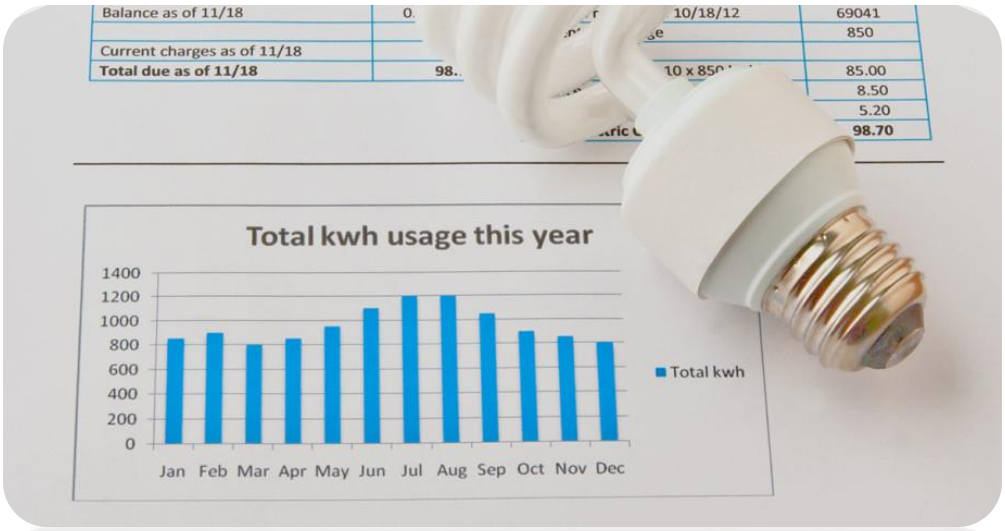
Goanna Energy Consulting Pty Ltd

Report for

TasCOSS
INTEGRITY
COMPASSION
INFLUENCE

Tasmanian Residential Electricity Prices – How Do They Compare?



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Acknowledgement and Disclaimer

We wish to acknowledge the support of the Tasmanian Council of Social Services (TasCOSS) in commissioning us to undertake this project. However, the views expressed in this document do not necessarily reflect the views of TasCOSS.

This evaluation does not constitute personal financial product advice. It has been prepared without taking into account the personal financial circumstances, financial needs or objectives. Accordingly, readers should undertake their own independent enquiries and seek their own legal or financial advice prior to entering into any contract.

All reasonable care has been exercised in the data gathering, calculations and investigation of the consumptions and costs for the Client's project. However, Goanna and its agents cannot be held responsible for errors in information and data supplied by others.

This project was funded by Energy Consumers Australia (**www.energyconsumersaustralia.com.au**) as part of its grants program for consumer advocacy projects and research projects for the benefit of consumers of electricity and natural gas. However, the views expressed in this document do not necessarily reflect the views of Energy Consumers Australia.

Ownership of Intellectual property

Limitations of Analysis

The analysis provided has a number of inherent limitations, including but not limited to the following.

The analysis is based on historic information. Market, policy and regulatory changes are likely to impact on future energy prices, therefore this analysis has inherent limitations.

All prices are expressed exclusive of GST.

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KEY POINTS

- We undertook an analysis for TasCOSS of Tasmanian residential electricity prices compared to six mainland jurisdictions.
- We assessed seven options to do this and used the AEMC annual price trends reports as it was the best option to meet the project scope in a realistic way. This was an 'on balance' decision as no single series was perfect.
- We found that relying on residential electricity prices alone did not provide a good enough basis for comparison. Electricity bills are equally, if not more, important for advocacy purposes and resonate more with residential electricity consumers.
- Our report shows that Tasmanians have historically had access to among the lowest electricity prices in the country. They currently have the second lowest electricity prices and the second lowest regulated prices.
- So, the Government's promise of Tasmania having the lowest regulated electricity prices in the country by 2022 has not yet been delivered, but it is within reach.
- However, the Government's promise is not particularly meaningful to Tasmanian households. Regulated prices are not a good benchmark for jurisdictional comparisons. Market prices overwhelmingly apply outside Tasmania and, in any case, electricity bills rather than prices are what households are focused on.
- Tasmanians currently pay the highest electricity bills in the country and historically have had high bills. This reflects the high level of electricity consumption in Tasmania, which is driven by factors such as a relatively cool climate and a low penetration of natural gas.
- It would be better if the Government's promise were adjusted to reflect this. In our view the policy should be based around the aim of Tasmania having the most affordable and competitively-priced electricity in the country.
- To reduce Tasmania's high electricity bills requires continued attention to lower prices, as well as lowering consumption through greater energy efficiency.
- Our results show that ongoing advocacy by TasCOSS on all elements of electricity bills – wholesale, network, green scheme and retail charges – will be necessary to focus policy on the delivery of lower electricity prices and bills to Tasmanians.
- The best and most immediate opportunities appear to be attention to focus effort on wholesale and retail charges as regulated wholesale and retail costs are high compared to elsewhere in the NEM.
- The Government's residential price cap and approach to regulating wholesale prices has been well intentioned and initially benefitted Tasmanians. However, with Victorian wholesale market prices having now reduced to record lows, Tasmanians are currently paying far more than if Victorian wholesale market prices applied. Taken over the current policy's four-year life, Tasmanians paid lower electricity prices in the beginning, but are now paying higher prices, although they have had more stable prices.
- Our assessment of Government electricity concessions paid to disadvantaged consumers (we only assessed the main concession), showed that Tasmania has the second highest concession by value and that after the concession is applied, their bills reduce significantly. This bridges some of the gap between high Tasmanian bills and those on the mainland. However, concession holder bills are still the third highest in the country.
- We have highlighted numerous advocacy issues and made 12 associated recommendations for TASCOSS to consider in terms of its electricity advocacy.

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EXECUTIVE SUMMARY

Electricity prices in Tasmania have been a matter of concern to consumers and their advocates for at least the past decade. Cost of living pressures and periods of significant increases in electricity prices, seen by households in their electricity bills, has heightened these concerns, with vulnerable consumers among the worst impacted. To better understand these concerns, TasCOSS commissioned us to undertake an analysis of Tasmanian electricity prices and compare them to those in other parts of Australia.

