial hardship;
- To assess the impact of heat waves (and potential associated surcharges) on electricity usage.

To address these, 600 South Australian households were contacted through computer assisted telephone interviews (CATI). The research was conducted between the 2<sup>nd</sup> and 9<sup>th</sup> of April 2014.

This report presents the findings of this research.

## 1.2. Key findings

Key findings in relation to research objectives are presented below.

### **Evaluate consumer perceptions of their energy provider, including fairness and willingness to negotiate with those experiencing financial hardships**

#### Consumer perceptions of electricity providers

In terms of electricity usage among South Australian households, the four key electricity providers were AGL (40%), Origin Energy (23%), Simply Energy (10%) and Energy Australia (9%). There were no differences in the usage of the various electricity providers between household income groups or receipt of State Government energy concessions.

Regardless of whether the household has changed energy providers in the past or not, most bill payers think that their energy provider is somewhat or very trustworthy. However, those who have changed providers in the past trust their provider significantly less than those who have never changed providers before. Overall, a total of 24% of South Australian bill payers believe that their electricity retailer is not trustworthy, and feel that they are profit-driven and self-serving, are continually increasing their costs, and have no concern for their customers. The extent to which bill payers consider their provider to be trustworthy does not vary significantly across different providers.

#### Changing electricity provider

The majority of South Australian households show prior willingness to switch electricity providers, with 17% having considered this previously and 64% having actually done so. Results did not differ between lower and higher income households.

South Australian households that spend more than \$500 a quarter on their electricity bill have been statistically just as likely to change providers, or have considered changing providers, as those who spend \$500 or less a quarter. This indicates that quarterly spend on electricity may not be a highly motivating factor for customers in deciding whether to stay or change providers – there may be a perception of a fixed price of electricity among the general population. Results split by median household income show that those with relatively higher income (>\$65,000 per annum) were more likely to have thought about changing electricity providers, but not having done so.

#### Ability to cut electricity supply

While half of households believe that energy providers should not be able to cut electricity supply if customers are unable to pay their bills, 21% think providers should be able to do so. Lower income households (52%) and those on Government allowance (53%) were significantly more likely to agree that energy providers *should not* have this ability. Agreement with this was not dependent on home ownership or energy bill spend.

### **Determine the capacity of households to pay their energy bills in their current situation**

#### Affordability of electricity

Most households spend under \$500 per quarter on their electricity, with 59% of higher income households and 80% of lower income households having an electricity bill of less than that amount.

It seems there is an opportunity to promote the State Government energy concession more among those on State Government Allowance. Of all households, 30% received a State Government

concession on their energy bill, while among those who receive Government Allowances the proportion who received concessions was considerably higher at 60%. Of concern was the 30% of those receiving a Government Allowance but not receiving any concession – indicating a possible lack of awareness of the concession.

### Electricity price and bill payment

Not surprisingly, the vast majority (9 in 10) would like to see a reduction in the electricity price.

Overall, there is evidence of stress in some households for paying electricity bills (which is heightened during heat waves). Overall 10% of households indicated difficulty paying bills on time, 20% were concerned about their ability to pay their next electricity bill, and 15% of bill payers indicated they felt “very stressed” about their capacity to pay their electricity bills in general.

When looking at those who reported being very concerned about their ability to pay their next electricity bill (20%), and those who reported being very stressed about their capacity to pay their electricity bills in general (15%) compared to those who are not very concerned or stressed (respectively), we observe that the group experiencing pressure is most likely to have lower household income, and be renting. When looking at the group that reported having experienced difficulty over the past five years (compared to those not experiencing difficulty), results show that this group primarily are more likely to comprise bill payers who are 55 years old and over, and renters.

### **Determine the awareness and use of formal strategies available to households to assist in dealing with financial hardship**

#### Payment plans

The majority (73%) of households were aware of payment plans available to customers experiencing financial difficulty. While there is an opportunity to educate more South Australians about payment plans, this moderately high awareness is across target groups (results did not differ by income, concession, home ownership, bill spend, location of residence, or government allowance).

The majority of households (71%) had not used a payment plan before. Twelve percent were currently utilising a payment plan for their electricity bill, and another 13% had used this but were not using it anymore.<sup>1</sup>

While the vast majority of those who have had difficulties paying their bill (87%) were aware of payment plans being available to them, only 66% of those who have had difficulty paying their electricity bills had been on a payment plan. Additionally, only 21% of those receiving the State Government Energy Concession were aware of CentrePay, and only 9% had used it.

#### Requesting assistance

Overall, 67% of those who had experienced financial difficulty had requested assistance to pay the bill. While this is the majority, it still means that one third of those who had experienced difficulty had not chosen to address this with their provider. For those who have had difficulty paying, one third did not seek assistance from their provider. While the exact reasons underpinning the reluctance to seek assistance are not conclusive from these results (due to small sample sizes), the most common response was that the household preferred to manage payment themselves.

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<sup>1</sup> Retailer data via AER indicates only 3% of customers are using formal payment plans to repay arrears.

The vast majority of those who had sought assistance had represented themselves in those discussions (92%). Overall it appears that the negotiation outcome was satisfactory with 80% having the provider being accepting of their situation and 15% finding a middle ground they could accommodate.

### Use of CentrePay<sup>2</sup>

Just 9% of those on State Government energy concessions had used CentrePay. The most common reasons for not using CentrePay were due to: a lack of awareness of the service (35%), it being perceived as unnecessary for the situation (20%), or not wanting to lose control of their finances (18%). This does not align with AER 2012-13 Retail Performance Report data that shows 40% of electricity hardship customers (and 27% of gas) were using Centrepay. This disparity may be due to branding or awareness of what Centrepay entails among the household sample surveyed.

### Frequency of billing

Overall, 76% of bill payers considered quarterly billing to match their preference. There was wariness of estimated bills with 68% preferring an actual read. However, when a \$5 per month cost is introduced for obtaining an actual read, 69% subsequently indicated they would change their mind and would not be willing to pay this amount.

### Prepayment meter

Almost a third (28%) of households were interested in the prepayment meter concept with a significantly higher level of interest among those spending more than \$500 per quarter on electricity (40% compared to 24% of those spending \$500 or less). The prepayment meter may be seen by this group as a strategy to monitor electricity consumption in an ongoing manner to influence energy consumption behaviours after a certain monetary amount is reached.

## **Assess the impact of heat waves (and potential associated surcharges) on electricity usage**

### Heat wave behaviours

There is clearly some concern about electricity prices specifically during heatwaves with 43% being concerned. Despite this, 92% indicated that they would run their air conditioner during a heatwave but 35% indicated that the price of electricity did impact their use during a heat wave.

Increasing electricity prices by 10% during summer would make 50% of households use less power, while increasing the cost by 20% would make 75% use less power at these times.

This shows that energy consumption behaviours are price sensitive and responsive to increases of 10% or more.

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<sup>2</sup> Centrepay is a voluntary bill paying service coordinated by the Department of Human Services. Instead of having large bills every month or quarter, people can pay bills in manageable amounts from Centrelink payments, to facilitate budgeting.

## 1.3. Conclusions and recommendations

### **Financial stress relating to electricity bill payment affects around a fifth of South Australians**

Around a fifth of South Australians have experienced recent difficulty, concern or stress in terms of paying electricity bills. This group experiencing pressure is most likely to have lower equivalised household income, and be renting their house.

### **Consumers should be notified of payment plans and assistance for paying electricity bills**

Over 85% of households who have experienced difficulties paying their electricity bill were aware of payment plans available to them from their electricity retailer; however, only two thirds had utilised such an arrangement. This shows that there are barriers (other than awareness) for uptake of payment plans with electricity retailers. In terms of assistance for disadvantaged households paying utility and other bills, only a fifth of households receiving the State Government energy concession had heard of CentrePay, and only 9% had used this service.

For those who have experienced difficulty in paying an electricity bill in the past, one third did not even approach their electricity retailer and request assistance. The most commonly cited reason why was that the household preferred to manage this payment on their own; however, other reasons underpinning this finding remain unknown. This indicates there may be barriers or perceived barriers for some of those in financial difficulty to pursue payment plans with their electricity retailer, potentially born out of scepticism of the extent to which electricity retailers will assist their customers to pay their bills. This is consistent with the mid-range of trust (5.3/10) that electricity retailers are doing the right thing by consumers and have their best interests at heart, and the finding that the majority of households have changed electricity retailer in the past, and yet have lower levels of trust than their counterparts that have not changed retailers. There appears to be an underlying feeling of disillusionment among a subset of South Australian households, directed at the overall electricity retail industry. Electricity retailers may be thought of as interchangeable, given that there were no differences between trust levels between different retailers and there was a high propensity of households willing to switch retailers.

To increase use of CentrePay, the Department of Human Services could alert their clients further to the existence and ease of use of CentrePay for all utilities, at all common client contact points. To overcome the issue of disadvantaged households not being able to pay electricity bills on time, electricity retailers could proactively approach their customers who have missed payment deadlines recently or in the past to alert them of the availability of payment plans and facilitate their commencement, using this transparency to differentiate them from other retailers in the market. Financially incentivising disadvantaged households to undertake payment plans may also be viable to business and offset by the reduction in costs associated with debt collection and disconnection.

### **Consumers deserve advocacy and representation in times of financial hardship**

Almost all consumers who had sought assistance from their retailer to pay their electricity bill/s had represented themselves in those discussions. While it does seem that when assistance was sought a satisfactory outcome was achieved in most cases, over half of bill payers suspect that they may have achieved a better outcome if they had been represented by a consumer advocate or financial counsellor. A crucial barrier to this step seems to be a lack of knowledge about the right to nominate a consumer advocate or financial counsellor, and furthermore, there is evidence of limited knowledge of where to seek and how to access these services if the need arose. There needs to be higher levels of awareness on the part of disadvantaged households of the benefits of such consumer advocates and

financial counsellors, the free cost for such a service, who they are available to, and how to find one and engage their services.

Half of South Australian households (in particular lower income households and those on a Government allowance) believe that energy providers should not be able to cut off residential electricity supply if customers are unable to pay their bills. However, electricity disconnection will remain a reality for a proportion of South Australian households until more information about assistance is provided directly to the consumer (e.g. by consumer advocacy groups, government, a third party, or electricity retailers themselves), including information about the existence and benefits of payment plans, eligibility for and benefits of using CentrePay, the ability of consumers to request assistance from electricity retailers, and access to and benefits of financial representation.

### **Almost a quarter of South Australian households would prefer more frequent electricity billing than quarterly**

Almost a quarter of households would prefer to receive their electricity bills more frequently than quarterly, in order to keep track of their energy consumption and manage their finances more closely. While just over half of this group indicated that they would want to retain the actual read by the supplier, the additional cost of \$5 per month detracted from this proposed more frequent billing cycle for more than two thirds of this group. It may seem counter-productive to some for a measure that would assist households experiencing financial hardship to manage their energy consumption and spend more closely, to be at an additional cost on the consumer for the most accurate meter read. The cost of a monthly electricity meter read for South Australian households that have experienced financial hardship, and the predicted ability to better manage energy consumption and spend each fortnight or month might be offset by the corresponding reduction in late bills and pursuing consumers that electricity retailers are forced to engage in.

## 2. Introduction

Colmar Brunton Research (CBR) was approached by the South Australian Council of Social Service (SACOSS) to conduct research into electricity usage and perceptions of pricing amongst South Australians. Particular attention was given to households that have experienced financial hardship as well as the impact of pricing changes and extreme temperatures on usage. This report presents the findings of this research.

### 2.1. Background

#### South Australia's electricity market

South Australia has one electricity distribution zone (SA Power Networks) and as at 30 June 2013 there were twelve retailers with offers generally available to electricity customers.

#### South Australian Council of Social Service

The South Australian Council of Social Service (SACOSS) undertakes research to help inform community service practice, advocacy and campaigning, and through a range of events promotes cooperation, the sharing of resources, information and discussion. As the peak body for the non-government health and community services sector in South Australia, SACOSS has a number of key roles:

- Research, policy development and advice to government on issues affecting the sector and vulnerable and disadvantaged South Australians;
- Representing the sector's interest and advocating on behalf of vulnerable and disadvantaged people in public policy debates and in policy and legislative processes;
- Dissemination of information from the government to the sector, and from the sector to the broader community to increase understanding of the work we do and the needs of those we serve;
- Consultation and coordination of the sector to ensure we understand each other and work together;
- Building the capacity of the sector to enable better service delivery outcomes and better functioning of community organisations.

#### Electricity

SACOSS' work on electricity disconnections is part of an ongoing program of work related to energy and water. The focus is on preventing financial hardship, achieving affordability, facilitating social and financial health and wellbeing, and supporting government and businesses in dealing with their customers and communities.

SACOSS is campaigning to highlight that there is much that can be done to keep the electricity connected and advocate for households that are more vulnerable. In particular:

- The energy concession paid to vulnerable households needs to keep up and be made a percentage of the bill;

- An independent umpire would help negotiate better outcomes between retailers and consumers.

## 2.2. Research objectives

The objectives of this research were:

- To determine the capacity of households to pay their energy bills in their current situation;
- To evaluate consumer perceptions of their energy provider, including fairness and willingness to negotiate with those experiencing financial hardships;
- To determine the awareness and use of formal strategies available to households to assist in dealing with financial hardship;
- To assess the impact of heat waves (and potential associated surcharges) on electricity usage.



# 3. Methodology in Brief

The research was conducted between the 2<sup>nd</sup> and 9<sup>th</sup> of April 2014.

A total of 600 South Australian households were contacted through computer assisted telephone interviews (CATI). Interviews were conducted with the person in the household (aged over 18 years) who was responsible for making decisions about utilities and paying electricity bills. Quotas were set by age (minimum of 10% over 65 years), location (minimum of 10% non-metropolitan residents), and household income (approximately 50% above and below the South Australian median household income level; \$65,000 per annum).

The quantitative questionnaire can be seen in Appendix A.

## Weighting

The results of this survey have been weighted according to location and age demographic details gained from the most recently published Estimated Resident Population figures collected by the Australian Bureau of Statistics<sup>3</sup>.

## Tests of Statistical Significance

Tests for statistical significance have been conducted on particular subgroups of interest in this survey. An exception reporting approach has been undertaken in that if no statistical significance is mentioned, there are none associated with these groups.

Tests have been undertaken at a 95% confidence level. If there is a statistically significant difference between the result for a particular group and the result for the wider population, we can be confident that this difference has not occurred by chance, rather that it reflects a genuine difference among that group compared to the wider population.

In tables and figures, the figures with an upwards arrow (i.e. ↑) represent a proportion that is significantly higher than the subtotal of the other subgroups. Conversely, the figures with a downwards arrow (i.e. ↓) represent a proportion that is significantly lower than the subtotal of the other subgroups.

## Reliability and margin of error

The margin of error associated with this survey is +/-4%. This means that if we observe a finding of 50%, we can be 95% confident that the true result in the population of interest lies between 46% and 54%.

Where sample sizes are low (less than n=30), these are marked by an asterisk (\*) in this report. These results should be interpreted with caution.

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<sup>3</sup> Australian Bureau of Statistics (2013). Estimated Resident Population by Age, South Australia, Persons - 30 June 2012. Cat no: 3235.0

## 3.1. Interpreting This Report

### Definitions

The following terms or abbreviations have been utilised throughout this report.

Table 1: Definitions

Term of abbreviation	Definition
SACOSS	South Australian Council of Social Services
CBSR	Colmar Brunton Social Research
Lower income and higher income	The median South Australian household income (approximately \$65,000 per annum) has been used to determine “lower” and “higher” household income. <sup>4</sup>
Government allowance	Bill payers were asked if they receive any government allowances. Some analysis examines differences between those who receive a government allowance, and those who do not.
Government energy concession	Bill payers were asked if they receive the government energy concession. Some analysis examines differences between those who receive this concession, and those who do not.

<sup>4</sup> Australian Bureau of Statistics (2013). Estimated Resident Population by Age, South Australia, Persons - 30 June 2012. Cat no: 3235.0

## Percentages and averages

Percentages are generally rounded to whole numbers. Some percentages may not add to 100 percent due to rounding.

Some survey questions asked bill payers to give a rating from 0 to 10. For example, the classification used with **agreement** ratings is as follows:

- a rating of 0 to 3 is classified as disagree;
- a rating of 4 to 6 is classified as neither agree nor disagree / neutral;
- a rating of 7 to 10 is classified as agree.

Some survey questions asked bill payers to give a rating from 0 to 10, but using a **different scale**. For example, the classification used with concern ratings is as follows:

- a rating of 0 to 3 is classified as not at all concerned;
- a rating of 4 to 6 is classified as somewhat concerned;
- a rating of 7 to 10 is classified as very concerned.

Average ratings are rounded to one decimal place.

Note that average ratings **cannot** be translated into percentages. For example, an average rating of 7.3 out of 10 cannot be interpreted as meaning 73% of people.

# 4. Findings

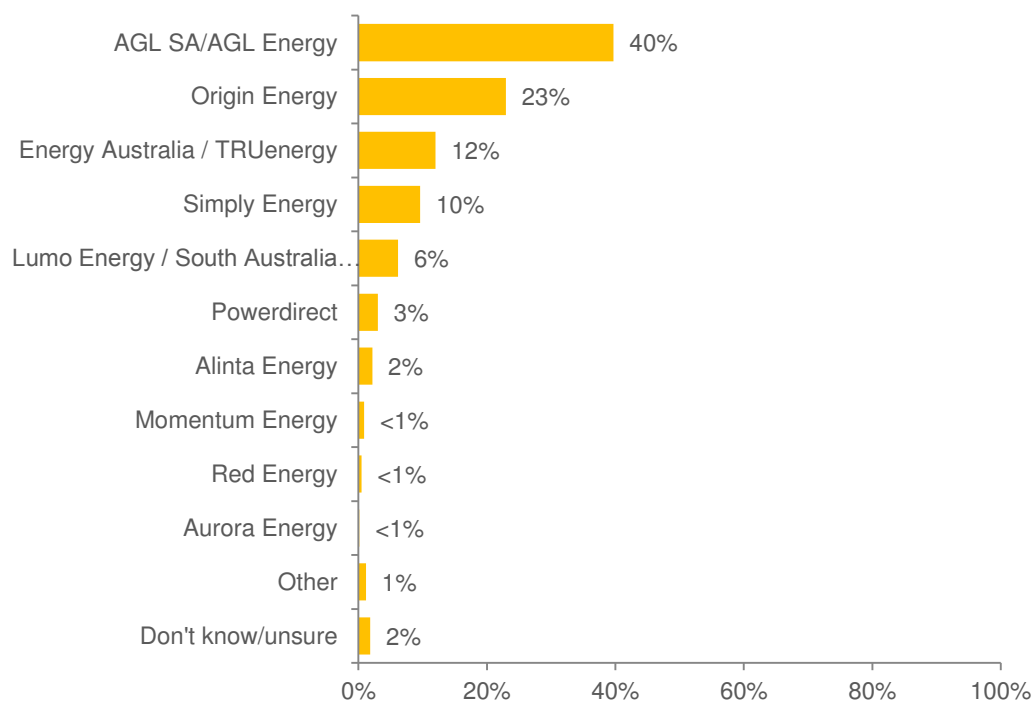
## 4.1. Electricity usage profile and attitudes

### 4.1.1. Electricity usage profile

#### Electricity provider

Approximately 8 in 10 South Australian households are supplied with electricity by four main providers (82%), with AGL being the largest, supplying 4 in 10 South Australian households with electricity (40%). Other large providers include Origin Energy (supplying 23% of SA households), Simply Energy and Energy Australia (each supplying 1 in 10 SA households; 10% and 9%, respectively).

Figure 1: Use of SA electricity providers



Q1. Which company do you currently buy electricity from? SR  
Base: All households, n=600

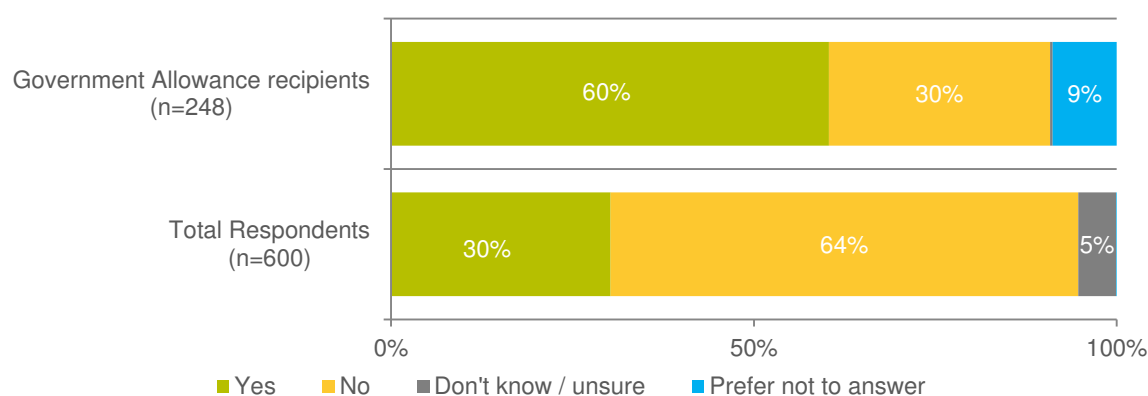
'Other' responses comprised:

- Sanctuary Energy
- E-energy
- Not on the grid – no energy provider

## Energy concession

Three in ten households (30%) are in receipt of a State Government concession on their energy bill.<sup>5</sup> The incidence of this is higher among households that have their income supplemented by Government Allowances, with twice as many of these households receiving the energy concession. However, 3 in 10 of households that receive Government Allowances do not receive the energy concession, which may suggest a lack of awareness.

Figure 2: Receipt of State Government energy concession



S6: Do you receive any allowances / concessions / payments from the government? SR

Q3: Do you currently receive a State Government energy concession on your electricity bill? SR

Base: All households, n=600

Results show that lower income households are significantly more likely to use AGL SA / AGL Energy (46%), compared with higher income households (36%); and the opposite is true for Origin Energy (29% higher income vs 19% lower income). Similarly, concession holders are significantly less likely to use Origin Energy (19%) compared to those who are not concession holders (27%).

Table 2: Use of top electricity providers by household income and concession holder status

Providers	Total	Income		Energy concession holder	
		Lower income household (n=261)	Higher income household (n=289)	Concession holder (n=175)	Not a concession holder (n=393)
AGL SA / AGL Energy	40%	46% ↑	36% ↓	43%	40%
Origin Energy	23%	19% ↓	29% ↑	19% ↓	27% ↑
Energy Australia / TRUenergy	12%	13%	12%	13%	12%
Simply Energy	10%	11%	9%	12%	9%

Q1: Which company do you currently buy electricity from? SR

Base: All households, n=600

Note: 'Don't know / unsure' and 'Prefer not to answer', 'No income' responses have been excluded from analysis. Results have only been included for when cell sizes are greater than n=30

<sup>5</sup> This correlates with the findings from the AER Retail Performance Report 2012-13: approximately 29 per cent of South Australians receiving a concession on their energy bills.

Table 3: Use of top electricity providers by home ownership and size of quarterly bill

Providers	Total	Home ownership		Quarterly bill	
		Renting (n=82)	Owns home/ mortgage (n=492)	\$500 or less (n=407)	More than \$500 (n=160)
AGL SA / AGL Energy	40%	35%	42%	42%	39%
Origin Energy	23%	20%	25%	23%	26%
Energy Australia / TRUenergy	12%	19%	11%	13%	9%
Simply Energy	10%	15%	9%	10%	10%

Q1. Which company do you currently buy electricity from? SR

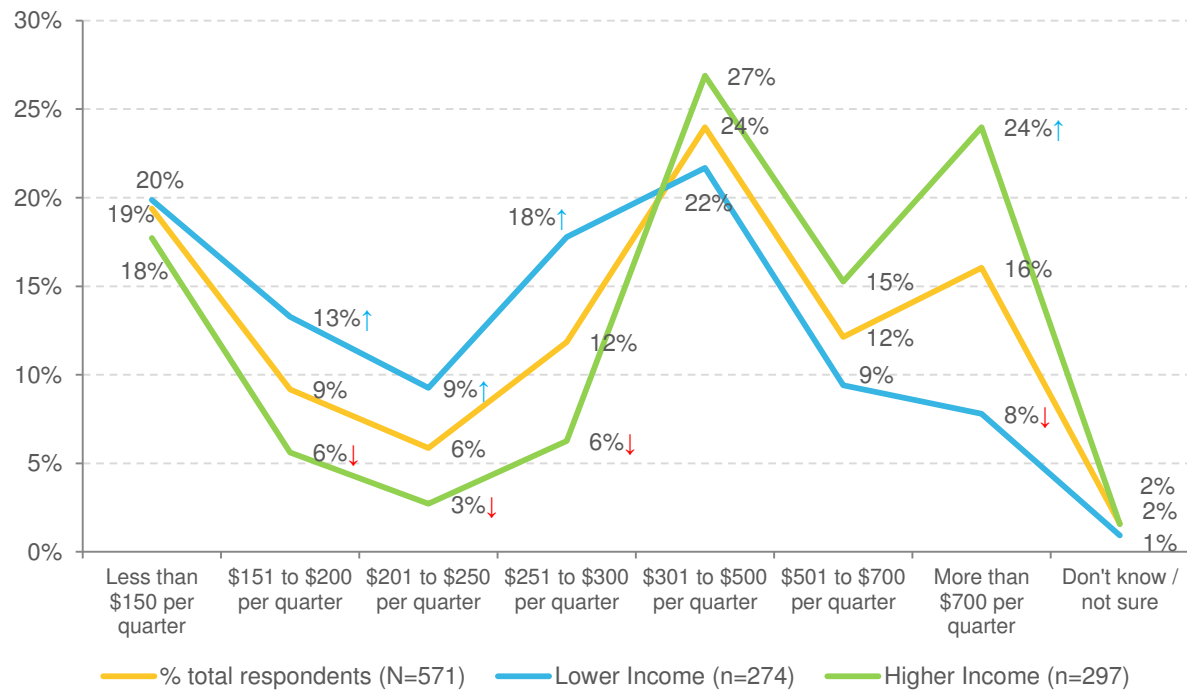
Base: All households, n=600

Note: 'Don't know / unsure' and 'Prefer not to answer', 'No income' responses have been excluded from analysis. Results have only been included for when cell sizes are greater than n=30

### Average quarterly spend on electricity

Overall, the majority of bill payers indicated they spend between \$301 and \$500 per quarter on electricity. When looking at median household income, a significantly greater proportion of households with relatively lower income spend between \$151 and \$300 per quarter (40%), compared to households with relatively higher income. Furthermore, households with higher income were significantly more likely to spend more than \$700 per quarter on electricity, compared with households with income (8%).

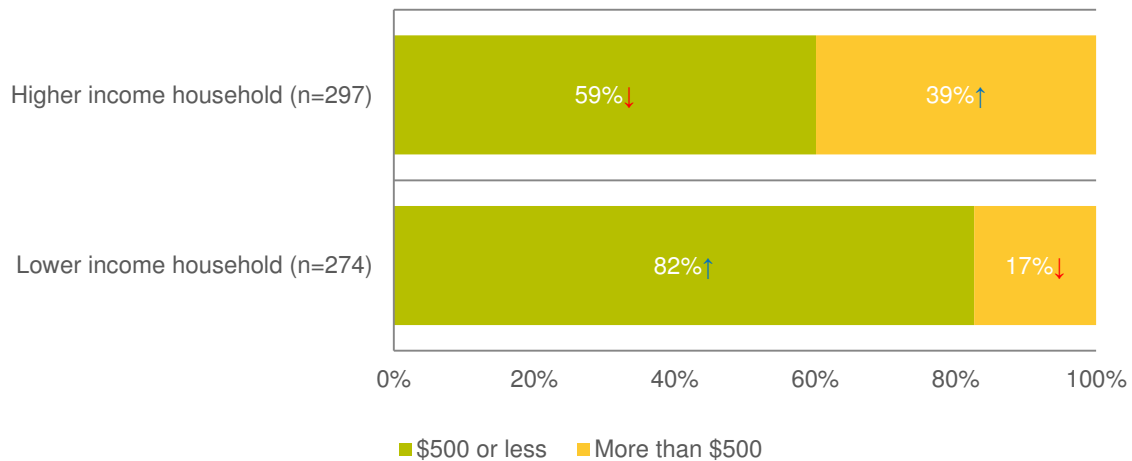
Figure 3: Average quarterly spend by income



Q2. What is your current approximate average quarterly electricity bill? SR  
 Base: Households with income > \$0, and who stated their quarterly electricity bill, n=571

Furthermore, the majority of lower income households (82%) have electricity bills that are \$500 or less each quarter. This is significantly lower amongst higher income households, with only 59% with electricity bills of \$500 or less each quarter.

Figure 4: Average quarterly spend by income

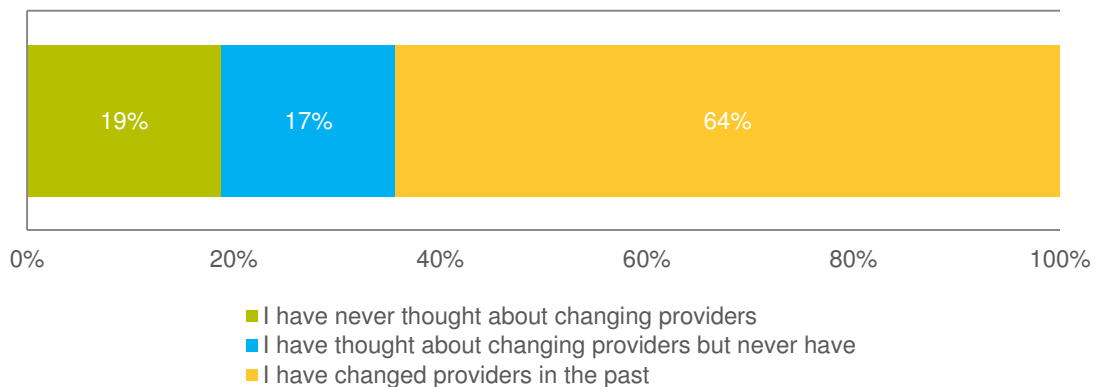


Q2. What is your current approximate average quarterly electricity bill? SR  
 S3. Including all pensions and allowances, what is your household’s annual gross income before tax from all sources? Just an estimate is fine. SR  
 Base: Households with income > \$0, n=571

#### 4.1.2. Changing electricity providers

The majority of South Australian households (64%) indicated they have changed electricity providers in the past, with 17% of households having considered it at some point. Almost a fifth (19%) have never thought about changing providers. This suggests that households are willing to switch providers and are comfortable in doing so.

Figure 5: Changed energy providers in the past

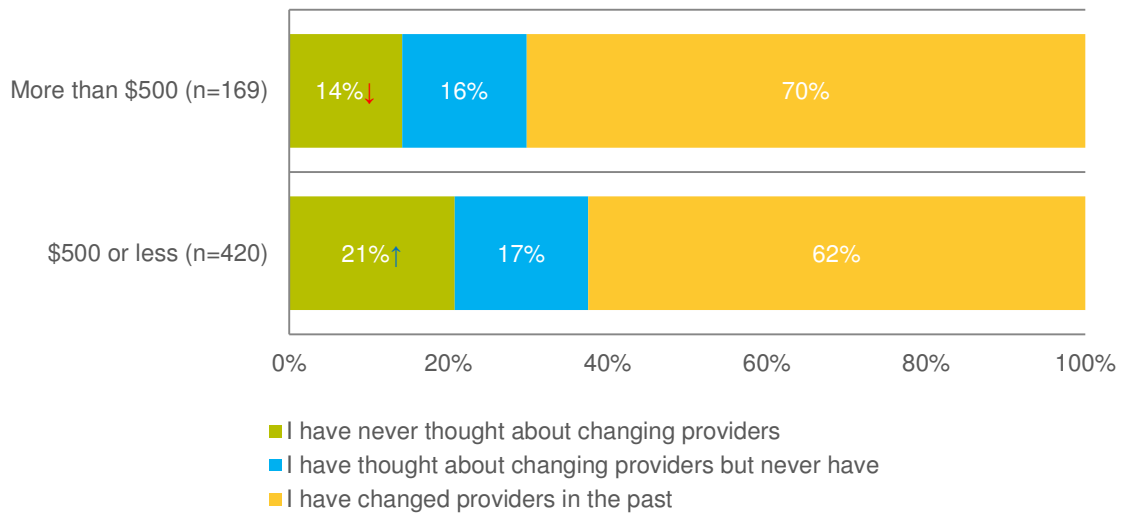


Q4. Which of the following best describes you? SR  
 Base: All households, n=600

South Australian households that spend more than \$500 a quarter on their electricity bill have been statistically just as likely to change providers, or have considered changing providers, as those who spend \$500 or less a quarter. This indicates that quarterly spend on electricity is not a highly motivating factor for customers in deciding whether to stay or change providers – there may be a perception of a fixed price or limited price range for electricity among the general population.