Which electricity price series and consumption measures to use

We undertook a detailed assessment of five available measures that allow Tasmanian (Tas) residential electricity prices and annual electricity bills to be compared with those from mainland jurisdictions, namely New South Wales (NSW), Victoria (Vic), South East Queensland (SE Qld), Western Australia (WA), South Australia (SA) and the Australian Capital Territory (ACT). However, none provide a perfect measure, so we had to make an 'on balance' decision about which series to use.

We assessed each series against a common set of criteria that reflected the needs of the study. This informed our decision to rely primarily on information provided by the Australian Energy Market Commission's (AEMC) annual Energy Price Trends Reports, supplemented where relevant by the St Vincent De Paul Society (SVDP) Tariff Tracker and Office of the Tasmanian Economic Regulator (OTTER) electricity price comparisons.

We also discussed the important role that differences in electricity consumption play in influencing electricity bills and favoured the use of jurisdictional specific average annual consumption levels over a uniform level of average household electricity consumption in comparing electricity bills. The AEMC series uses estimated average consumption levels for each jurisdiction. Tasmania has the highest household electricity consumption levels in Australia and this has a significant impact on household electricity bills.

How Residential Electricity Prices are Set

Residential electricity prices in Tasmania are primarily set by regulation through the independent regulator, OTTER, using information on each component of an electricity bill – wholesale costs, network charges, environmental (green) scheme costs and retail costs. This provides Aurora Energy with an annual maximum revenue allowance, from which it develops retail tariffs for small customers that enable it to collect this revenue.

Wholesale costs are normally set with reference to the Victorian (load following swap) market determined price recognising the strong links between Tasmanian and Victorian wholesale prices. But these prices are volatile. In 2017 Victorian wholesale prices spiked, particularly due to the imminent closure of the large Hazelwood brown coal power station in Victoria. The Tasmanian Government responded by placing a cap on retail price increases of no more than the Hobart CPI and by allowing the Treasurer to step in and determine a Tasmanian wholesale price to be used by OTTER in setting Aurora's revenue for the next year. These arrangements are due to expire on 30 June 2021. In 2018, the Government gave a commitment that Tasmania would have the lowest regulated electricity prices in the country by 2022.

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In their first two years (2017/18 and 2018/19), with high Victorian wholesale prices, these arrangements worked to lower Tasmanian household electricity prices. However, Victorian wholesale prices have now softened considerably. With a muted regulatory response to lower Victorian wholesale market prices, the setting of wholesale prices in Tasmania has not worked as well since, with Tasmanian households paying almost the same in 2019/20 and around 10 per cent more in 2020/21 for their power than they would have if the Victorian wholesale market price had applied. However, the policy has delivered less price volatility, which is also important to residential consumers.

This highlights one of the risks for consumers of the Tasmanian regulated wholesale price arrangements. The Ministerial determination of wholesale prices and setting them a year ahead of actual outcomes will not always work to benefit consumers. The wholesale price of electricity in Tasmania also lacks transparency. We have highlighted several other issues associated with the arrangements that would be worth examining further.

In other parts of the NEM, residential electricity prices are primarily set through the market, relying on competition between retailers. However, in NSW, Vic, SE Queensland and SA regulators determine default market offers that each retailer must offer customers. These have replaced retailer determined standing offers. In the ACT the regulator determines the standing offer, whilst in WA the Government sets a uniform retail price. The recent entry of several new retailers into the Tasmanian market has seen market offers of around 5-7 per cent below Aurora's offer being made available.

Tasmanian Residential Electricity Prices and Bills

Tasmanian electricity prices and electricity bills for a typical household increased significantly from 2010/11 and 2012/13 driven by across-the-board increases in wholesale, network and retail costs. The next three years saw significant declines in both prices and bills, after which they began to increase again and have continued to do so until 2019/20. The large spike in prices early in the period continues to be felt by households with annual bills rising from $1,337 to $1,945 over the period 2009/10 to 2019/20, a 45 per cent increase, more than double the Hobart rate of inflation over the same period of 22 per cent.

Our examination of the components of Tasmanian residential electricity bills (the bill stack) showed that all four components – wholesale, network, green schemes and retail – have at times contributed to the higher electricity prices/bills. We believe that TasCOSS should therefore focus its attention and advocacy on all four components.

How Do Tasmanian and Mainland Residential Electricity Prices and Bills Compare?

We undertook a comparison of Tasmanian prices and bills with the mainland jurisdictions of NSW, Victoria, SE Queensland, WA, SA and the ACT. In 2020/21, Tasmania has the second lowest average prices but the highest annual bills, reflecting the relatively high consumption of electricity by Tasmanian households. Bills are what matters most to households and ensuring energy remains affordable. This price-bill dichotomy means that the State Government must have policies that keep power prices and energy use as low as possible to help offset its high consumption disadvantage. Our analysis suggests that they have been partly successful in moderating prices but taken limited action on energy use and energy affordability. Tasmanians would benefit if the Government maintained a commitment to low electricity prices and also focused more on energy use and affordability in future.

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Tasmania had the second lowest electricity prices in 2009/10, after which its prices increased markedly until 2011/12, before declining and then increasing again until 2019/20 but at a slower rate. Residential electricity prices in SE Queensland, which declined rapidly from 2016/17, are now lower than in Tasmania. Forecasts suggest that expected price declines in SE Queensland will outpace those in Tasmania over 2021/22 and 2022/23, with the former continuing to have the lowest residential electricity prices.

In terms of trends in annual average residential electricity bills, Tasmania has had the highest bills for most of the period examined, including in 2020/21. Forecasts suggest that the ACT will have higher bills by 2021/22.

OTTER and the SVDP Tariff Tracker rank Tasmanian residential electricity bills in the mid-range as they both use uniform consumption levels across all jurisdictions.

The Story Behind the Jurisdictional Comparisons

The story behind these jurisdictional relativities can be gleaned from the price and bill stack for residential electricity consumers, that is, the wholesale, network, green and retail costs.

Wholesale prices usually make up around 35 per cent of electricity bills nationally and in Tasmania. From 2009/10 until 2012/13 Tasmanian wholesale prices increased rapidly, but since 2016/17 they have consistently been among the lowest of all the jurisdictions assessed, closely followed by SE Queensland. Declines in SE Queensland were particularly sharp and by 2020/21 SE Queensland has overtaken Tasmania to record the lowest wholesale prices.