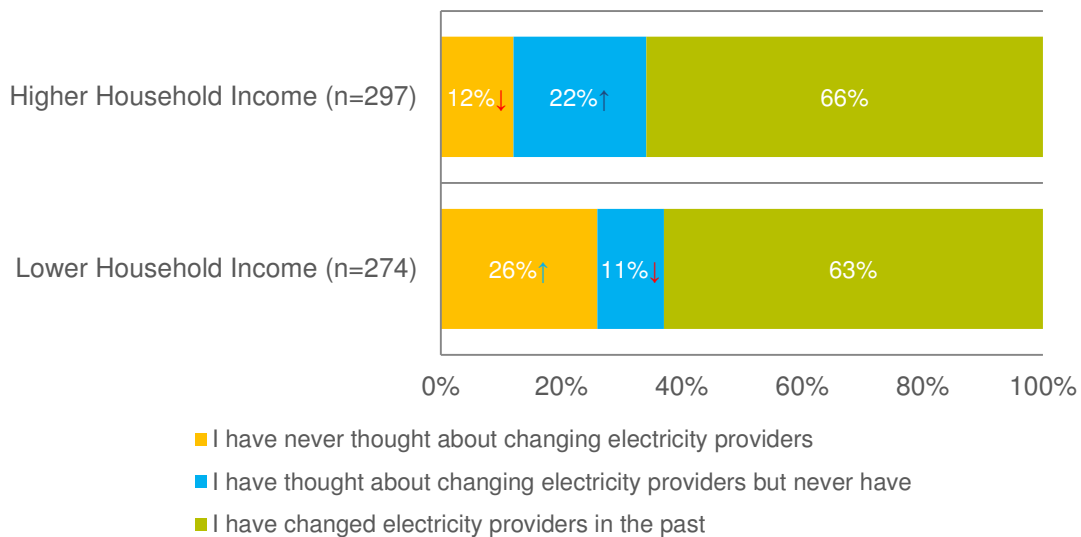
Figure 6: Changed energy providers by quarterly spend



Q2. What is your current approximate average quarterly electricity bill? SR  
 Q4. Which of the following best describes you? SR  
 Base: All households, n=600

Results split by median household income show a similar finding; those with relatively higher income were more likely to have thought about changing electricity providers (22%) compared with those with lower income (11%). Those with lower income were more likely to have never thought about changing providers (26%) compared to those with higher income (12%).

Figure 7: Changed energy providers by income

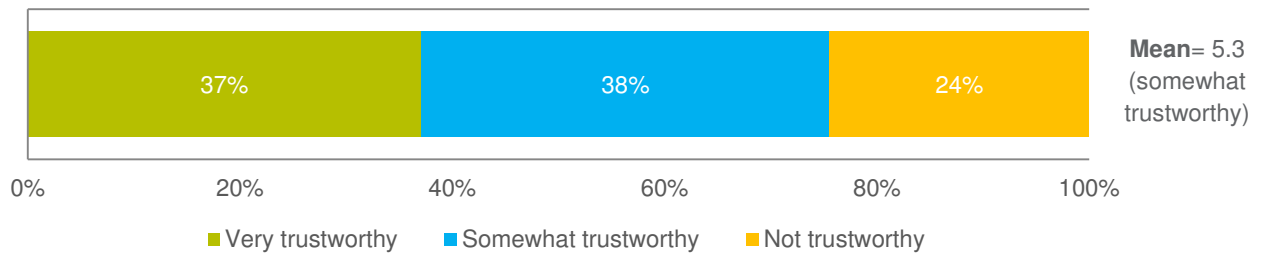


Q4. Which of the following best describes you? SR  
 S3. Including all pensions and allowances, what is your household's annual gross income before tax from all sources? Just an estimate is fine. SR  
 Base: Households with income > \$0, n=571

### 4.1.3. Trust in energy provider

Overall, 37% of South Australian bill payers consider their supplier to be very trustworthy and have their best interests at heart, while 38% consider them somewhat trustworthy. A total of 24% believe that electricity providers are not trustworthy. On average, bill payers consider their energy provider to be somewhat or moderately trustworthy (mean=5.3).

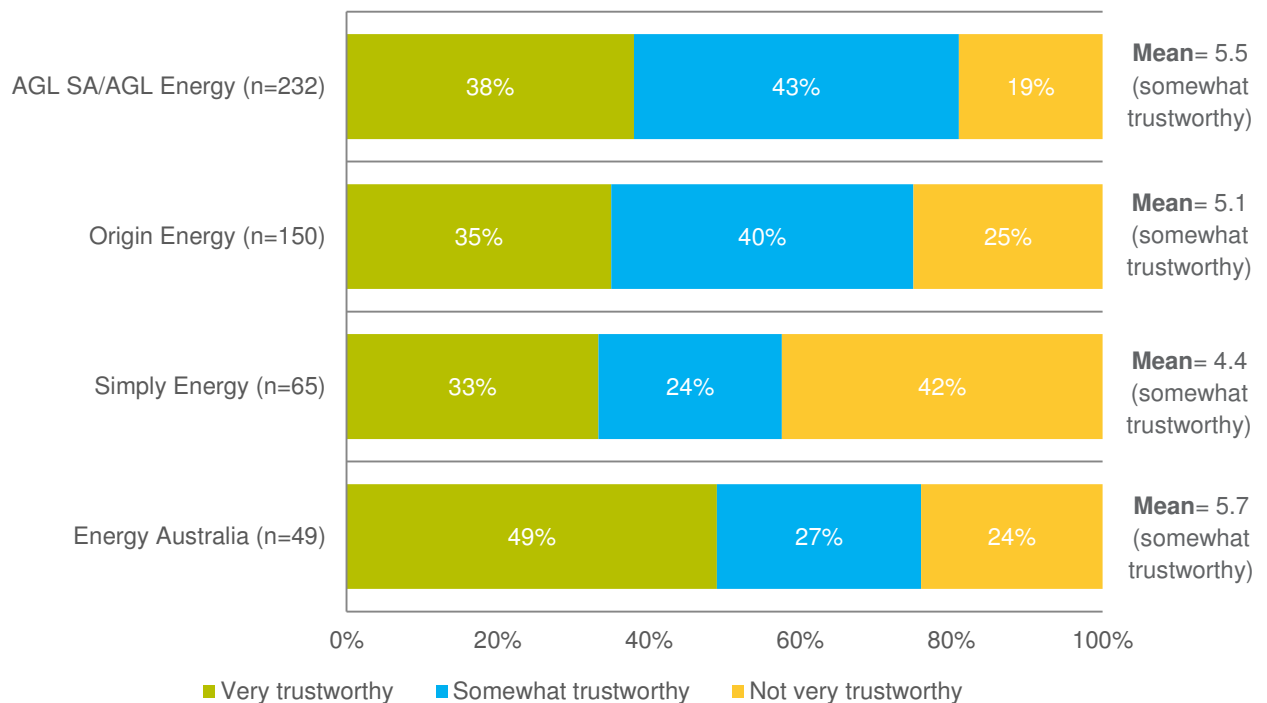
Figure 8: Trust in energy provider



Q5. On a scale of 0-10, where 0 is none at all, and 10 is very much, how much do you trust that your energy retailer is doing the right thing by you and has your best interests at heart? SR  
 Base: All households, n=600

Similarly, the extent to which bill payers consider their provider to be trustworthy does not vary significantly across different providers.

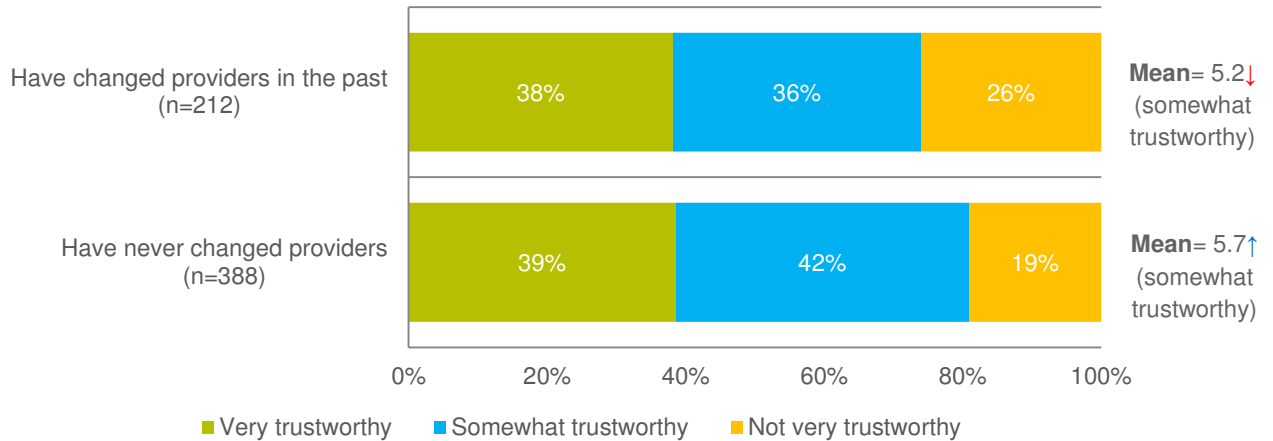
Figure 9: Trust in energy provider, by provider



Q1. Which company do you currently buy electricity from? SR  
 Q5. On a scale of 0-10, where 0 is none at all, and 10 is very much, how much do you trust that your energy retailer is doing the right thing by you and has your best interests at heart? SR  
 Base: All households, n=600  
 Note: Results have only been included for when cell sizes are greater than n=30

Regardless of whether the household has changed energy providers in the past or not, most bill payers think that their energy provider is somewhat or very trustworthy. However, of those who have changed providers in the past trust their provider significantly less on average (5.2/10) than those that have never changed providers before (5.7/10), although both still consider their provider to be somewhat or moderately trustworthy.

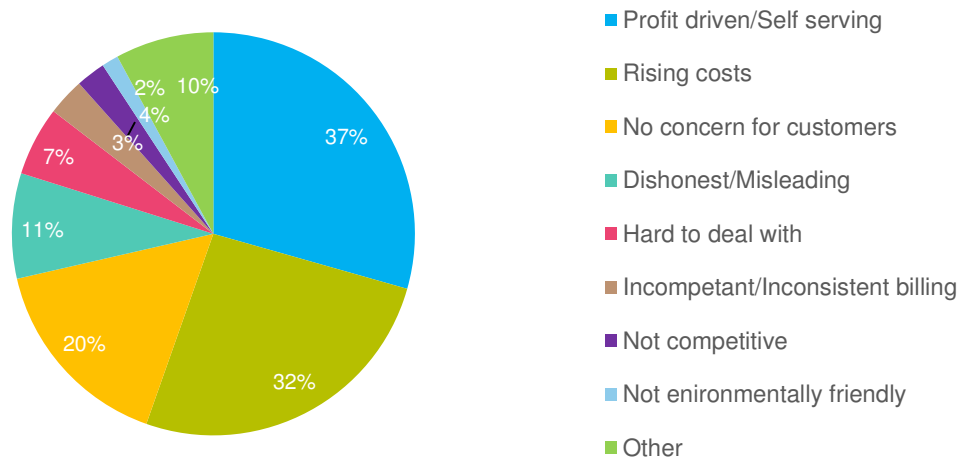
Figure 10: Have changed providers and level of trust



Q4. Which of the following best describes you? SR  
 Q5. On a scale of 0-10, where 0 is none at all, and 10 is very much, how much do you trust that your energy retailer is doing the right thing by you and has your best interests at heart? SR  
 Base: All households, n=600

Reasons underpinning low levels of trust include beliefs that energy retailers are solely profit-driven and self-serving (37%), costs always seem to be increasing no matter what (32%), and that they have no concern for their customers (20%).

Figure 11: Reasons for low levels of trust in energy provider

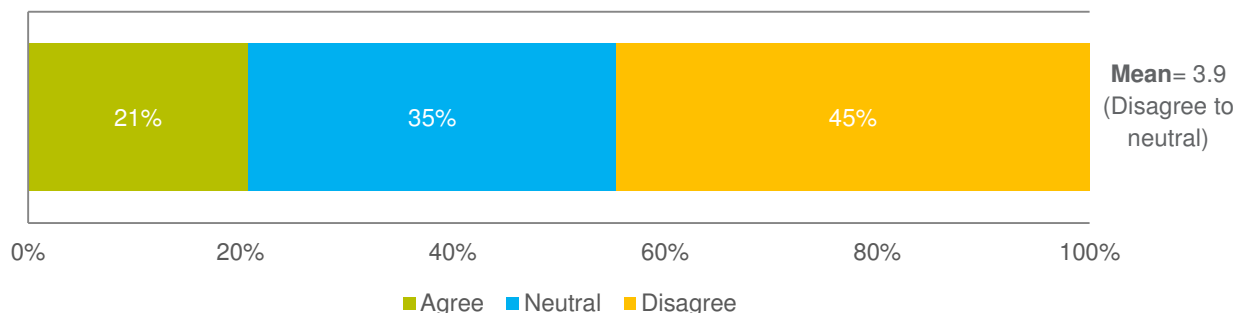


Q5. On a scale of 0-10, where 0 is none at all, and 10 is very much, how much do you trust that your energy retailer is doing the right thing by you and has your best interests at heart? SR  
 Q6. How come? OPEN RESPONSE  
 Base: Households with low level of trust (0-3/10), n=150

#### 4.1.4. Agreement with provider's power to cut energy supply

Overall, 45% of South Australian bill payers do not believe that energy providers should have the power to cut energy supply to household if the customer is unable to pay a bill, while 1 in 5 bill payers believe that providers should have this power (21%); mean agreement is 3.9/10.

Figure 12: Agreement with provider's power to cut energy supply



Q7. On a scale of 0-10 where 0 is strongly disagree, and 10 is strongly agree, do you agree that energy companies should have the power to cut customer supply if the customer is unable to pay a bill? SR

Base: All households, n=600

A significantly greater proportion of lower income households (52%) compared to higher income households (38%) believed that energy providers **should not** have the power to disconnect supply to a household. Higher income households had a significantly higher level of agreement with the notion (4.3/10) compared to lower income households (3.4/10).

Similarly, households that receive a government allowance as part or all of their household income were significantly more likely to believe that energy providers **should not** have the power to disconnect supply to a household (53%), compared to those who do not receive such an allowance (39%).

Table 4: Agreement with provider's power to cut energy supply

	Total	Income		Government allowance	
		Lower income household (n=274)	Higher income household (n=297)	Allowance (n=242)	No allowance (n=358)
Agree	21%	17%	24%	18%	23%
Neutral	35%	30%	38%	29%↓	39%↑
Disagree	45%	52%↑	38%↓	53%↑	39%↓
Mean	3.9 (Disagree)	3.4↓ (Disagree)	4.3↑ (Neutral)	3.4↓ (Disagree)	4.2↑ (Neutral)

Q7. On a scale of 0-10 where 0 is strongly disagree, and 10 is strongly agree, do you agree that energy companies should have the power to cut customer supply if the customer is unable to pay a bill? SR

Base: All households, n=600

Irrespective of home ownership status or the amount spent quarterly on electricity bills, the majority of household bill payers did not believe that energy providers should be provided with the power to cut electricity to a household for being unable to pay a bill. There were no significant differences by quarterly spend on electricity.

Table 5: Agreement with provider's power to cut energy supply

	Total	Home ownership		Quarterly spend	
		Owens home / mortgage (n=507)	Renting (n=89)	\$500 or less (n=420)	More than \$500 (n=169)
Agree	21%	22%	16%	21%	20%
Neutral	35%	35%	34%	33%	37%
Disagree	45%	44%	50%	46%	43%
Mean	3.9 (Disagree to neutral)	3.9 (Disagree to neutral)	3.4 (Disagree to neutral)	3.8 (Disagree to neutral)	3.9 (Disagree to neutral)

Q7. On a scale of 0-10 where 0 is strongly disagree, and 10 is strongly agree, do you agree that energy companies should have the power to cut customer supply if the customer is unable to pay a bill? SR

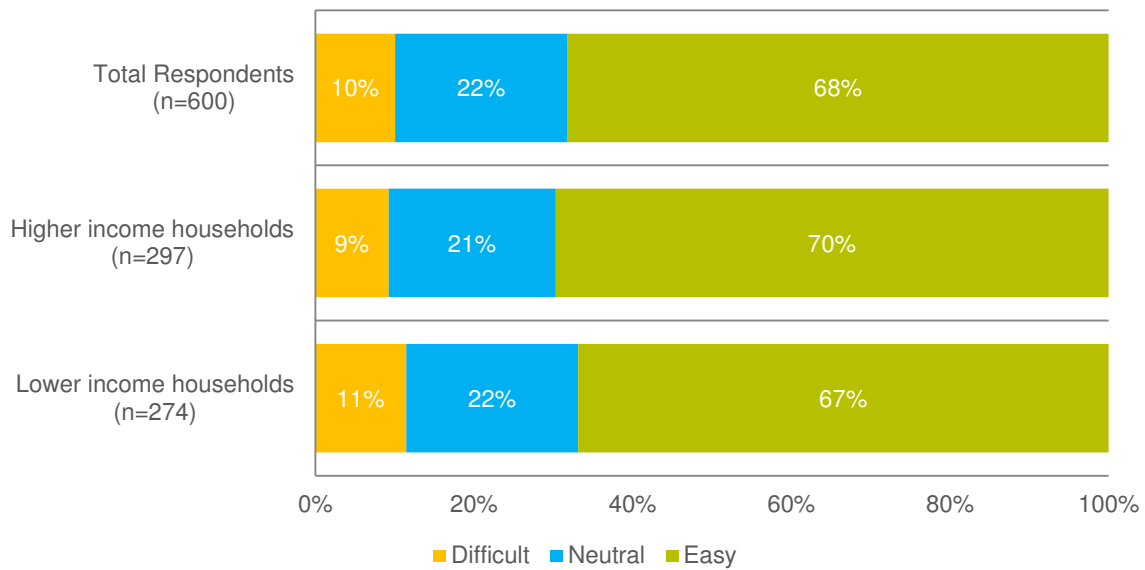
Base: All households, n=600

## 4.2. Electricity prices and financial stress

### 4.2.1. Financial situation

Overall, 68% of bill payers felt that it was easy for them to pay all their bills on time. Ten percent cited difficulty paying all their bills on time. There was no significant difference in perceived difficulty between higher and lower income households.

Figure 13: Difficulty in paying bills on time

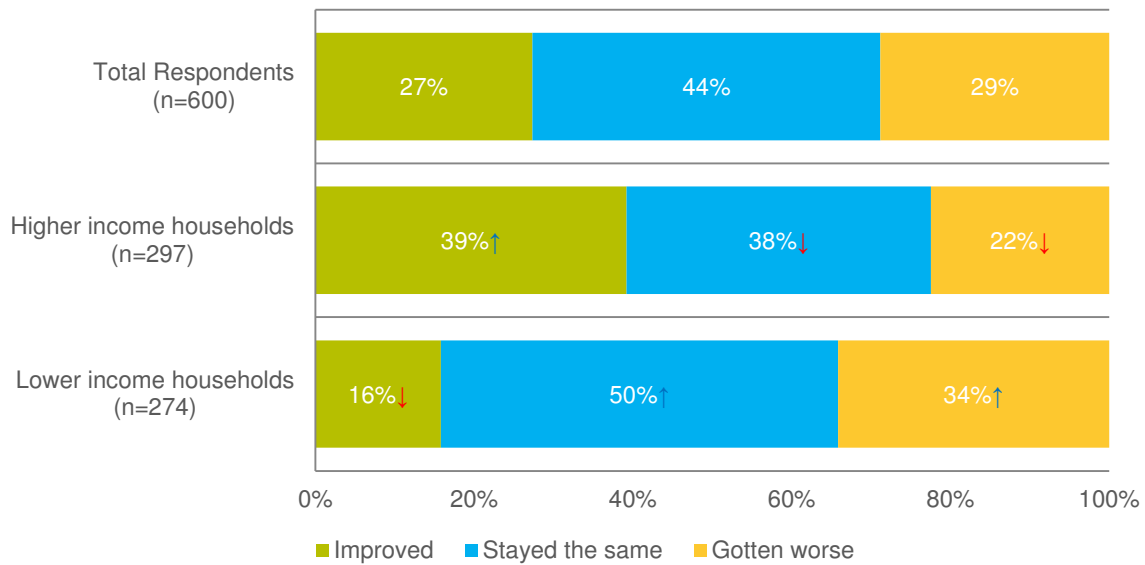


Q33. On a scale of 0-10 where 0 is extremely difficult and 10 is very easy, how difficult or easy do you feel it is for you to pay all of your bills on time? SR

Base: All Households, n=600

Overall, 27% of bill payers indicated that their financial situation had improved in recent years while 29% indicated that it had gotten worse. A significantly greater proportion of lower income households felt that their financial situation had worsened in recent years (34%) compared to higher income households (22%). The opposite was true for those from higher income households, the majority reporting that their financial situation had improved (39%); a significantly higher proportion than that of lower income households (16%).

Figure 14: Change in financial situation in recent years



Q34. In recent years, has your financial situation: SR  
 Base: All Households, n=600

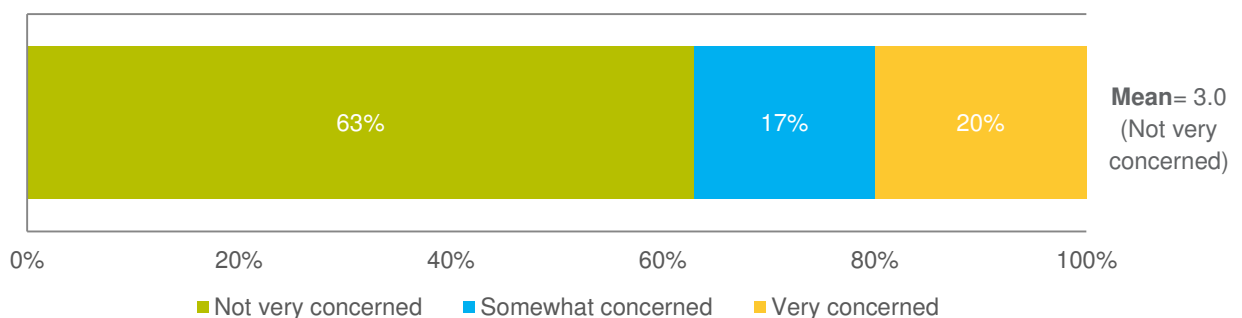
#### 4.2.2. Desire for reduced electricity prices

The majority of South Australian households (93%) stated that they would like to see a reduction in the price of electricity, while the small remainder (7%) said that they were comfortable with the current electricity pricing.

#### 4.2.3. Concern about ability to pay next electricity bill

The majority of household bill payers (63%) were not concerned about their ability to pay their next electricity bill, with a further 17% of bill payers somewhat concerned.

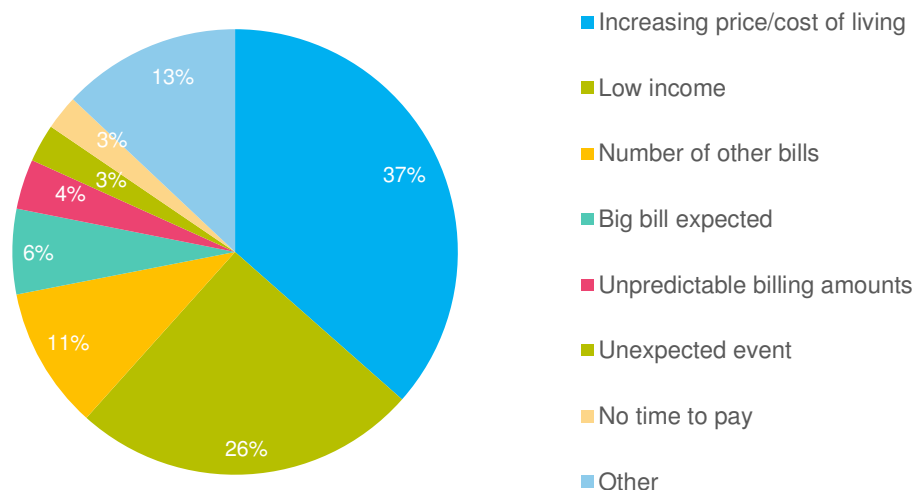
Figure 15: Concern towards ability to pay next electricity bill



Q9. On a scale of 0-10, where 0 is not at all concerned and 10 is extremely concerned, how concerned are you about being able to pay your next electricity bill? SR  
 Base: All households, n=600

Key reasons for concern included the increasing price of electricity and cost of living (37%), and low household income making it difficult to pay bills (26%).

Figure 16: Reasons for concern towards ability to pay next electricity bill



Q9. On a scale of 0-10, where 0 is not at all concerned and 10 is extremely concerned, how concerned are you about being able to pay your next electricity bill? SR

Q10. How come? OPEN RESPONSE

Base: Bill payers who are concerned about paying their next electricity bill, n=113

Overall, 20% of households indicated they were very concerned about being able to pay their next electricity bill. Seventeen percent were somewhat concerned. Not surprisingly, households with higher income levels (2.4/10) and those not receiving a government allowance (2.6/10) were significantly less likely to be concerned about paying their next electricity bill, compared to households with lower levels of income (3.5/10) or those receiving a government allowance (3.4/10).

Table 6: Concern towards ability to pay next electricity bill

	Total	Income		Government allowance	
		Lower income household (n=261)	Higher income household (n=289)	Allowance (n=242)	No allowance (n=358)
Very concerned	20%	25%↑	16%↓	25%↑	17%↓
Somewhat concerned	17%	22%↑	11%↓	21%↑	14%↓
Not very concerned	63%	53%↓	73%↑	55%↓	63%↑
Mean	3.0 (Not very concerned)	3.5↑ (Not very to somewhat concerned)	2.4↓ (Not very concerned)	3.4↑ (Not very to somewhat concerned)	2.6↓ (Not very concerned)

Q9. On a scale of 0-10, where 0 is not at all concerned and 10 is extremely concerned, how concerned are you about being able to pay your next electricity bill? SR

Base: All households, n=600



Overall, those renting were more concerned about paying their next electricity bill (4.5/10), compared to those who owned their home / were paying a mortgage (2.7/10). Over a third of renters (36%) were very concerned about paying their electricity bills compared to 18% of home owners.

As would be expected, significantly more bill payers spending more than \$500 a quarter were very concerned about paying their next bill, compared to those spending \$500 or less a quarter.

Table 7: Concern towards ability to pay next electricity bill continued

	Total	Home ownership		Quarterly spend	
		Owns home / mortgage (n=507)	Renting (n=89)	\$500 or less (n=420)	More than \$500 (n=169)
Very concerned	20%	18%↓	36%↑	17%↓	29%↑
Somewhat concerned	17%	16%	21%	16%	18%
Not very concerned	63%	66%↑	43%↓	67%↑	53%↓
Mean	3.0 (Not very concerned)	2.7↓ (Not very concerned)	4.5↑ (Somewhat concerned)	2.6↓ (Not very concerned)	3.8↑ (Not very to somewhat concerned)

Q9. On a scale of 0-10, where 0 is not at all concerned and 10 is extremely concerned, how concerned are you about being able to pay your next electricity bill? SR

Base: All households, n=600

Among those who reported being very concerned (20%), self-reported reasons for this concern included:

- Increasing cost of living (including price of energy) (37%)
- Low income (including mentions of pension) (26%)
- Large number of bills to pay (11%)
- Big bill expected (6%)
- Unpredictable bills (4%)
- Unexpected events / changing circumstances hindering ability to pay (3%)
- Not enough time to pay (3%)

#### 4.2.4. Stress in relation to electricity bills

Overall, 15% of bill payers indicated they were very stressed about their capacity to pay electricity bills. A further 23% indicated they were somewhat stressed, while this was not a concern for 62% of bill payers.

Lower income households had significantly higher stress (3.2/10) compared to higher income households (2.5/10). Similarly, those receiving a government allowance had significantly higher levels of stress (3.1/10) compared to those not receiving an allowance from the government (2.7/10).

Not surprisingly, bill payers from households with higher income levels were significantly more likely to be not very stressed about their capacity to pay their electricity bills (70%) than bill payers from lower

income households (55%). Bill payers from lower income households, however, were significantly more likely to be somewhat stressed about the same prospect than those from higher income households (17% compared to 28% respectively).

Table 8: General stress levels in relation to electricity bills by household income and receipt of government allowance

	Total	Income		Government allowance	
		Lower income household (n=274)	Higher income household (n=297)	Allowance (n=242)	No allowance (n=358)
Very stressed	15%	16%	13%	17%	13%
Somewhat stressed	23%	28%↑	17%↓	25%	21%
Not very stressed	62%	55%↓	70%↑	57%	66%
Mean	2.8 (Not very stressed)	3.2↑ (Not very to somewhat stressed)	2.5↓ (Not very stressed)	3.1↑ (Not very to somewhat stressed)	2.7↓ (Not very stressed)

Q11. On a scale of 0-10, where 0 is not at all stressed and 10 is very stressed, how stressed do you generally feel about your capacity to pay your electricity bills?

Base: All households, n=600

Renters and those who spend \$500 or more per quarter on their electricity were significantly more likely to be very stressed about their capacity to pay their electricity bill (26% and 28%, respectively) compared to home owners and households that spend \$500 or less on their quarterly electricity bill (13% and 10%, respectively).

Overall, renters feel significantly more stressed (4.2/10) than home owners (2.6/10) about their ability to pay electricity bills, while households that spend more on their electricity (3.9/10) felt more stressed than those that spent less (2.4/10).

Table 9: General stress levels in relation to electricity bills by quarterly spend and ownership status

	Total	Home ownership		Quarterly spend	
		Owns home / mortgage (n=507)	Renting (n=89)	\$500 or less (n=420)	More than \$500 (n=169)
Very stressed	15%	13%↓	26%↑	10%↓	28%↑
Somewhat stressed	23%	22%	29%	23%	22%
Not very stressed	62%	65%↑	45%↓	67%↑	51%↓
Mean	2.8 (Not very stressed)	2.6↓ (Not very stressed)	4.2↑ (Somewhat stressed)	2.4↓ (Not very stressed)	3.9↑ (Not very to somewhat stressed)

Q11. On a scale of 0-10, where 0 is not at all stressed and 10 is very stressed, how stressed do you generally feel about your capacity to pay your electricity bills?

Base: All households, n=600

#### 4.2.5. Concerned and stressed households

When looking at those who reported being very concerned about their ability to pay their next electricity bill (20%), and those who reported being very stressed about their capacity to pay their electricity bills in general (15%) compared to those who are not very concerned or stressed (respectively), we observe that the group experiencing pressure are most likely to have lower household income, and be renting.

When looking at the group that reported having experienced difficulty over the past five years (compared to those not experiencing difficulty), results show that this group primarily are more likely to comprise bill payers who are 55 years old and over, and renters.

Table 10: Households that are concerned, stressed or have experienced difficulty, by demographics

		Very concerned (n=113)	Very stressed (n=77)	Experienced difficulty (n=120)	Total (N=600)
Age group	18-34 years	17%	16%	23%	19%
	35-54 years	44%	48%	48%	39%
	55 years +	39%	36%	<b>28%</b> (↓ cf 45% of those not exp much difficulty)	42%
Location	Metro	72%	73%	78%	77%
	Regional/remote	28%	27%	22%	23%
Income	Lower	61%	56%	54%	52%
	Higher	39%	44%	46%	48%
Receipt of government allowance	Yes	40%	49%	38%	42%
	No	60%	51%	62%	58%
Receipt of energy concession	Yes	41%	38%	33%	30%
	No	59%	62%	67%	64%
Ownership status	Renting	<b>25%</b> (↑ cf 12% of those not very-somewhat concerned)	<b>25%</b> (↑ cf 13% of those not very-somewhat stressed)	<b>29%</b> (↑ cf 11% of those not exp much difficulty)	14%
	Mortgage / home owner	75% (↓ cf <b>88%</b> of those not very-somewhat concerned)	75% (↓ cf <b>87%</b> of those not very-somewhat stressed)	<b>71%</b> (↓ cf 89% of those not exp much difficulty)	86%

Q9. On a scale of 0-10, where 0 is not at all concerned and 10 is extremely concerned, how concerned are you about being able to pay your next electricity bill? SR

Q11. On a scale of 0-10, where 0 is not at all stressed and 10 is very stressed, how stressed do you generally feel about your capacity to pay your electricity bills?

Q15. In the last 5 years, have you had difficulty paying the total of your electricity bill at the time it was due? SR

Base: Bill payers 'very concerned' (n=113), 'very stressed' (n=77), or 'experiencing difficulty' (n=112)

Note: Bolded findings are significantly higher than the respective remaining sample (in brackets)

## 4.3. Payment arrangements

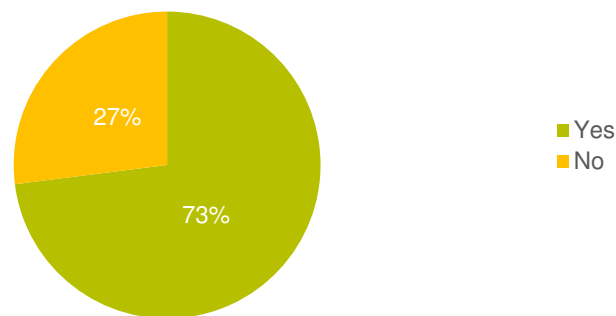
### 4.3.1. Awareness and use of payment arrangements

In South Australia, the standard billing arrangement is for electricity meters to be read by a Meter Reader every 3 months (roughly every 90 days). Bills are then sent out and required to be paid within 2-3 weeks after the bill is issued.

Electricity suppliers are required to offer a range of 'payment plans' to customers experiencing financial difficulty. These types of payment plans give customers the option to pay in advance or in arrears by instalments where the customer has identified a difficulty in paying their energy bill.

Three quarters of household bill payers were aware that payment plans were available to households that were experiencing financial difficulty in paying their electricity bills.

Figure 17: Awareness of payment arrangements



Q12. Have you heard of this arrangement for electricity bills? SR  
Base: All households, n=600

Irrespective of household income, ownership status, quarterly bill size, location, or receipt of government allowances or concessions, the majority of household bill payers were aware that payment arrangements could be made with electricity providers to assist in coping with financial hardship.