Wholesale prices across the NEM, including in Tasmania, increased significantly in 2016/17 and 2017/18, reflecting the impact of the closure of the major Hazelwood brown coal power station in Victoria and (in Tasmania) low dam levels and a prolonged outage of BassLink. They have since softened and the outlook for wholesale prices is for a further decline in 2020/21 but an increase in 2022/23 in most jurisdictions, including Tasmania.

Turning to the impact of wholesale prices on electricity bills, Tasmania's ranking has fluctuated from mid- to high-ranking over the period assessed. It currently has the second lowest wholesale costs, but the highest wholesale bill component. The increases in wholesale prices referred to above also impacted electricity bills significantly. Forecast declines in wholesale prices are expected to result in further reductions in the wholesale component of residential bills in most of the NEM in 2021/22, including in Tasmania. Tasmanian wholesale costs are currently around $280 higher than in Victoria, notwithstanding the regulated nature of wholesale prices in Tasmania and their mandated close links to Victorian prices.

In 2020/21, network charges make up 46 per cent of an average household electricity bill nationally and 40 per cent in Tasmania. Tasmanian network charges were the second highest in the country in 2009/10 (9.80 c/kWh) and by 2020/21 had fallen to the second lowest (9.71 c/kWh). In the intervening period they increased dramatically until 2011/12 but declined thereafter. A range of national regulatory imperfections made a significant contribution to increases in network charges across all jurisdictions immediately after 2009/10. While some have been improved since, shortcomings remain and TasCOSS should maintain strong interest in TasNetworks' next determinations. Looking forward to

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2022/23, Tasmanian network prices are expected to increase, with TasNetworks' previous cost reductions abating.

In terms of the contribution of networks charges to bills, Tasmania ranks second highest and is forecast to remain there. This reflects high levels of electricity consumption, a dispersed network and inefficiency within TasNetworks, especially in distribution (as shown by AER benchmarking). Tasmanian residential consumers are currently paying $304 (40 per cent) more per year than Victorian households for network charges.

Federal and jurisdictional Green Schemes have become a feature of the Australian electricity market over the past two decades. At the Federal level, the Renewable Energy Target (RET) supports large-scale (wind) and small-scale (solar) renewables, whilst all jurisdictions have solar feed-in-tariffs and NSW, Victoria and SA have energy efficiency schemes in place. The cost of these schemes flows through to customers via retailers.

In 2020/21 Tasmania ranks as the lowest jurisdiction in terms of the impact of Green Scheme costs on prices, with scheme costs kept lower by the absence of any State schemes in the AEMC's measurement of Tasmanian electricity prices. However, its high electricity consumption meant that Tasmania ranks second highest in terms of the impact of green schemes on bills. Currently Tasmanian residential consumers pay $178 annually in Green Scheme costs. Forecasts suggest a fall in green scheme costs over 2021/22 and 2022/23 across all jurisdictions, including in Tasmania.

Retail costs, the final component, which account for 16 per cent of residential electricity bills in Tasmania but only 11 per cent nationally. In Tasmania, the retail component amounts to 3.96 c/kWh in 2020/21, making it the second highest in the country, whilst it contributed $302 annually to a Tasmanian residential electricity bill, also the second highest. Annual retail costs were as low as $102 in 2009/10.

While the small Tasmanian market adversely impacts on economies of scale, which are important in retailing, Tasmanian retail costs may also be relatively high due to Aurora's dominant position, and it being allowed a retail margin and CARC more akin to a competitive market. These are issues that TasCOSS could consider examining further.

COVID19 has impacted household electricity consumption and increased bills. Jurisdictions and regulators have responded by providing financial assistance to impacted consumers, boosting concessions, capping electricity prices and through regulatory measures. Tasmanian consumers and concessions holders appear to have received less support than elsewhere.

Impact of Electricity Concessions on Electricity Bills

Various electricity concessions provided by all jurisdictions are an important way in which the cost of electricity is reduced to vulnerable and disadvantaged consumers. Given this, we undertook an analysis of the impact of the main electricity concessions in each jurisdiction on electricity bills and how Tasmania's concessions compare.

Concessions have the desirable effect of reducing electricity bills for the most vulnerable sections of the community. However, there is quite significant variation in the value of concessions across jurisdictions. Tasmania's main electricity concession is the second highest at $514 pa, which equates to a 26.8 per cent discount off a typical concession holder's annual electricity bill (this percentage discount ranked as the third highest).

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Our analysis also showed that concessions have a desirable impact in evening up electricity bills across jurisdictions, as those with the highest bill generally also have the largest concessions. Tasmania ranks as the jurisdiction with the highest bills before the application of the concession and the second highest post-concession. Its relatively high concession results in a significant reduction in the gap between bills for Tasmanian concession holders compared to all jurisdictions (apart from the ACT).

Our analysis of concessions, whilst useful, would be strengthened if it were extended to several other areas identified in Section 7.3.

Policy and Advocacy Issues

The Tasmanian Government has made a commitment to have "the lowest regulated electricity prices in Australia by 2022". OTTER analysis shows that it had the second lowest regulated prices in June 2020. This is, however, a commitment with limited value to consumers given that regulated prices in other parts of the NEM are little used by consumers. Market prices are far more common and electricity bills have more meaning to households. While a future Government commitment linked to electricity could be useful to Tasmanian households, one that is linked to the lowest market prices and the annual household electricity bill would be preferable. TasCOSS could usefully focus its advocacy of both bills and prices, as well as improvements in energy use. In our view the policy should be based around the aim of Tasmania having the most affordable and competitively-priced electricity in the country.

The current price cap and wholesale price regulatory arrangements are due to expire on 30 June 2021. It is not yet known what will replace them, or if Tasmania will delink permanently from the NEM wholesale market. Given their importance to household consumers, TasCOSS should advocate on these policy issues to the Government and Treasury, ensuring that its efforts are well informed.

Section 8.3 has identified several shortcomings in the existing available household electricity price comparison series. It would be useful if TasCOSS advocated to close these gaps to improve both the price comparisons and the ability of household and disadvantaged consumers (as well as advocates) to access better and more timely comparative information about electricity prices.

Further work on energy concessions and COVID19 measures focused on their impacts on consumers, along the lines outlined in this report could provide valuable information for TasCOSS advocacy on these areas and help improve its effectiveness.