Table 11: Awareness of payment arrangements, by household income and receipt of concession

	Total	Income		Concession holder	
		Lower income household (n=274)	Higher income household (n=297)	Concession holder (n=175)	Not a concession holder (n=393)
Aware	74%	73%	74%	78%	72%
Not aware	26%	27%	26%	22%	28%

Q12. Have you heard of this arrangement for electricity bills? SR  
Base: All households, n=600

Table 12: Awareness of payment arrangements, by ownership and quarterly spend

	Total	Home ownership		Quarterly spend	
		Owns home / mortgage (n=507)	Renting (n=89)	\$500 or less (n=420)	More than \$500 (n=169)
Aware	74%	72%	78%	72%	77%
Not aware	26%	28%	22%	28%	23%

Q12. Have you heard of this arrangement for electricity bills? SR

Base: All households, n=600

Table 13: Awareness of payment arrangements, by location and receipt of government allowance

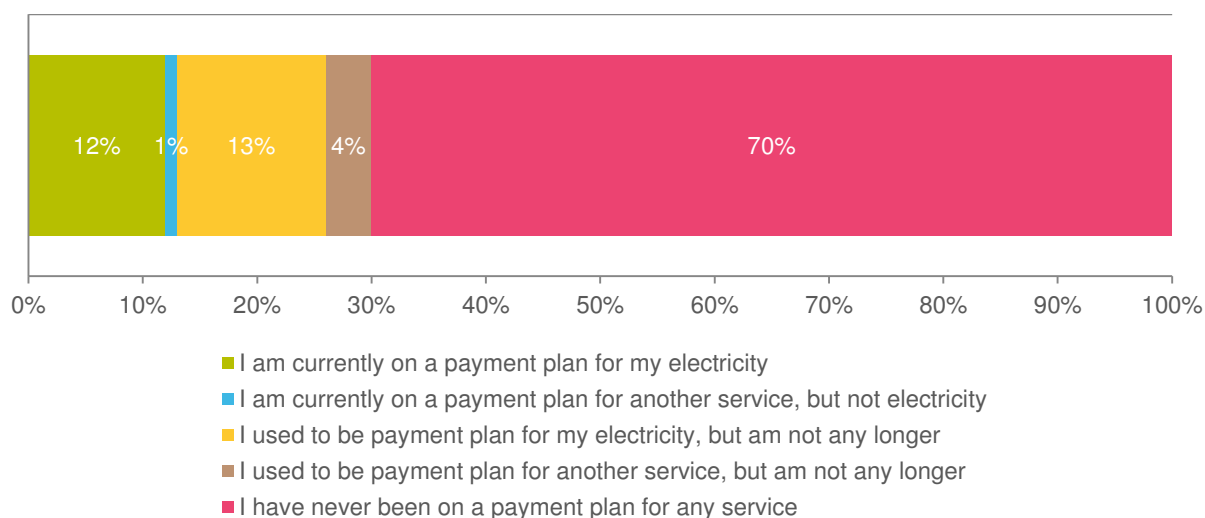
	Total	Location		Government allowance	
		Metropolitan (n=530)	Regional / Rural / Remote (n=70)	Allowance (n=242)	No allowance (n=358)
Aware	74%	73%	75%	77%	70%
Not aware	26%	27%	25%	23%	30%

Q12. Have you heard of this arrangement for electricity bills? SR

Base: All households, n=600

Although aware of the option, most (70%) have never needed to be on a payment plan such as this, while 17% have been on one in the past (including for other services) and 13% are currently using one for electricity or another service. Of those that had been on or were currently on one of these plans, a third had used it to pay off an overdue amount.

Figure 18: Utilisation of payment plans for those experiencing financial hardship



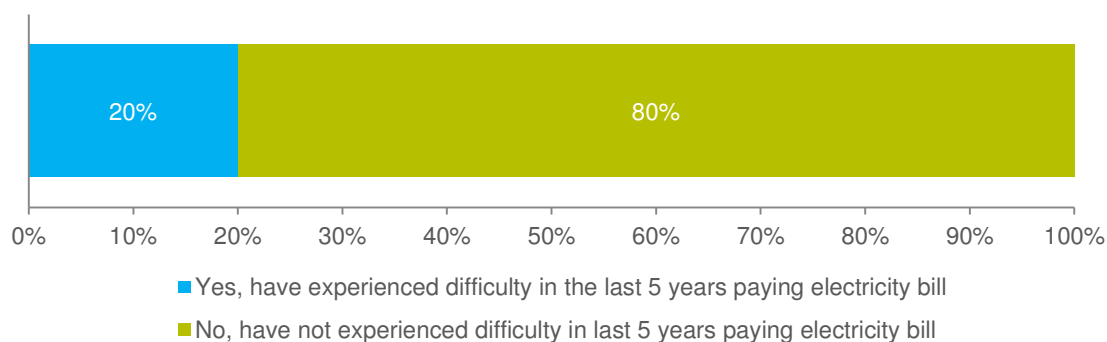
Q13. Which of the following best describes your situation? SR

Base: Bill payers aware of payment arrangements, n=409

### 4.3.2. Difficulty in paying electricity bill

In the past five years, 1 out of 5 households reported having experienced difficulty paying their electricity bills.

Figure 19: Difficulty in paying electricity bill in last 5 years



Q15. In the last 5 years, have you had difficulty paying the total of your electricity bill at the time it was due? SR

Base: All households, n=600

Renters were twice as likely as home owners to have experienced difficulty in paying their electricity bill (40% versus 16%), while those aged 18-44 years (26%) or 45-64 years (21%) were significantly more likely than those aged 65 years or more (6%) to have found it difficult to pay their electricity bill over the past five years. The amount spent on electricity each quarter, the receipt of government allowances and source of income did not have an effect on the ability to pay an electricity bill.

Table 14: Difficulty in paying electricity bill in last 5 years

	Home ownership		Quarterly spend		Government allowance	
	Owns home / mortgage (n=86)	Renting (n=34)	\$500 or less (n=77)	More than \$500 (n=43)	Allowance (n=48)	No allowance (n=72)
Have had difficulty paying	16%↓	40%↑	19%	23%	21%	19%

Q15. In the last 5 years, have you had difficulty paying the total of your electricity bill at the time it was due? SR

Base: Households that have had difficulty paying electricity bills in the past (Q15.), n=120

Table 15: Difficulty in paying electricity bill in last 5 years

	Age groups			Main source of income	
	Quarterly spend			Employment (n=94)	Other (n=25)
	18-44 years (n=46)	45-64 years (n=64)	65 years and over (n=10)		
Have had difficulty paying	26%↑	21%↑	6%↓	23%	13%

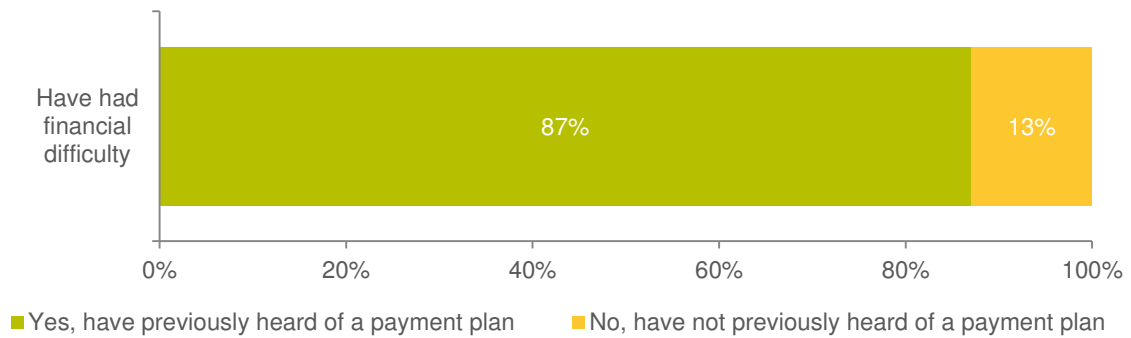
Q15. In the last 5 years, have you had difficulty paying the total of your electricity bill at the time it was due? SR

Base: All households, n=600

### 4.3.3. Awareness and use of payment plans

Of the bill payers who had experienced difficulties paying their electricity bills in the last five years, the majority (9 in 10) were aware that there were payment plans available to assist them in paying their bill (87%); however, only 66% had used a payment plan (for electricity or another utility).

Figure 20: Awareness of payment plans for financial difficulty overall

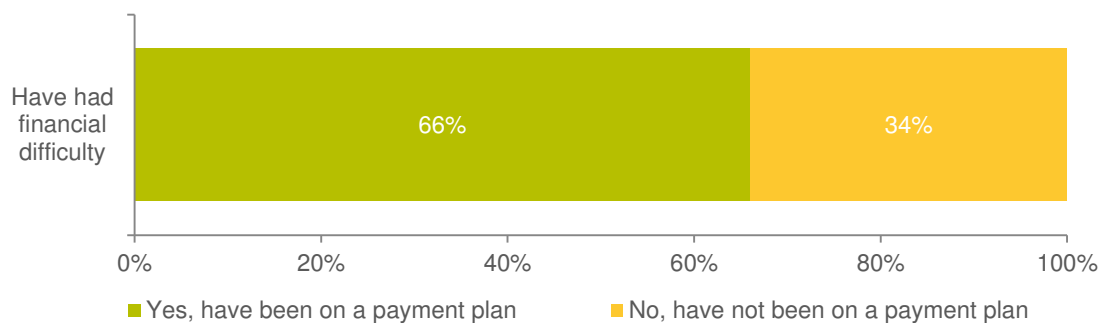


Q12. Have you heard of this arrangement for electricity bills? SR

Q15. In the last 5 years, have you had difficulty paying the total of your electricity bill at the time it was due? SR

Base: Households that have had difficulty paying electricity bills in the past (Q15.), n=120

Figure 21: Awareness of payment plans, by difficulty paying electricity bill in last 5 years



Q13. Which of the following best describes your situation? SR

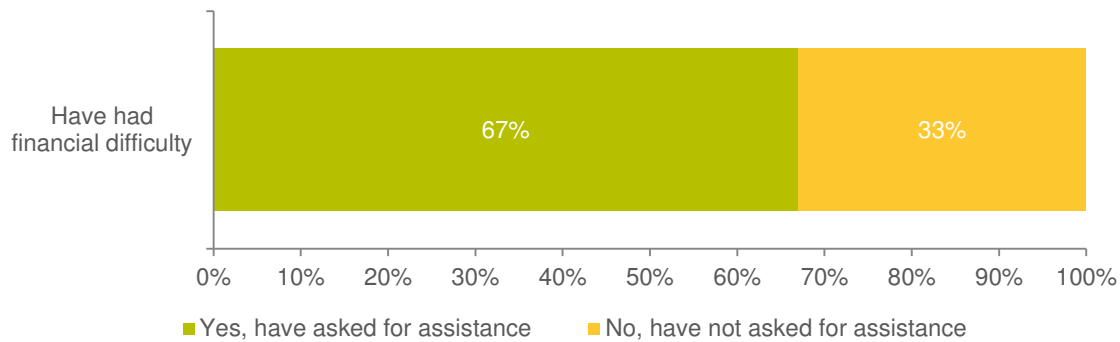
Q15. In the last 5 years, have you had difficulty paying the total of your electricity bill at the time it was due? SR

Base: Households that have had difficulty paying electricity bills in the past (Q15.), n=120

#### 4.3.4. Assistance with paying energy bill

Overall, 67% of those who had experienced financial difficulty had requested assistance from their energy retailer in paying their bill. However, a third (33%) had not requested assistance. The majority of those who requested assistance did not have anyone representing them in the relevant discussions (92%).

Figure 22: Previous assistance requests



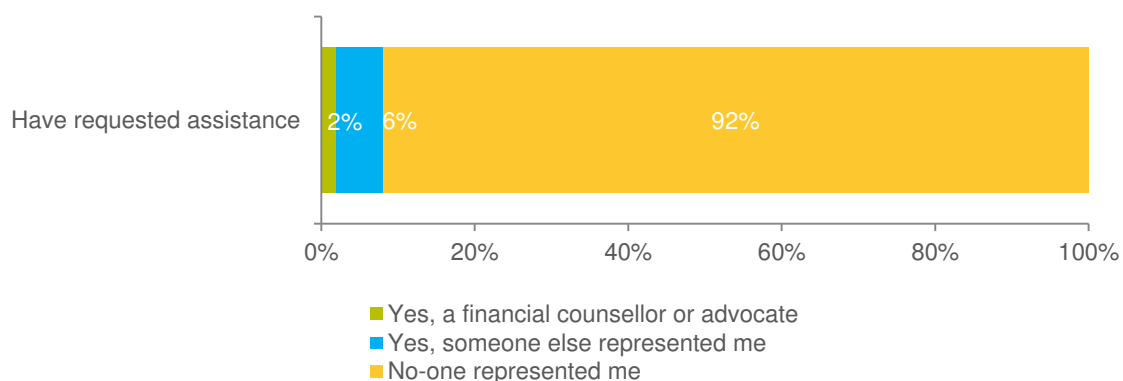
Q16. Did you ask your energy retailer for assistance paying your bill? SR

Base: Households that have had difficulty in paying electricity bill in the last 5 years, n=120

Reasons for not seeking assistance with paying an electricity bill included:

- Managed on own (n=13);
- Got extension / paid late (n=5);
- Wasn't aware could ask for assistance (n=5);
- Too much hassle to ring provider / request assistance (n=3);
- Felt it was own responsibility to pay (n=2);
- Ignored bill date (n=1);
- Got a loan from elsewhere (n=1).

Figure 23: Representation in bill discussions and payment negotiations



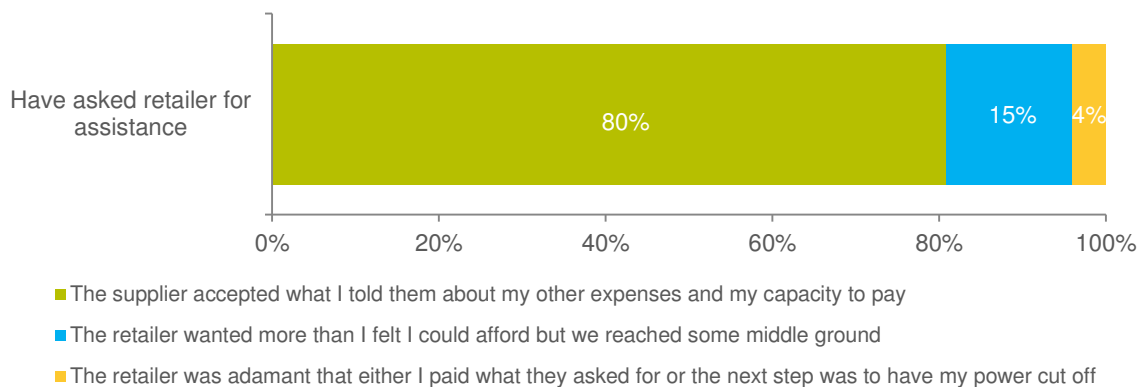
Q17. Did someone represent you in bill discussions and payment negotiations with the energy supplier – such as a Financial Counsellor or an Advocate? SR

Base: Households that have asked for assistance in paying electricity bill, n=76



Among those who had requested assistance in paying their bill from the retailer, 80% reported that the supplier had accepted what they were told about their other expenses and their capacity to pay their bill. In 15% of cases (n=13 – caution small sample size), the bill payer perceived that the supplier asked for more than they were comfortable with but a middle ground had been reached. Only a very small number had reached no compromise with their electricity supplier (n=3 – caution small sample size).

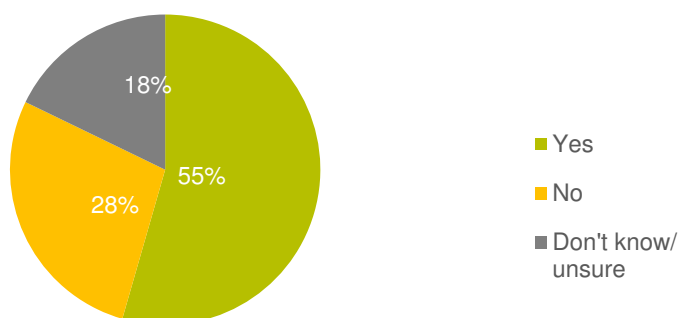
Figure 24: Outcome of bill discussions and payment negotiations



Q18. *Out of the following statements, which best describes what happened? SR*  
 Base: Households that have asked for assistance in paying electricity bill, n=76

Although in the majority of cases an acceptable outcome was reached and no one represented the bill payer in negotiations, 55% suspect that they may have achieved a better outcome if they had been represented. A further 28% felt that this representation would not have produced a better outcome while 18% were unsure.

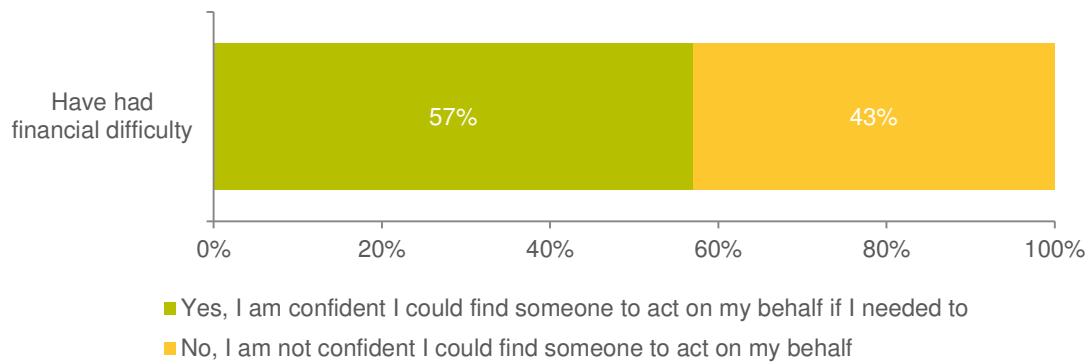
Figure 25: Perception of outcome if represented in bill discussions and payment negotiations



Q19. *Do you think that you would have reached a better outcome if someone had represented you in these discussions with the energy supplier – such as a Financial Counsellor or Advocate? SR*  
 Base: Households that have asked for assistance in paying electricity bill and did not have representation during bill discussions and payment negotiations, n=70

Overall, 57% of those who have experienced difficulty paying an electricity bill in the last five years felt confident that they could find someone such as a Financial Counsellor or Advocate to act on their behalf. A total of 43% did not feel confident that they could find someone.

Figure 26: Confidence in obtaining representation



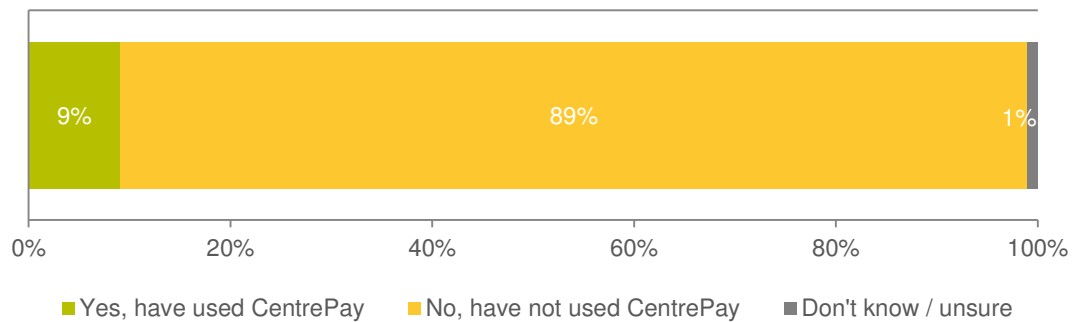
Q20. If you needed one, do you feel confident that you could find someone to act on your behalf – such as a Financial Counsellor or Advocate? SR

Base: Households that have had difficulty in paying electricity bill in the last 5 years, n=120

Use of CentrePay

A fifth of households receiving the State Government energy concession had heard of CentrePay; however, only 9% had used this service.

Figure 27: Use of CentrePay



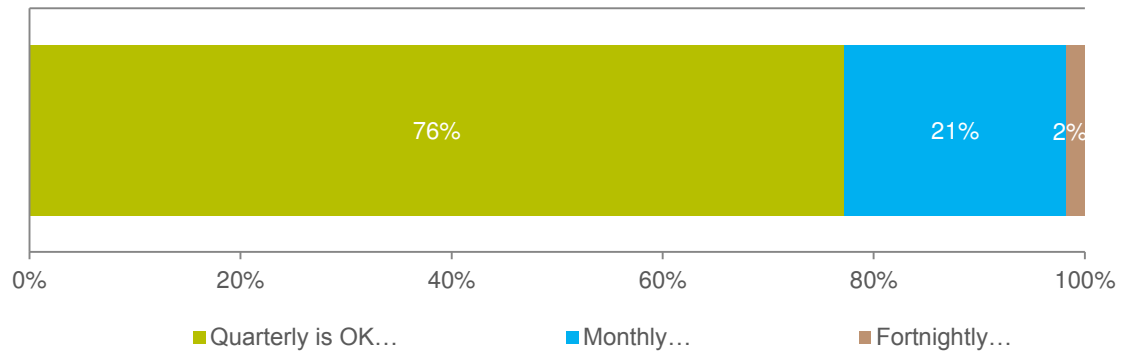
Q21. Have you ever heard of CentrePay? [If NO or UNSURE/DON'T KNOW read: CentrePay is a free direct bill-paying service offered to customers receiving Centrelink payments. Through CentrePay you can choose to pay bills by having a regular amount deducted from your Centrelink payments] Have you ever used CentrePay (regular deductions) to pay utility bills? SR

Base: Households in receipt of State Government energy concession, n=207

#### 4.3.5. Preferred billing frequency and process

Overall, 76% of bill payers found that the quarterly frequency of electricity bills matched their preference for billing frequency. However, one in five would prefer to receive bills more frequently on a fortnightly basis.

Figure 28: Preferred timing of electricity bills

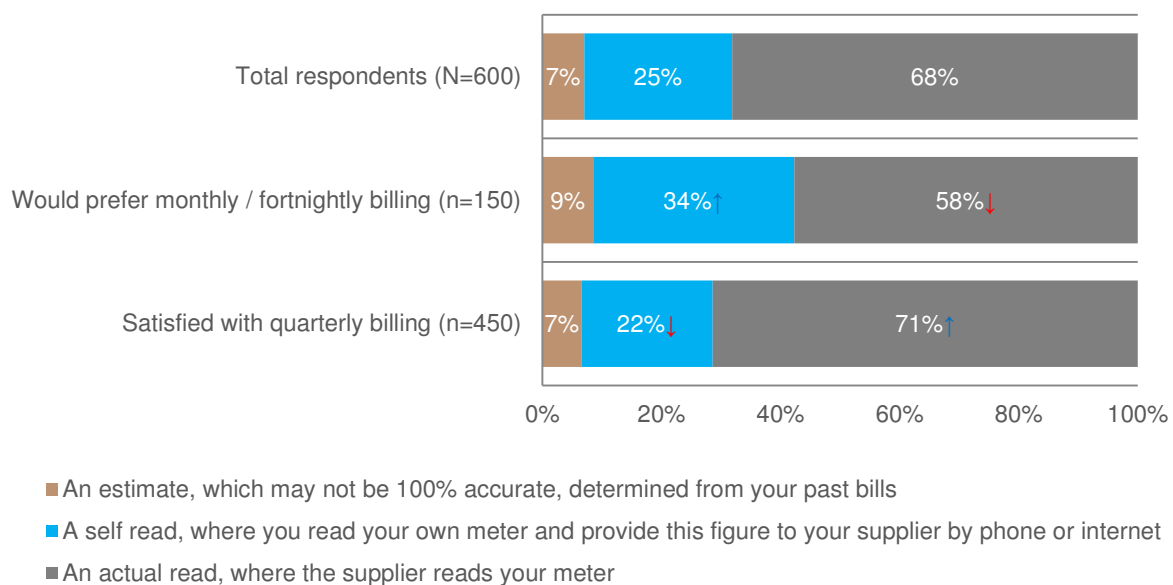


Q23. Electricity bills are currently sent out quarterly. How often would you prefer to receive these bills? SR  
Base: All Households, N=593 (excludes non-responses)

Generally bill payers were wary of estimated bills based on past consumption with the majority expressing a preference for an actual read (68%) and a quarter wanting to at least read their own meter and submit the figure (25%). In terms of preferences for quarterly billing versus more frequent billing, a significantly greater proportion of those who would prefer more frequent billing would prefer a self-read (34%), compared with 22% of those who prefer quarterly billing.

The majority of those who prefer quarterly billing indicated they would also prefer an actual read (71%), a significantly greater proportion than that of those who would prefer more frequent billing (58%).

Figure 29: Preferred process for estimating electricity consumption



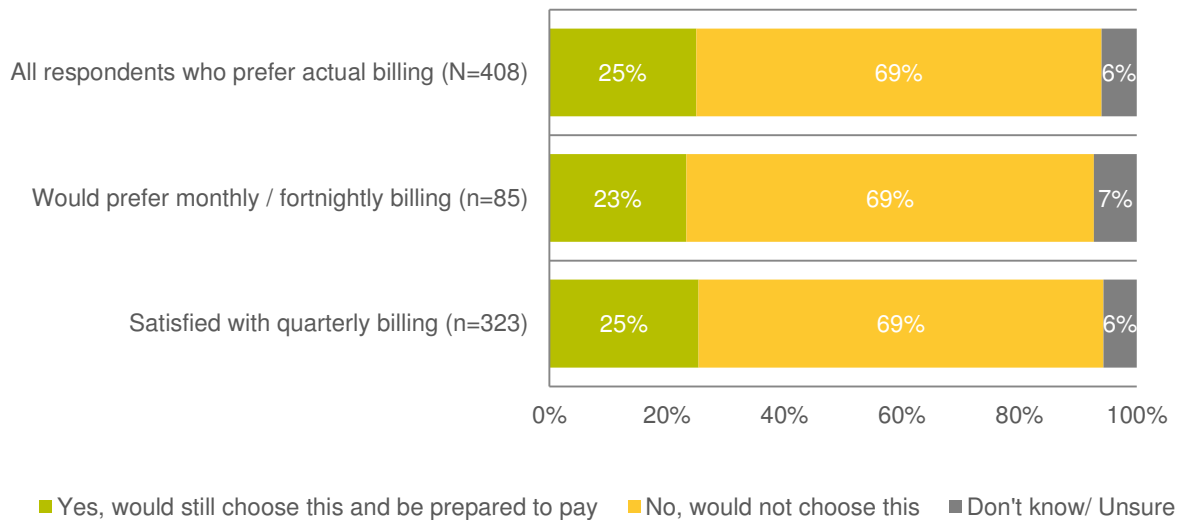
Q24. If these bills were to be sent out more frequently the process for estimating electricity consumption would have to be different. Which of the following would you prefer? SR

Base: All Households, n=600

Bill payers who indicated that they would prefer an actual read of the meter for more frequent billing were asked if they would still choose this option if it incurred a \$5 per month fee. One quarter would still prefer this method while 69% indicated that they would change their mind and not choose that option at the stated cost. There were no differences in reaction to the \$5 cost when split by those who prefer quarterly billing and those who prefer more frequent billing.

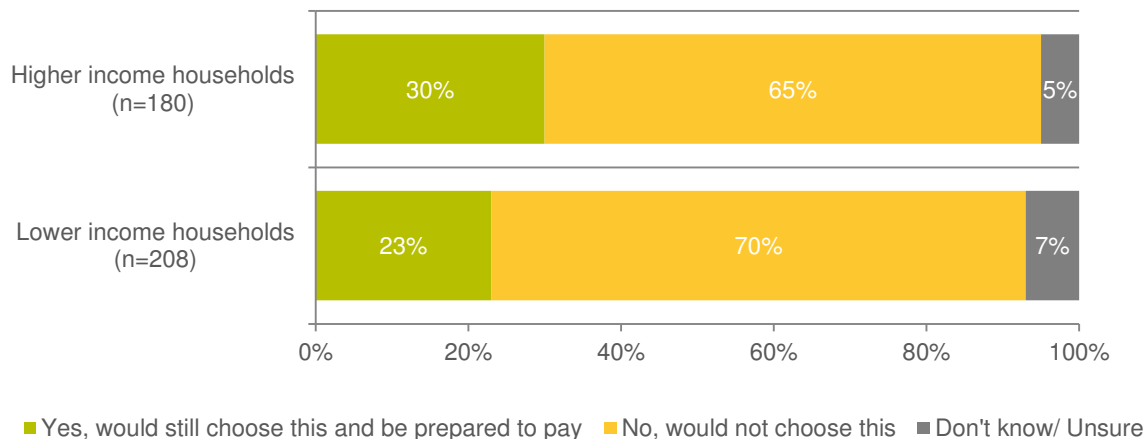
There were no significant differences in this preference depending on the income status of the household, home ownership status or other factors.

Figure 30: Reaction to \$5 cost for monthly 'actual read'



Q25. What if an actual read was to incur an additional cost of up to \$5 per month (which is approximately \$15 a quarter). Would you choose this? SR  
 Base: Households that would prefer an actual read (Q24), n=408

Figure 31: Preference towards \$5 cost for monthly read by household income



Q25. What if an actual read was to incur an additional cost of up to \$5 per month (which is approximately \$15 a quarter). Would you choose this? SR  
 Base: Households that would prefer an actual read (Q24), n=408

Table 16: Preference towards \$5 cost for monthly read by home ownership and Government allowance

	Home ownership		Government allowance	
	Owns home / mortgage (n=343)	Renting (n=61)	Allowance (n=188)	No allowance (n=220)
Yes	24%	26%	24%	26%
No / don't know	76%	74%	76%	74%

Q25. What if an actual read was to incur an additional cost of up to \$5 per month (which is approximately \$15 a quarter). Would you choose this? SR

Base: Households that would prefer an actual read (Q24), n=408

Table 17: Preference towards \$5 cost for monthly read by quarterly spend and incidence of difficulty paying a bill

	Quarterly spend		Difficulty paying bill in last 5 years	
	\$500 or less (n=420)	More than \$500 (n=169)	Yes, difficulty (n=74)	No difficulty (n=334)
Yes	25%	25%	28%	24%
No / don't know	75%	75%	72%	76%

Q25. What if an actual read was to incur an additional cost of up to \$5 per month (which is approximately \$15 a quarter). Would you choose this? SR

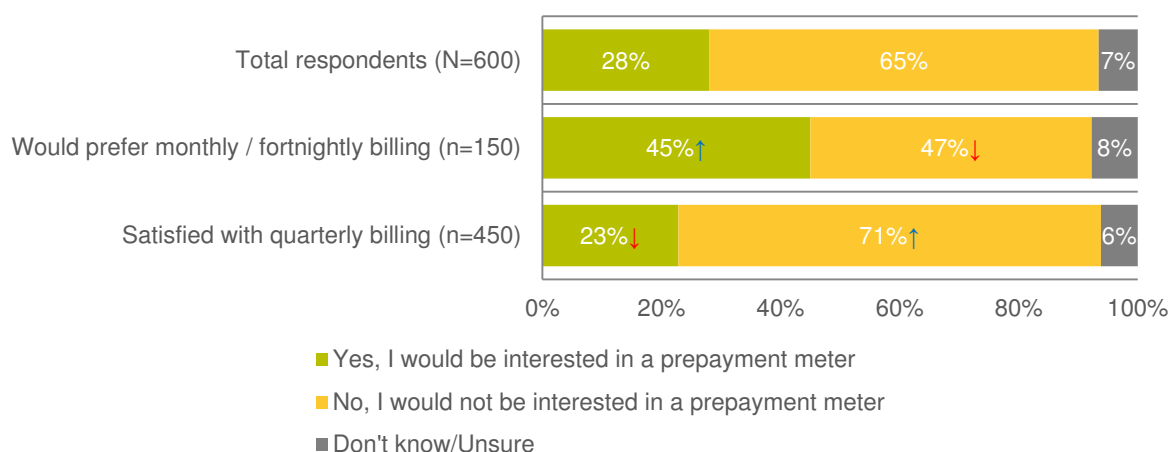
Base: Households that would prefer an actual read (Q24), n=408

## Prepayment meters

Overall, 28% of households were interested in the “prepayment meter”. While there were no significant differences in interest depending on home ownership status, Government allowance status or the experience of difficulty paying a bill, significantly fewer of those with a spend of less than \$500 per quarter were interested in this proposal compared to those with a higher spend (24% and 40% respectively).

A significantly greater proportion of those who prefer more frequent billing indicated they would be interested in a prepayment meter (45%), compared to those satisfied with quarterly billing (23%).