Recommendations

We have provided TasCOSS with 12 focused recommendations that emerge from this report (see Section 9.2).

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FIGURES

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TABLES

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ABBREVIATIONS

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
c/kWh	Cents per kilo Watt hour
CARC	Customer Acquisition and Retention Costs
CER	Clean Energy Regulator
CPI	Consumer Price Index
DMO	Default Market Offer
FiT	Feed-in-Tariffs
Goanna	Goanna Energy Consulting Pty Ltd
kW	kilo Watt
kWhpa	Kilo Watt hours per annum
LRET	Large Renewable Energy Target
MLF	Marginal Loss Factors
MW	Mega Watt
MWh	Mega Watt hour
NEM	National Electricity Market
NMR	Notional Maximum Revenue
NSW	New South Wales
NT	Northern Territory
OTTER	Office of the Tasmanian Economic Regulator
RET	Renewable Energy Target
SA	South Australia
SE Qld	South East Queensland
SRES	Small-scale Renewable Energy Scheme
SVDP	St Vincent De Paul Society
Tas	Tasmania
TasCOSS	Tasmanian Council of Social Services
ToU	Time-of-Use Tariff
VDO	Victorian Default Offer
Vic	Victoria
WA	Western Australia
WEC	Wholesale electricity cost
WEP	Wholesale electricity price

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1 INTRODUCTION

Electricity prices in Tasmania have been a matter of concern to consumers and their advocates for most of the past decade. Cost of living pressures and periods of significant increases in electricity prices, seen by households in their electricity bills, has heightened these concerns. Electricity prices have placed additional pressure on household budgets. Vulnerable and disadvantaged consumers have been even more severely impacted. These pressures have remained real and foremost in the minds of Tasmanian electricity consumers, notwithstanding important steps taken by the Tasmanian Government to help relieve electricity price pressures.

One question that emerges from these pressures is how do the prices Tasmanian households pay for their electricity compare to the rest of Australia? Are Tasmanian electricity prices fair and affordable, or are they too high? Are socially disadvantaged consumers disproportionately impacted?

Bearing the above in mind, TasCOSS has commissioned Goanna Energy Consulting Pty Ltd (Goanna) to undertake an analysis of Tasmanian electricity prices and compare them to those in other parts of Australia. This report presents the results of our analysis, raises issues based on that assessment and makes a series of associated recommendations for TasCOSS to consider.

The Report is structured as follows:

- Section 2 sets out the scope of the assignment, its objectives and desired outcomes, and notes some limitations on the original scope.
- Section 3 discusses the various publicly available measures of electricity prices in Australia and assesses their usefulness in terms of this study.
- In Section 4, we describe how electricity prices in Tasmania and in other jurisdictions included in this study are set.
- Section 5 assesses and discusses Tasmanian electricity prices and annual bills, their trends over the past decade and their composition in terms of the electricity supply chain.
- We then go on (in Section 6) to place Tasmanian electricity prices in a national context (historically and forward looking), where we compare trends in Tasmanian prices and annual bills with those in other Australian jurisdictions, as well as assessing the contribution of the various supply chain components of electricity prices/bills to changes in jurisdictional electricity prices and rankings.
- The impact of electricity concessions on electricity bills in Tasmania and in other jurisdictions is assessed in Section 7.
- A range of relevant electricity policy and advocacy issues are raised in Section 8, including those related to Tasmania's relative electricity prices/bills, the current Tasmanian electricity price cap and the setting of wholesale prices, electricity concession issues and the need for further work to develop better price information.
- Finally, our conclusions and recommendations are presented in Section 9, including an assessment of these in terms of the study's scope, objectives and outcomes.

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2 PROJECT SCOPE, OUTCOMES AND OBJECTIVES

Goanna has been asked by TasCOSS to address the following matters in this report (the ***scope***):

1. How should Tasmanian electricity prices be measured and compared with those in other parts of the country to obtain a meaningful and robust price comparison?
2. Is such a comparison possible using only existing data?
3. What are the differences/benefits of current measures such as Tariff Tracker, *Energy Made Easy*, *Energy Compare* Victoria, other private comparator sites/tools, Australian Energy Regulator (AER) *State of the Energy Market* reports, Australian Energy Market Commission annual pricing reports, Office of the Tasmanian Economic Regulator (OTTER) standing offer reports and the like?
4. Would Tasmanian consumers receiving the lowest regulated price in the country be better-off than customers on unregulated prices elsewhere in the NEM? Would the outcome of this analysis differ for low income and vulnerable consumers, household consumers in the broad and smaller consumers in general? Are any non-price factors relevant to such an assessment?
5. What do the results of the research say about the Tasmanian Government's current policy of capping residential electricity prices compared to alternative approaches?
6. Is the current approach of using the wholesale cost of power in Tasmania to set the wholesale price in the best interests of household consumers, or would consumers be better off with an alternative approach, e.g., using the Victorian wholesale market price?
7. What avenues and processes might TasCOSS have to feed the research findings into the price setting, policy and regulatory processes both in Tasmania and nationally? What gaps might need to be overcome to make TasCOSS advocacy in this regard as credible as possible?

We previously indicated that the original scope as outlined above will be difficult to complete given the resources currently available for the project, but we have partially delivered on the scope and have used our best endeavours to do so. However, gaps remain. Where this is the case, we have identified a way forward for the scope to be fully completed and raised other relevant issues. In any case, we believe that the contents of this report will be useful to TasCOSS in undertaking initial advocacy on Tasmanian residential electricity prices. TasCOSS can seek to broaden and deepen the analysis to overcome remaining gaps.

Based on this scope, TasCOSS identified the following ***outcomes*** from the project:

a. That Tasmanian consumers, the Tasmanian Government and other stakeholders are well-informed of Tasmania's electricity prices relative to the NEM.
b. That Tasmanian and interstate prices are easily compared using a pricing tool/measure.
c. That energy affordability is improved by influencing the price-setting process.

The project scope limitations alluded to above also limited our ability to deliver all the outcomes sought by TasCOSS, but we believe that this report at least allows some progress to the made by TasCOSS in pursuit of these outcomes.