Figure 32: Interest towards prepayment meter



Q26. An alternative arrangement that has been used in South Australia but is more popular elsewhere is the prepayment meter. The idea is similar to a pre-paid mobile phone (except you don't lose any remaining credit at the end of the month). Is this something that would interest you? SR

Base: All Households, n=600

Table 18: Interest towards prepayment meter

	Home ownership		Government allowance	
	Owns home / mortgage (n=507)	Renting (n=89)	Allowance (n=242)	No allowance (n=358)
Yes	28%	28%	24%	31%
No / don't know	72%	72%	76%	69%

Q26. An alternative arrangement that has been used in South Australia but is more popular elsewhere is the prepayment meter. The idea is similar to a pre-paid mobile phone (except you don't lose any remaining credit at the end of the month). Is this something that would interest you? SR

Base: All Households, n=600

Table 19: Interest towards prepayment meter

	Quarterly spend		Difficulty paying bill in last 5 years	
	\$500 or less (n=420)	More than \$500 (n=169)	Yes, difficulty (n=120)	No difficulty (n=480)
Yes	24%↓	40%↑	33%	27%
No / don't know	76%↑	60%↓	67%	73%

Q26. *An alternative arrangement that has been used in South Australia but is more popular elsewhere is the prepayment meter. The idea is similar to a pre-paid mobile phone (except you don't lose any remaining credit at the end of the month). Is this something that would interest you? SR*

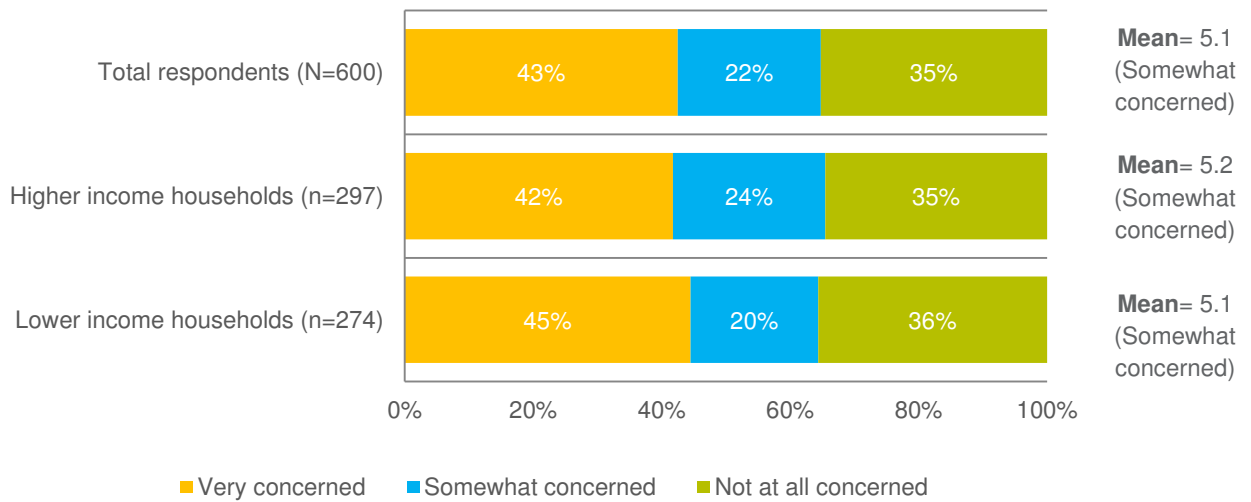
Base: *All Households, n=600*



## 4.4. Heat waves

Overall, 43% of households were concerned about the price of electricity during heat waves. The remaining 57% were either not at all concerned (35%) or somewhat (22%). There was no significant variation in the level of concern for different household income levels.

Figure 33: Concern about electricity prices during recent heat waves



Q27. On a scale of 0-10 where 0 is not at all, and 10 is a lot, how concerned were you about the price of electricity at these times? SR

Base: All Households, n=600

Overall, 92% of households use their air conditioner during heat waves. Just 7% indicated that they choose to not use their air conditioner despite having one available.

Figure 34: Air conditioner use during recent heat waves

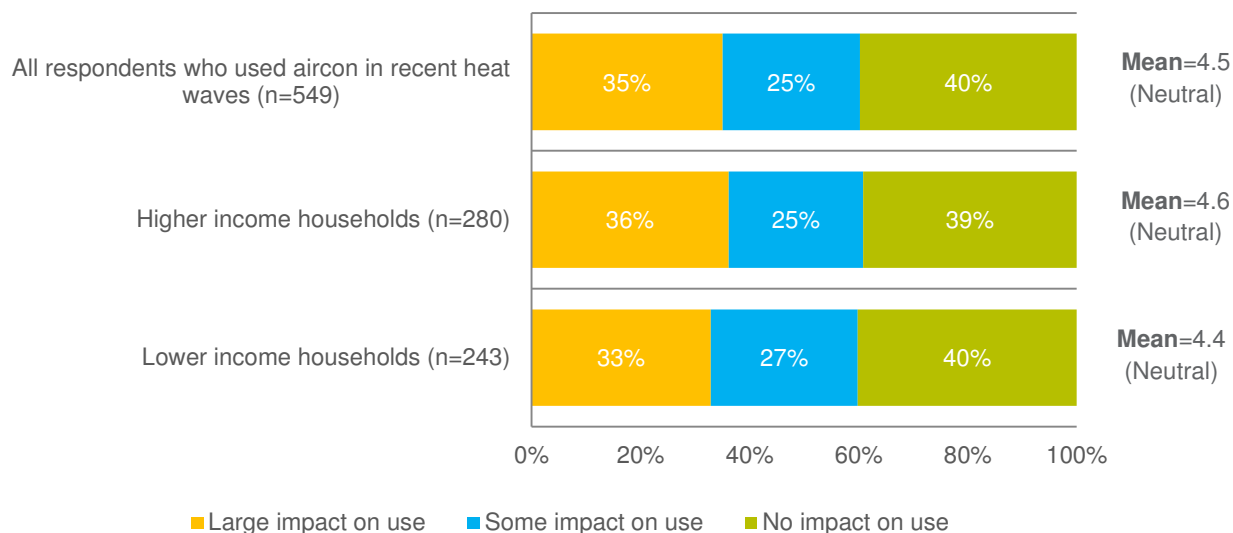


Q28. At times like these, do you run an air conditioner? SR

Base: All Households, n=600

Despite the vast majority of households using an air conditioner during heat waves, 35% indicated that the price of electricity has a large impact on their use during a heat wave. 65% found that electricity price had little impact (40%) or were neutral (25%). There was no significant difference in the degree of impact between households on lower and higher incomes.

Figure 35: Impact of electricity prices on air conditioner usage

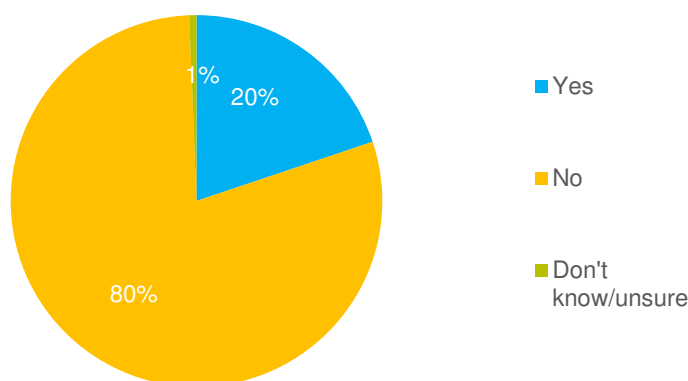


Q29. On a scale of 0-10, where 0 is no impact at all (usage stays the same), and 10 is a huge impact (usage decreases), how much does the price of electricity impact how you operate your air conditioner during a heat wave? SR

Base: Households that used an air conditioner during the recent heat waves, n=549

The vast majority of bill payers did not leave their homes for somewhere cooler during the recent heat wave (80%) while 20% had done this.

Figure 36: Left home for a cooler destination during recent heat waves

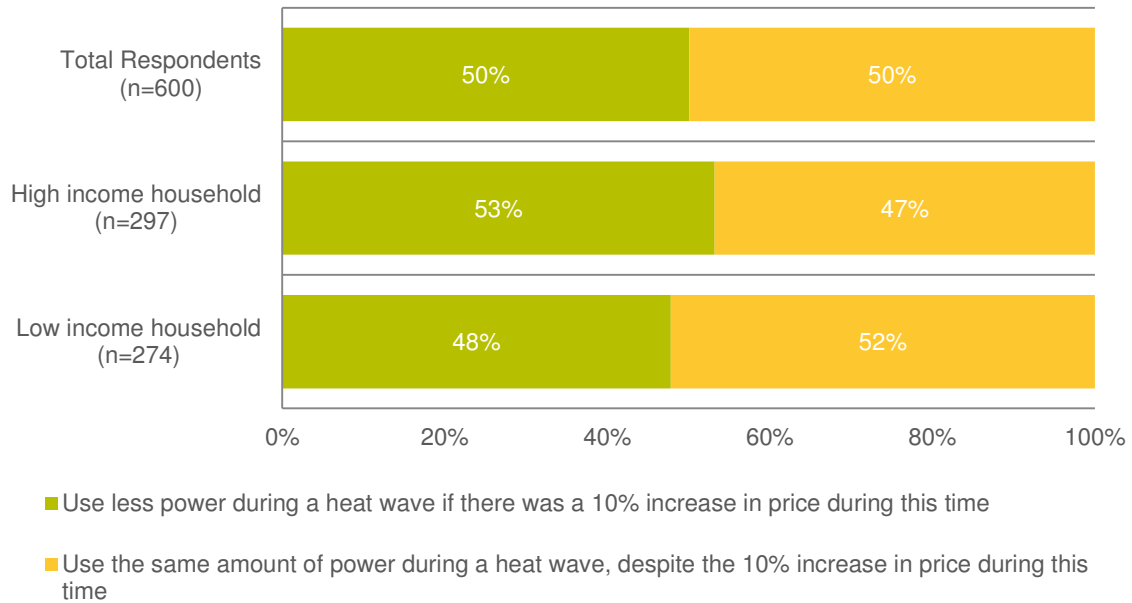


Q30. During the recent heat wave, did you leave your home to go somewhere cooler? SR

Base: All Households, n=600

Half of the households in this study indicated that if there was a 10% increase in electricity prices during summer months, they would use less power and half indicated they would use the same amount of power. There was no significant difference depending on the level of household income.

Figure 37: Impact of a 10% increase in electricity prices during summer months

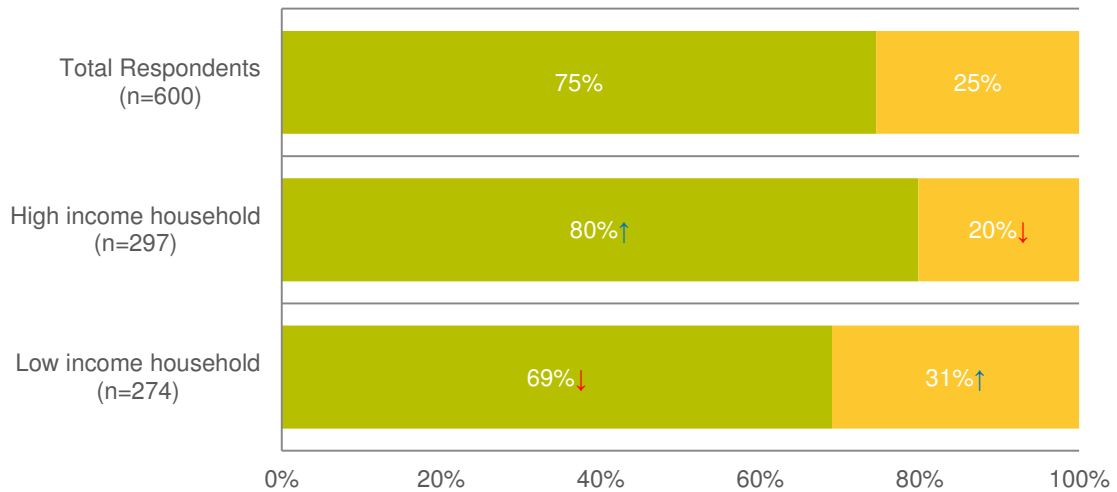


Q31. If electricity prices in the summer months increased by 10%, how much would this impact your electricity use during a heat wave? Would you... SR

Base: All Households, n=600

However, 75% of bill payers indicated they would use less power if there was a 20% increase in price during the summer months. The incidence of using less power was significantly higher among higher income households (80%) compared to lower income households (69%).

Figure 38: Impact of a 20% increase in electricity prices during summer months



- Use less power during a heat wave if there was a 20% increase in price during this time
- Use the same amount of power during a heat wave, despite the 20% increase in price during this time

Q32. What if electricity prices in the summer months increased by 20%, how much would this impact your electricity use during a heat wave? Would you... SR

Base: All Households, n=600

# 5. Sample Profile

Table 20: Household structure

	%	n
Single household	6%	38
Couple household (e.g. live with partner)	38%	232
Group household (e.g. share with friends or housemates)	2%	11
Family household	54%	314
Other	1%	5
TOTAL	100%	600

*Q35. Which of these best describes your household?*

Table 21: Number of people in households

Persons in household	%	n
0	6%	39
1	39%	240
2	9%	48
3	19%	115
4	16%	101
5	9%	46
6	1%	6
7	0%	4
8	1%	1
TOTAL	100%	600

*Q36. Currently, how many people are there living with you in your household?*

Table 22: Number of people in households by age group

Number of persons	0-4 years	5-11 years	12-16 years	17-25 years	26-45 years	46-65 years	66+ years	Refused	Total
1	8%	5%	4%	6%	28%	30%	18%	1%	100%
	31	30	28	45	127	192	103	5	561
2	11%	12%	6%	10%	38%	21%	1%	1%	100%
	31	37	31	49	99	86	5	4	342
3	18%	24%	11%	14%	20%	11%	1%	1%	100%
	31	54	41	46	54	42	3	2	273
4	24%	21%	12%	7%	20%	12%	3%	1%	100%
	22	30	26	18	29	26	6	1	158
5	25%	22%	19%	8%	22%	4%	0%	0%	100%
	9	14	9	9	11	5	0	0	57
6	20%	6%	10%	45%	16%	4%	0%	0%	100%
	3	1	2	2	2	1	0	0	11
7	0%	6%	10%	68%	0%	15%	0%	0%	100%
	0	1	1	1	0	2	0	0	5
8	0%	100%	0%	0%	0%	0%	0%	0%	100%
	0	1	0	0	0	0	0	0	1

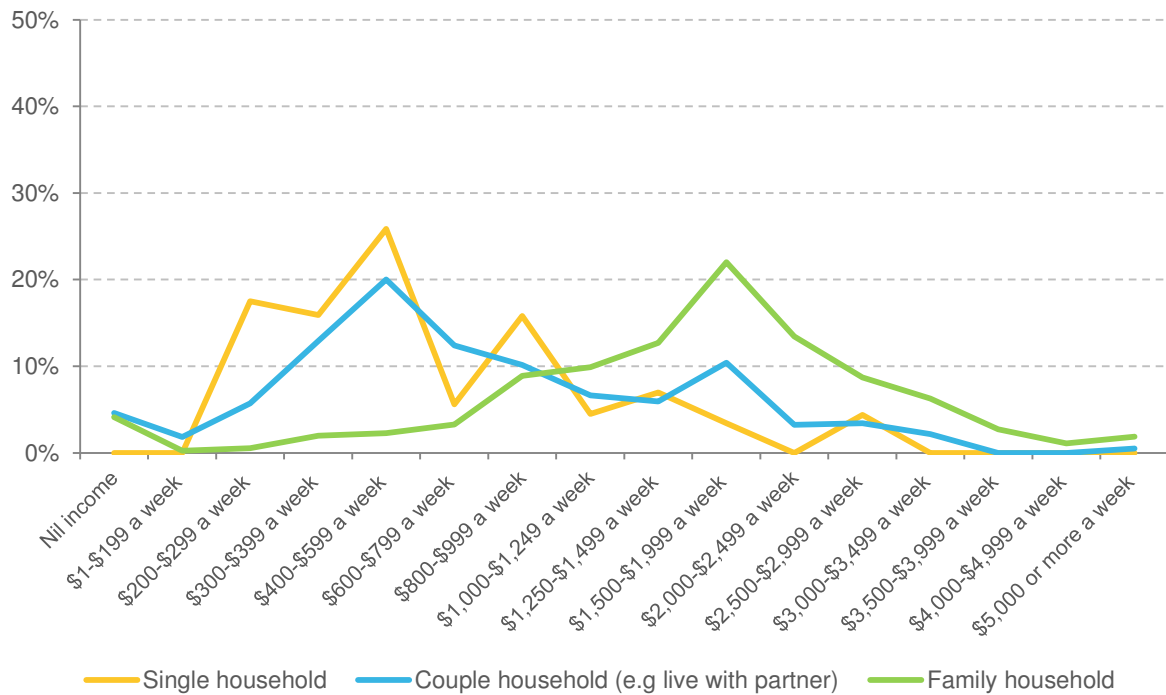
Q37. What is the age of each person living in your household?

Table 23: Gross household income

Gross household income	%	n
Nil income	4%	29
\$1-\$199 a week (\$1-\$10,399 a year)	1%	5
\$200-\$299 a week (\$10,400-\$15,599 a year)	3%	18
\$300-\$399 a week (\$15,600-\$20,799 a year)	7%	45
\$400-\$599 a week (\$20,800-\$31,199 a year)	11%	67
\$600-\$799 a week (\$31,200-\$41,599 a year)	7%	39
\$800-\$999 a week (\$41,600-\$51,999 a year)	10%	54
\$1,000-\$1,249 a week (\$52,000-\$64,999 a year)	8%	46
\$1,250-\$1,499 a week (\$65,000-\$77,999 a year)	10%	62
\$1,500-\$1,999 a week (\$78,000-\$103,999 a year)	16%	89
\$2,000-\$2,499 a week (\$104,000-\$129,999 a year)	9%	53
\$2,500-\$2,999 a week (\$130,000-\$155,999 a year)	6%	45
\$3,000-\$3,499 a week (\$156,000-\$181,999 a year)	4%	21
\$3,500-\$3,999 a week (\$182,000-\$207,999 a year)	1%	11
\$4,000-\$4,999 a week (\$208,000-\$259,999 a year)	1%	5
\$5,000 or more a week (\$260,000 or more a year)	1%	11
Below or equal to SA median income ( $\geq$ \$1,250 a week)	52%	303
Above SA median income ( $<$ \$1,250 a week)	48%	297

S6 Including all pensions and allowances, what is your household's annual gross income before tax from all sources? Just an estimate is fine

Figure 39: Income (gross) per week by household structure



S6 Including all pensions and allowances, what is your household's annual gross income before tax from all sources? Just an estimate is fine  
 Q35. Which of these best describes your household?

Table 24: Ownership status

	%	n
Renting - Public housing	5%	34
Renting - Private housing	9%	55
Paying off a mortgage	42%	243
In own home - fully paid off	43%	264
Other	1%	4
TOTAL	100%	600

Q38. Are you...

Table 25: Ownership status

	Yes	No	TOTAL
Aboriginal and/or Torres Strait Islander	1%	99%	100%
	4	596	600
Newly arrived in Australia (within the last 5 years)	0%	100%	100%
	4	596	600
Unemployed	8%	92%	100%
	43	557	600
A sole parent	4%	96%	100%
	20	580	600
None of these	88%	12%	100%
	534	66	600

Q39. Is anyone in your household...

Table 26: Main source of household income

	%	n
Full-time employment	56%	337
Part-time employment	8%	47
Casual employment	3%	15
Government allowance	19%	113
Retired (superannuation)	13%	85
Other	0%	3
TOTAL	100%	600

Q40. What was your household's main source of income?



Table 27: Multilingual households

	%	n
Yes	8%	54
No	92%	546
TOTAL	100%	600

*Q41. Do you speak a language other than English at home?*

# 6. Appendix A: Quantitative Questionnaire

## SACOSS Energy Phone Survey 25FEB2014

Survey parameters provided by SACOSS:

600 residents

Telephone survey with questions below

Gender not specified

Quota set:

Age (minimum 10% over 65yo)

Location (minimum 10% non-metro residents)

Household income (approximately 50% above and below \$1,250 wk/\$65,000 yr)

Post coding

*[READ OUT]*

Good morning/afternoon/evening. My name is [INTERVIEWER] from ..... We are conducting research on behalf of the South Australian Council of Social Service.

May I please speak to the person in the household (aged over 18) who is responsible for making decisions about utilities and paying bills in your household such as electricity and gas?

Is now a good time or would it be more convenient if I make an appointment to speak to you at another time? *[RECORD CALL STATUS AS APPROPRIATE]*

Today we are talking to people about electricity and gas supply and we would like to include your views.

The survey will take around 12 minutes of your time.

### **S1. Are you happy to continue?**

1. Yes
2. No

**IF 2 IN S1, ABORT**

**SECTION A. SCREENERS**

**S2 Firstly, do you or anyone in your immediate family work in the market research or energy industries?**

Yes	SKIP TO CLOSING SCRIPT
No	Continue

**S3 Are you the person in your household which makes the decisions regarding electricity and gas services and pays these bills?**

Yes	Continue to Screeners
No	ASK TO SPEAK TO DECISION MAKER REPEAT INTRODUCTION MAKE AN APPOINTMENT IF NECESSARY

**S4 What is your postcode? \_\_\_\_\_**

*[RECORD ANSWER - CHECK QUOTAS – n=520 metro, n=60 non-metro]*

**S5 Which one of the following age groups do you fall into? [READ OUT, SR] [RECORD ANSWER - CHECK QUOTAS – min 10% over 65 years]**

18-24	1
25-34	2
35-44	3
45-54	4
55-64	5
65-74	6 <i>[Recruit min 10%]</i>
75+	7
I prefer to not answer	99 <i>[ABORT]</i>

**S6 Including all pensions and allowances, what is your household's annual gross income before tax from all sources? Just an estimate is fine**

[RECORD ANSWER - CHECK QUOTAS – soft 50/50 split above and below \$1,250wk/\$65,000yr]

Nil income	1
\$1-\$199 a week (\$1-\$10,399 a year)	2
\$200-\$299 a week (\$10,400-\$15,599 a year)	3
\$300-\$399 a week (\$15,600-\$20,799 a year)	4
\$400-\$599 a week (\$20,800-\$31,199 a year)	5
\$600-\$799 a week (\$31,200-\$41,599 a year)	6
\$800-\$999 a week (\$41,600-\$51,999 a year)	7
\$1,000-\$1,249 a week (\$52,000-\$64,999 a year)	8
\$1,250-\$1,499 a week (\$65,000-\$77,999 a year)	9
\$1,500-\$1,999 a week (\$78,000-\$103,999 a year)	10
\$2,000-\$2,499 a week (\$104,000-\$129,999 a year)	11
\$2,500-\$2,999 a week (\$130,000-\$155,999 a year)	12
\$3,000-\$3,499 a week (\$156,000-\$181,999 a year)	13
\$3,500-\$3,999 a week (\$182,000-\$207,999 a year)	14
\$4,000-\$4,999 a week (\$208,000-\$259,999 a year)	15
\$5,000 or more a week (\$260,000 or more a year)	16

**S6 Do you receive any allowances / concessions / payments from the Government? [SR]**

No	0
Yes, Newstart allowance	1
Yes, Age pension	2
Yes, Disability allowance	3
Yes, Carer allowance	4
Yes, Parenting payment	5
Yes, Other, (specify)	96
Don't know/Unsure	99
Prefer not to answer	95

## SECTION B. ELECTRICITY PROFILE AND ATTITUDES

[READ OUT]

I would like to ask you some questions about your electricity provider.

1. **Which company do you currently buy electricity from?** [DO NOT READ OUT UNLESS UNSURE, SR]

AGL SA/AGL Energy	1
Alinta Energy	2
Aurora Energy	3
Country Energy	4
Energy Australia	5
Lumo Energy	6
Momentum Energy	7
Origin Energy	8
Powerdirect	9
Red Energy	10
Simply Energy	11
South Australia Electricity	12
TRUenergy	13
Other – specify	96
Don't know/Unsure	99

2. **What is your current approximate average quarterly electricity bill?** [READ OUT, SR]

(INTERVIEWERS NOTE: WE ARE LOOKING FOR THE BEST OR CLOSEST APPROXIMATION)

Less than \$150 per quarter	1
\$151 to \$200 per quarter	2
\$201 to \$250 per quarter	3
\$251 to \$300 per quarter	4
\$301 to \$500 per quarter	5
\$501 to \$700 per quarter	6
More than \$700 per quarter	7
Don't know / not sure	99

3. **Do you currently receive a State Government energy concession on your electricity bill?** [SR]

Yes	1
No	2
Don't know/Unsure	99
Prefer not to answer	95

4. Which of the following best describes you: [READ OUT, SR]

I have never thought about changing electricity providers	1
I have thought about changing electricity providers but never have	2
I have changed electricity providers in the past	3

5. On a scale of 0-10, where 0 is none at all, and 10 is very much, how much do you trust that your energy retailer is doing the right thing by you and has your best interests at heart?

0	1	2	3	4	5	6	7	8	9	10
None at all										Very much

[ASK Q6 IF Q5=0-3, SKIP TO Q6 IF Q5>3]

6. How come?

[Open response]

7. On a scale of 0-10 where 0 is strongly disagree, and 10 is strongly agree, do you agree that energy companies should have the power to cut customer supply if the customer is unable to pay a bill?

0	1	2	3	4	5	6	7	8	9	10
Strongly disagree										Strongly agree

**SECTION C. ELECTRICITY PRICES**

I would like to ask you some questions regarding how you feel about electricity pricing.

8. **Would you like to see energy businesses reduce overheads and operating costs so that the price of electricity, and electricity bills, are reduced?** [SR]

Yes	1
No	2

9. **On a scale of 0-10, where 0 is not at all concerned and 10 is extremely concerned, how concerned are you about being able to pay your next electricity bill?**

0	1	2	3	4	5	6	7	8	9	10
Not at all concerned										Extremely concerned

[ASK Q10 IF Q9=7-10, SKIP TO Q11 IF Q9<7]

10. **How come?**

[Open response]

11. **On a scale of 0-10, where 0 is not at all stressed and 10 is very stressed, how stressed do you generally feel about your capacity to pay your electricity bills?**

0	1	2	3	4	5	6	7	8	9	10
Not at all stressed										Extremely stressed

## SECTION D. PAYMENT ARRANGEMENTS

[READ OUT]

In South Australia, the standard billing arrangement is for electricity meters to be read by a Meter Reader every 3 months (roughly every 90 days). Bills are then sent out and required to be paid within 2-3 weeks after the bill is issued.

Electricity suppliers are required to offer a range of 'payment plans' to customers experiencing financial difficulty. These types of payment plans give customers the option to pay in advance or in arrears by instalments where the customer has identified a difficulty in paying their energy bill.

### 12. Have you heard of this arrangement for electricity bills? [SR]

Yes	1	
No	2	SKIP TO Q15

[ASK Q13 IF Q12=1]

### 13. Which of the following best describes your situation? [READ OUT, MR]

I am currently in an arrangement like this for my electricity	1
I am currently in an arrangement like this for another service, but not electricity	2
I used to be in an arrangement like this for my electricity, but am not any longer	3
I used to be in an arrangement like this for another service, but am not any longer	4
I have never been in an arrangement like this for any service	5

[ASK Q14 IF Q13=1-4]

### 14. Was this to pay off an overdue amount?

Yes	1
No	2

### 15. In the last 5 years, have you had difficulty paying the total of your electricity bill at the time it was due?

Yes	1	[CONTINUE]
No	2	[SKIP TO Q21]

[ASK Q16 IF Q15=1]

### 16. Did you ask your energy retailer for assistance paying your bill?

Yes	1	[CONTINUE]
No	2	[SKIP TO Q21]

[ASK Q16.1 IF Q16=2]

16.1 **How come?** [OPEN-ENDED]



[ASK Q17 IF Q16=1]

**17. Did someone represent you in bill discussions and payment negotiations with the energy supplier – such as a Financial Counsellor or an Advocate?**

Yes, a Financial Counsellor or Advocate	1
Yes, someone else, specify:	2
No-one represented me	3

[ASK Q18 IF Q16=1]

**18. Out of the following statements, which best describes what happened: [READ OUT, SR]**

The supplier accepted what I told them about my other expenses and my capacity to pay	1
The retailer wanted more than I felt I could afford but we reached some middle ground	2
The retailer was adamant that either I paid what they asked for or the next step was to have my power cut off.	3

[ONLY ASK Q19 IF Q17=3 AND IF Q18=3]

**19. Do you think that you would have reached a better outcome if someone had represented you in these discussions with the energy supplier – such as a Financial Counsellor or Advocate?**

Yes	1	
No	2	
Don't know/ Unsure	3	[DO NOT READ]

[ASK Q20 IF Q15=1]

**20. If you needed one, do you feel confident that you could find someone to act on your behalf – such as a Financial Counsellor or Advocate?**

Yes	1
No	2

[ONLY ASK Q21 IF Q3=1, 95 OR 99]

**21. Have you ever heard of CentrePay?**

*[If NO or UNSURE/DON'T KNOW read: CentrePay is a free direct bill-paying service offered to customers receiving Centrelink payments. Through CentrePay you can choose to pay bills by having a regular amount deducted from your Centrelink payments]*

**[ASK ALL:] Have you ever used CentrePay (regular deductions) to pay utility bills?**

Yes	1	[SKIP TO Q23]
No	2	[CONTINUE]
Don't know/ Unsure	3	[DO NOT READ] [SKIP TO Q23]

[ONLY ASK Q22 IF Q21=2]

**22. Can you briefly explain why?** [READ OUT, MR]

Too hard	1
Did not want to lose control of finances	2
Privacy	3
Didn't know about it	4
Other, specify:	96

**23. Electricity bills are currently sent out quarterly. How often would you prefer to receive these bills?** [READ OUT, SR]

Quarterly is OK	1
Monthly	2
Fortnightly	3
Other, specify	96

**24. If these bills were to be sent out more frequently the process for estimating electricity consumption would have to be different. Which of the following would you prefer?** [READ OUT, SR]

An estimate, which may not be 100% accurate, determined from your past bills	1
A self read, where you read your own meter and provide this figure to your supplier by phone or internet	2
An actual read, where the supplier reads your meter.	3

[ASK Q25 IF Q24=3]

**25. What if an actual read was to incur an additional cost of up to \$5 per month (which is approximately \$15 a quarter). Would you choose this?** [DO NOT READ, SR]

Yes	1
No	2
Don't know/ Unsure	3

**26. An alternative arrangement that has been used in South Australia but is more popular elsewhere is the prepayment meter. The idea is similar to a pre-paid mobile phone (except you don't lose any remaining credit at the end of the month). Is this something that would interest you?** [DO NOT READ, SR]

Yes	1
No	2
Don't know/ Unsure	3

**SECTION E. HEAT WAVES**

[READ OUT]

We are interested in understanding how people use electricity during very hot weather.

Thinking back to the Heat Waves of January and February 2014 – those 40-plus days:

**27. On a scale of 0-10 where 0 is not at all, and 10 is a lot, how concerned were you about the price of electricity at these times?**

0	1	2	3	4	5	6	7	8	9	10
Not at all concerned										Extremely concerned

**28. At times like these, do you run an airconditioner?**

Yes	1	[CONTINUE]
No	2	[SKIP TO Q30]
I don't have a (working) airconditioner	3	[SKIP TO Q30]

**29. On a scale of 0-10, where 0 is no impact at all (usage stays the same), and 10 is a huge impact (usage decreases), how much does the price of electricity impact how you operate your airconditioner during a heat wave?**

0	1	2	3	4	5	6	7	8	9	10
No impact at all, I use it the same										A huge impact, I use it less

**30. During the recent heat wave, did you leave your home to go somewhere cooler? [DO NOT READ, SR]**

Yes	1
No	2
Don't know/ Unsure	3

**31. If electricity prices in the summer months increased by 10%, how much would this impact your electricity use during a heat wave? Would you... [READ OUT, SR]**

Use less power during a heat wave if there was a 10% increase in price during this time	1
Use the same amount of power during a heat wave, despite the 10% increase in price during this time	2

**32. What if electricity prices in the summer months increased by 20%, how much would this impact your electricity use during a heat wave? Would you... [READ OUT, SR]**

Use less power during a heat wave if there was a 20% increase in price during this time	1
Use the same amount of power during a heat wave, despite the 20% increase in price during this time	2

## SECTION F. FINANCIAL SITUATION

33. On a scale of 0-10 where 0 is extremely difficult and 10 is very easy, how difficult or easy do you feel it is for you to pay all of your bills on time?

0	1	2	3	4	5	6	7	8	9	10
Extremely difficult										Very easy

34. In recent years, has your financial situation: *[READ OUT, SR]*

Improved	1
Stayed the same	2
Gotten worse	3

## SECTION G. DEMOGRAPHICS

35. Which of these best describes your household? *[READ OUT, SR]*

Single household	1	
Couple household (e.g live with partner)	2	
Group household (e.g share with friends or housemates)	3	
Family household	4	
Other	5	<i>[SPECIFY]</i>

36. Currently, how many people are there living with you in your household? *[OPEN RESPONSE]*

37. What is the age of each person living in your household? *[DO NOT READ OUT. Interviewer to mark age of each person]*

- \_\_\_ 0-4 years
- \_\_\_ 5-11 years
- \_\_\_ 12-16 years
- \_\_\_ 17-25 years
- \_\_\_ 26-45 years
- \_\_\_ 46-65 years
- \_\_\_ 66+ years
- \_\_\_ Refused

38. Are you... *[READ OUT, SR]*

Renting – Public housing	1	
Renting – Private housing	2	
Paying off a mortgage	3	
In own home – fully paid off	4	
Other	5	<i>[SPECIFY]</i>

39. Is anyone in your household... *[READ OUT, MR]*

Aboriginal and/or Torres Strait Islander	1
Newly arrived in Australia (within the	2

last 5 years)	
Unemployed	3
A sole parent	4
None of these	5

**40. What was your household's main source of income? [READ OUT, SR]**

Full-time employment	1	
Part-time employment	2	
Casual employment	3	
Government allowance	4	
Retired (superannuation)	5	
Other	6	[SPECIFY]

**41. Do you speak a language other than English at home? [DO NOT READ OUT, SR]**

Yes, specify	1
No	2
Don't know/ Unsure	3

**42. Finally, would you like to be contacted in the future to take part in further research in this area? [DO NOT READ OUT, SR]**

Yes	1	[Record contact details]
No	2	CLOSE

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