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TasCOSS set the following ***objectives*** for the project:

- To use the findings and results of this project to inform its advocacy on energy affordability.
- To ensure Tasmanian consumers are paying the lowest possible electricity prices.
- To provide the evidence-base for TasCOSS to influence government, decision-makers and key stakeholders.
- TasCOSS advocacy activities will include:
    - participating in the review process for the setting of electricity prices post the removal of the price cap in 2021;
    - consultations with the community services sector;
    - submissions to government; and
    - engagement with the Tasmanian Government, Department of Treasury and Finance, and the Tasmanian energy businesses.

We have taken these objectives into account in delivering on the project scope. We believe that our report will assist TasCOSS in pursuing these objectives.

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3 ASSESSMENT OF RESIDENTIAL ELECTRICITY PRICE INFORMATION

To robustly determine how Tasmanian residential electricity prices compare with those in other jurisdictions, it is necessary to have a data set that allows such a comparison to take place. We have therefore examined all the relevant publicly available data in terms of their ability to do this.

In summary, the following either make such an assessment or would allow one to be undertaken:

- The Australian Energy Market Commission (AEMC) produce an annual comparison of residential electricity prices and annual bills for all Australian jurisdictions except the Northern Territory (NT) and show trends in prices and bills.[1]
- St Vincent de Paul Society (SVDP) and Alviss Consulting produce an annual comparison of residential electricity bills for all National Electricity Market (NEM) jurisdictions (Tariff Tracker project).[2]
- The Office of the Tasmanian Economic Regulator (OTTER) provide a biannual comparison of Tasmanian residential electricity prices and bills compared to those in all mainland jurisdictions.[3]
- The Australian Energy Regulator (AER) provide information on retail electricity price changes for each NEM jurisdiction in their annual *State of the Energy Market* Report.[4]
- The Australian Bureau of Statistics (ABS) produces an index of national and capital city residential electricity prices as part of its Consumer Price Index.[5]
- The AER has a retail electricity price comparator web site *Energy Made Easy* that covers New South Wales (NSW), Queensland (Qld), South Australia (SA) and Tasmania (Tas), whilst the Victorian Government has a separate site entitled *Energy Compare*.[6]
- There are various privately operated comparator websites.[7]

We undertook a detailed assessment of each of these measures in terms of their ability to provide the type of information that would allow a meaningful and robust comparison of electricity prices to take place. This is discussed in more detail in Appendix A. It is worth noting, however, that none of the available measures is perfect in terms of the objectives of this project and a choice needed to be made that balanced the strengths and weaknesses of each in terms of the project scope.

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[1] Australian Energy Market Commission, *Residential electricity price trends 2020, Final report*, 21 December 2020, and various other years.
[2] St Vincent de Paul Society and Alviss Consulting, *The NEM – Moving towards a new normal?*, Melbourne, November 2020, and various other years.
[3] Office of the Tasmanian Economic Regulator, *Comparison of Electricity and Gas Prices Available to Small Customers in Australia*, Report, September 2020 and various other years.
[4] Australian Energy Regulator, *State of the Energy Market 2020*, and various other years.
[5] Australian Bureau of Statistics, *Consumer price index*, cat. no. 6401.0, various issues.
[6] *Energy Made Easy* website (www.energymadeeasy.gov.au) and Victorian *Energy Compare* website (www.compare.energy.vic.gov.au).
[7] For example, Beatyourbill, Compare the Market, Energy Watch, Finder, iSelect are some of the third-party sites and NEM retailers allow consumers to compare their bill to that retailer's market offers.

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3.1 Which Comparison Series is Most Fit-for-Purpose?

None of the price comparison options assessed provide a perfect solution to the objectives and scope of this project. We show an assessment of each option against key selection criteria in Table 1 below. Ultimately, our choice needed to be made 'on balance'.

Based on the information in the table and the detailed assessment of each comparison option outlined in Appendix A, we have opted to base our comparisons on the AEMC series as the primary source, supplemented where necessary by the SVDP Tariff Tracker and OTTER's comparisons.

We placed most weight on the ability of each series to provide robust, meaningful and reasonably consistent comparisons across as many jurisdictions as possible (using both prices and annual bills), to allow supply chain impacts to be assessed and to allow changes in prices over time to be assessed reasonably consistently. An ability to forecast prices reasonably accurately was also considered useful given TasCOSS and other consumer advocates would be interested in assessing how prices might change in future. It should be noted that further work to include tools allowing real time comparisons, direct user-based price comparisons and other online tools could change this choice.

3.2 A Word About Electricity Consumption

The level of electricity consumption will impact the size of a household's annual electricity bill. Annual bills will generally increase as the (use) consumption of electricity increases. We use electricity consumption numbers taken from the AEMC's reports unless indicated otherwise. Appendix B shows the consumption numbers used for each year of the period assessed and discusses the use of these.

It should be noted that electricity consumption varies significantly from one jurisdiction to another, reflecting factors such as differences in climate, the availability of alternative fuels, such as natural gas and the penetration of small-scale solar installations. This can have a significant impact on electricity bills. Of particular importance for this report is that Tasmania has the highest average electricity consumption in Australia, reflecting its cool climate, and lower penetrations of natural gas and solar. Its average household electricity consumption level is 10 per cent higher than the next highest jurisdiction (ACT) and double that in Victoria (the jurisdiction with the lowest average electricity consumption).

An alternative approach would be to assume a common level of electricity consumption across all jurisdictions. For example, the OTTER report applies the Tasmanian average annual household electricity consumption level across all jurisdictions to standardize bill comparisons. This is a perfectly legitimate approach. SVDP also do this but use a NEM average household consumption level. On the other hand, the AEMC apply a separate average level of household electricity consumption to each jurisdiction. This is also legitimate and provides a truer picture of annual electricity bills across jurisdictions according to how local factors impact bills. Each approach will have its strengths and weaknesses. We have adopted the AEMC's approach of applying jurisdictional average household consumption levels that are updated periodically to reflect any changes in consumption. Other things being equal, this results in higher Tasmanian household electricity bills.

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Table 1: Price Comparison Series Assessed Against Key Criteria

Key Criteria	AEMC	SVDP	OTTER	AER	ABS	Govt Comparators	Private Comparators
Compares residential prices	✓ **Average of lowest market offers**	✗ **Can be derived**	✓ **Median market offer; fixed & variable charges**	✓ **Change in prices only**	✓ **Price index**	✓ **All retailer public market offers; raw data**	✓ **Certain offers only; raw data**
Compares annual bills	✓ Average of lowest offers by jurisdiction	✓ Average bill for each market network area	✓ Based on median market offers for each network	✓ Based on market offers for each network	✗	✓ All retailer public market offers; raw data	✓ Based on certain offers only; raw data
Consumption basis	✓ Jurisdictionally based	✓ Uniform 6,000 kWhpa for all comparisons (with flexible data sheet)	✓ Tas average 8,422 kWhpa (non-concession) and 6,688 kWhpa (concession) used	✓ Jurisdictionally based	✗	✓ User inputted	✓ Mainly user inputted
Offers included	All published offers (except solar and ToU)	All offers	277 based on Tas tariffs (incl ToU and sloar)	All single rate tariff offers	✗	All published	Only certain offers
Market & standing offers	✓	✓	✓	✓	✗ Survey of households	✓	✓ Mainly certain offers only
Number of jurisdictions	All except NT (from 2019) & WA (for 2020)	NEM plus some WA and NT data	All	NEM only	All capital cities	NEM only	All with market offers (excl WA & NT)

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Key Criteria	AEMC	SVDP	OTTER	AER	ABS	Govt Comparators	Private Comparators
Concessions included	✗	✗	✓	✗	✗	✓	✓
Time series included	✓	✓	✓ Standing offers only	✓	✓	✗	✗
Supply stack included	✓	✓ Based on AEMC	✗	✗	✗	✗	✗
Forecasting	✓ 2 years ahead	✗	✗	✗	✗	✗	✗
Real time dynamic prices	✗	✗	✗	✗	✗	✓	✓
Controlled-load tariffs included	✓	✓	✓	✗	✗	✓	✓
ToU tariffs included	✗	✓	✓	✗	✗	✓	✓
Solar tariffs included	✗	✓	✗	✗	✗	✓	✓
National price series	✓	✗	✗	✗	✗	✗	✗
Workbooks published	✓ Only recent years	✓	✗	✗	✗	Not applicable	Not applicable
Online tools	✗	✓	✗	✗	✗	✓	✓

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4 How Residential Electricity Prices Are Determined

In this section, we outlined how residential electricity prices are determined. We begin by looking at how Tasmanian residential electricity prices are set and then briefly outline how this compares to the other jurisdictions included in this study.

4.1 Setting Tasmanian Residential Electricity Prices

Electricity prices for most residential consumers in Tasmania are regulated. They are normally determined through a public determination process undertaken by OTTER, usually every 5 years, with annual price adjustments in between. At present Tasmanian residential consumers are also subject to a Government price cap, which is due to expire at the end of 2020/21. We discuss this price cap in more detail in Section 4.2.

Regulated prices are set by a building block process, whereby OTTER determines Aurora Energy's regulated revenue by building up a stack of costs that together make up its annual revenue allowance and from which Aurora (the State's only regulated offer retailer) sets its regulated retail prices (known as standing offers). The building blocks used are:

- The wholesale electricity cost (WEC) is determined by OTTER each year using the weekly load following swap[8] prices for Victoria (adjusted for the costs of exporting over the BassLink interconnector and transmission losses);
- Prevailing network charges, made up mainly of transmission and distribution costs, determined by the AER.
- Green scheme costs, which in Tasmania equates to the costs of the Federal Large Renewable Energy Target (LRET) and the Small-scale Renewable Energy Scheme (SRES) obtained through the Clean Energy Regulator (CER); and
- Retail costs comprising a cost to serve customers, including Customer Acquisition and Retention Costs (CARC) and a retail margin.[9]

OTTER uses these building blocks to determine Notional Maximum Revenues (NMR) for each year of the regulatory period[10] from which Aurora set retail tariffs for OTTER approval.

The main tariffs applying to residential electricity consumers are:

- Tariff 31 – a general use tariff with a fixed daily and a single variable energy use component.
- Tariff 41 – a low-rate tariff comprising a fixed daily and a variable energy use component and used for controlled load situations involving space and water heating.

[8] A contract to trade a fixed amount of electricity for a certain price at all times in a day. Economically, this arrangement results in a perfect hedge of the volumes sold for changes in the spot price as there will never be a mismatch in volumes between the actual volumes of electricity sold into the grid and the notion of the load following swap.
[9] The only costs calculated by OTTER during the retail tariff determination process are the retail costs, with the remainder being determined exogenously, as explained above.
[10] Any over- or under-recovery of the NMR is adjusted in subsequent periods.

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- Tariff 93 – a relatively new Time-of-Use (ToU) tariff made up of a fixed daily component and a usage component that varies with the time of day (i.e., peak and off-peak times with a lower rate applying to the latter). Tariff 93 is still in limited use.

4.2 Tasmanian Government's Regulated Electricity Price Cap, Wholesale Price Orders and Lowest Regulated Electricity Price Commitment

On 2 May 2017, the Treasurer introduced legislation that amended how wholesale electricity prices are regulated in Tasmania.[11] These provided the Treasurer with the power to:

- Set the wholesale electricity price that is used in calculating the WEC in the NMR by means of a Wholesale Electricity Price (WEP) Order; and
- Issue a Ministerial Notice specifying the criteria the Regulator must take into account when assessing proposed standing offer prices.

If the Treasurer considers that the market referenced mechanism described in Section 4.1, which normally determines the wholesale electricity price, is not delivering a price consistent with the actual wholesale cost in Tasmania, the Treasurer may issue a WEP Order determining the price to apply, although the way in which this is done and the Tasmanian wholesale costs involved are rather opaque. This enables the removal of external price shocks that may occur on the mainland, from impacting the Tasmanian wholesale price and the WEC. At the time, the Government was responding to large wholesale price increases in the NEM, particularly resulting from the imminent closure of the Hazelwood power station in Victoria, greater use of intermittent renewable electricity generation and uncertainty around the future of base load generation capacity that was expected (at the time) to keep wholesale prices high.

It should be noted that, in more recent times, contrary to the expectation of high prices, the NEM has experienced a period of low wholesale prices. Consequently, the Treasurer did not issue a WEP Order for 2020/21, but instead allowed OTTER to determine the WEP using the Victorian reference price.

A Ministerial Notice was issued on 9 July 2017 requiring that, for a Typical Customer with medium Tariff 3I/Tariff 41 usage, the change in annual bill should not exceed 2 per cent.[12]

Consistent with an election promise the Government made in 2018, on 26 July 2018, the Treasurer extended the Government's commitment to have "the lowest regulated electricity prices in the country by 2022."[13] The was part of an election commitment to act on the cost of living and provided for increases in regulated electricity prices for small customers to be capped at the rate of change in the Hobart Consumer Price Index (CPI). This commitment covers the three years 2018-19 to 2020-21. The legislation requires that OTTER must

[11] Treasurer's Second Reading Speech, *Electricity Supply Industry Amendment (Prices) Bill*, 2017, https://www.parliament.tas.gov.au/ParliamentSearch/isysquery/7709adc6-43a8-4084-bc5c-acf6ad1a6b40/3/doc/

[12] Treasurer's Ministerial Notice at https://www.economicregulator.tas.gov.au/Documents/17%201649%20Ministerial%20Notice%20pricing%20assessment%20criteria%20for%202017%2018%20standing%20offer%20prices.pdf

[13] Treasurer's Second Reading Speech, *Electricity Supply Industry Amendment (Price Cap) Bill*, 2018 at https://www.parliament.tas.gov.au/ParliamentSearch/isysquery/aeb0abb2-ff7b-492e-a7cb-5774826e6660/3/doc/

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approve draft standing offer electricity prices submitted to it by Aurora, provided those prices are no higher than the prices for the previous year indexed by CPI.

The Treasurer said at the time that:

> *"Under our Lowest Regulated Electricity Prices in the Nation policy, the Government will break away from mainland electricity wholesale contract pricing."*[14]

Some of the impacts of the WEP Orders and the Tasmanian Government's price capping approach can be seen from Table 2. The issuing of WEP Orders in the first two years of the policy, when Victorian wholesale prices remained high throughout the subsequent year, certainly had the desired impact of keeping Tasmanian electricity prices lower than they otherwise would have been. However, in 2019/20 the regime had the opposite impact, i.e., it kept Tasmanian residential electricity prices slightly higher than they otherwise would have been because it put in place a wholesale price that turned out to be higher than the Victorian spot price for the subsequent year. In 2020/21, this impact is highly likely to be even more pronounced based on the WEP set by OTTER, which is 65.9 per cent above Victorian spot prices to date[15]. Although Victorian prices often reach their highest annual levels during the hotter summer period, on present indications, summer prices are still trending near record lows and are unlikely to significantly alter this result.

Tasmanian consumers appear to have gained from the policy in 2017/18 and 2018/19, almost broke even in 2019/20 and on current indications are set to lose in 2020/21.

Looking particularly at the current year (2020/21) impacts of Tasmanian wholesale price regulation, our market intelligence suggests that Victorian swap contracts were trading in the range 5-6 c/kWh at the time the WEP was set at 7.962 c/kWh, a premium of 30-60 per cent. Using 5.5 c/kWh, the mid-point of this range, the premium would have increased Aurora's 2020/21 WEC allowance by some $58 million and its NMR (and average retail prices) by around 10 per cent.

This highlights one of the risks and uncertainties inherent in the Tasmanian Government's (well-intended) attempt to keep wholesale prices stable by insulating Tasmania from the upward NEM wholesale price volatility and in the regulation of retail electricity prices more broadly. In particular, the need to determine the WEP in advance, whether by Order or OTTER determination, second guesses what wholesale prices the market might deliver, with upside and downside consequences for Tasmanian electricity consumers. A permanent delinking from the NEM wholesale market, as has been mooted, or continuation of the WEP Orders, would increase the potential for such risks and entrench them in Tasmanian

[14] Ibid.

[15] It should be noted that the use of a Victorian equivalent wholesale price implies that the electricity involved will be transported over the transmission network to reach Tasmania. This involves losses in the electricity as it is transported, which involves a cost which is added to the Wholesale Electricity Cost in the NMR. The Regulator accepted Aurora's proposed Marginal Loss Factors (MLF) of 0.9989 and Distribution Loss Factor (DLF) of 1.0507, as published by AEMO (see Aurora Energy, *PRICING PROPOSAL FOR PERIOD 5 OF THE 2016 STANDING OFFER PRICE DETERMINATION, 1 JULY 2020 – 30 JUNE 2021*, p. 35) at https://www.economicregulator.tas.gov.au/Documents/20200618%20Aurora_Energy_2020-21_Standing_Offer_Pricing_Proposal%20-%20FINAL%20-%2018.06.20.._.PDF). This net MLF/DLF impact would result in an increase in the WEP to around 5 cents/kWh.

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regulated electricity prices. Consumers will 'win' when Victorian wholesale market prices are higher than expected, but 'lose' when they are lower than expected.

Table 2: Wholesale Prices Under the Tasmanian Residential Price Cap

Year	Method Used	Wholesale Price c/kWh	Victorian Average Spot Price c/kWh	Tas v's Vic Difference c/kWh (%)
2017/18	WEP Order	8.379	9.9	-1.54 (-15.3%)
2018/19	WEP Order	7.968	12.4	-4.4 (-35.7%)
2019/20	WEP Order	8.756	8.4	0.36 (+4.2%)
2020/21	OTTER WEP	7.962	4.8 (YTD)	3.16 (+65.9%)

Source: Goanna Energy from published statistics

There are several other issues for consumers that arise from the Tasmanian Government's approach to wholesale price setting and its price cap for small consumers. It is beyond the scope of this study to assess all of these as they can be complex, but they would include:

- The limited transparency about how the wholesale price in the WEP Orders is set.
- This includes the critical issue of the wholesale electricity cost in Tasmania and how it is used in the WEP Orders.
- The possible impacts on Aurora's wholesale contracts, costs and profits, although the Government says that the wholesale price agreements reached between Hydro Tasmania and Aurora do not impact their respective financial positions.
- The impact of these controls on further weakening the appetite of potential new retail entrants into Tasmania.
- The limitations WEP Orders place on the involvement of the independent regulator OTTER, and the additional transparency and consultation its processes entail.
- An assessment of the costs and benefits of the controls more generally on small Tasmanian electricity consumers.

In his 2017 Second Reading Speech[16], the Treasurer also announced a review, to be conducted by the Department of Treasury and Finance, of the current arrangements for determining wholesale electricity prices included in Aurora's NMR, which was to be completed by the end of 2017/18.[17] As it happens, this review is not yet complete. The last activity under the review was the release of an Options Paper prepared by Departmental consultants in March 2019, followed by the publication of submissions. TasCOSS provided

[16] Treasurer's Second Reading Speech, *Electricity Supply Industry Amendment (Prices) Bill*, 2017, https://www.parliament.tas.gov.au/ParliamentSearch/isysquery/7709adc6-43a8-4084-bc5c-acf6ad1a6b40/3/doc/

[17] https://www.treasury.tas.gov.au/government-businesses/strategic-reviews/review-of-the-tasmanian-wholesale-electricity-market-regulatory-pricing-framework/options-paper-for-consultation

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a submission.[18] The Treasury website refers to preparation of "a final report taking into account the feedback received from stakeholders."[19] The expiry of the current legislative amendments giving effect to the retail price cap and WEP Orders at the end of the current financial year is looming and makes completion of the Treasury review more urgent.

4.3 What Happens in Mainland Jurisdictions?

It should be noted that in NSW, SE Queensland, and SA, the AER determines a Default Market Offer (DMO) each year. This is a default residential pricing offer that retailers in each jurisdiction must provide to customers that do not take up a market offer and must make publicly available. In Victoria, the Essential Services Commission determines a Victorian Default Offer (VDO) in a similar manner. In the ACT, the jurisdictional regulator determines a standing offer, whilst a uniform residential retail price is set by the Government in WA.

Importantly, in all NEM jurisdictions except Tasmania a competitive retail market provides consumers with a range of retail market offers to choose from. According to the SVDP 2020 Tariff Tracker Report, the introduction of DMO/VDO has led to some significant reductions in standing offers and in 2019/20 these reductions were larger than those for market offers. However, market offers were still lower than the DMO/VMO and most consumers in NSW, Victoria, SE Queensland and SA have taken up market offers rather than the DMO/VMO.[20]

In Tasmania, the retail market is open to new entrants but retail competition for household consumers has hitherto largely been absent.

However, there are some signs of more competition emerging in Tasmania. A cursory check of the *EnergyMadeEasy* website showed that four retailers are currently active in making market offers to residential customers in competition with Aurora Energy, namely 1st Energy, Energy Locals, Future X Power and Social Energy.[21] These are all 2nd tier retailers. Our market intelligence suggests a price differential of 5-7 per cent less in the Tasmanian market offers.[22]

[18] TasCOSS Options Paper submission at https://www.treasury.tas.gov.au/Documents/TasCOSS%20Options%20Paper%20Submission.pdf.
[19] https://www.treasury.tas.gov.au/government-businesses/strategic-reviews/review-of-the-tasmanian-wholesale-electricity-market-regulatory-pricing-framework/options-paper-for-consultation
[20] St Vincent de Paul Society and Alviss Consulting, *The NEM – Moving towards a new normal?*, Melbourne, November 2020, p. 4.
[21] We understand the 1st Energy had 4,207 residential customers in the September quarter of 2020, compared to 3,512 at the end of 2019/20. Although this is a 106 per cent increase on the year before, it is still only 1.7 per cent of residential customers. The other three are quite recent entrants to Tasmania and Social Energy focus on solar offers.
[22] The SVDP 2020 Tariff Tracker found that the presence of 2nd tier retailers (i.e., those outside the 'big 3' of AGL, EnergyAustralia and Origin Energy) was significant in ensuring additional price divergence in market offers. See St Vincent de Paul Society and Alviss Consulting, *The NEM – Moving towards a new normal?*, Melbourne, November 2020, p. 4.

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5 TASMANIAN RESIDENTIAL ELECTRICITY PRICES

In this section we provide an assessment of Tasmanian residential electricity prices and their trends. This is based on the methodology outlined in Section 3.1. Consistent with the AEMC's approach, we show both the average combined fixed and variable price, and the annual bill for a typical residential electricity consumer in Tasmania using the average Tasmanian household consumption levels (see Appendix B). We then move to explain how the various components that make up retail prices have contributed to these trends.

It is worth mentioning that the latest actual prices assessed in this report are for 2019/20 with current year (2020/21) prices based on information available at the time the AEMC completed its 2020 price trends analysis and forecasts shown for the subsequent two years (2021/22 and 2022/23). Hence, the latest actual prices (2019/20) and current year prices (2020/21) are somewhat dated and neither necessarily reflects current electricity prices.

5.1 TASMANIAN RESIDENTIAL ELECTRICITY PRICE TRENDS

Figure 1 shows the trend in Tasmanian residential electricity prices over the period 2009/10 to 2020/21. As can be seen, Tasmanian electricity prices for a typical household have followed a gradually increasing trend over the past decade. Prices increased sharply over 2009/10 to 2011/12, then fell sharply over the following period to 2014/15 and have since been increasing gradually.

There was a very steep increases of 60 per cent in electricity prices over the period 2009/10 to 2012/13, with all components of prices rising steeply, including retail charges up by 62 per cent, wholesale prices up by 52 per cent and in network charges up by 41 per cent. At the time, these components made up over 95 per cent of an average Tasmanian household's electricity bill and the simultaneous large increases in all three components proved to be a major drain on household budgets. The increases in network and retail charges would have been particularly irritating for consumers, given these were regulated charges applied to State Government owned monopolies. In the case of network charges, the increases reflected significant elements of regulatory approved gold platting[23] and inherent cost inefficiencies, whilst retail charges spiked in an environment of Aurora as a retail monopoly with rising margins and questionable cost increases, whilst facing little prospect of new competitors. Meanwhile, environmental charges went up more than four and a half time, albeit off a small base.

Then followed a period of significant electricity price decline until 2014/15, after which prices increased again and have continued to do so, albeit at a lesser rate.

The same pattern can be seen in annual electricity bills for a typical Tasmanian household shown in Figure 2. Annual electricity bills initially increased from $1,337 in 2009/10 to 2,550 in 2012/13, then fell sharply to reach $1,821 by 2014/15, followed by a gradual increase to $1,918 in 2019/20.

We now explore the reasons for these trends in more detail.

[23] This refers to where a network engages in significant over-investment compared to what is prudent and efficient, leading to higher costs for consumers.

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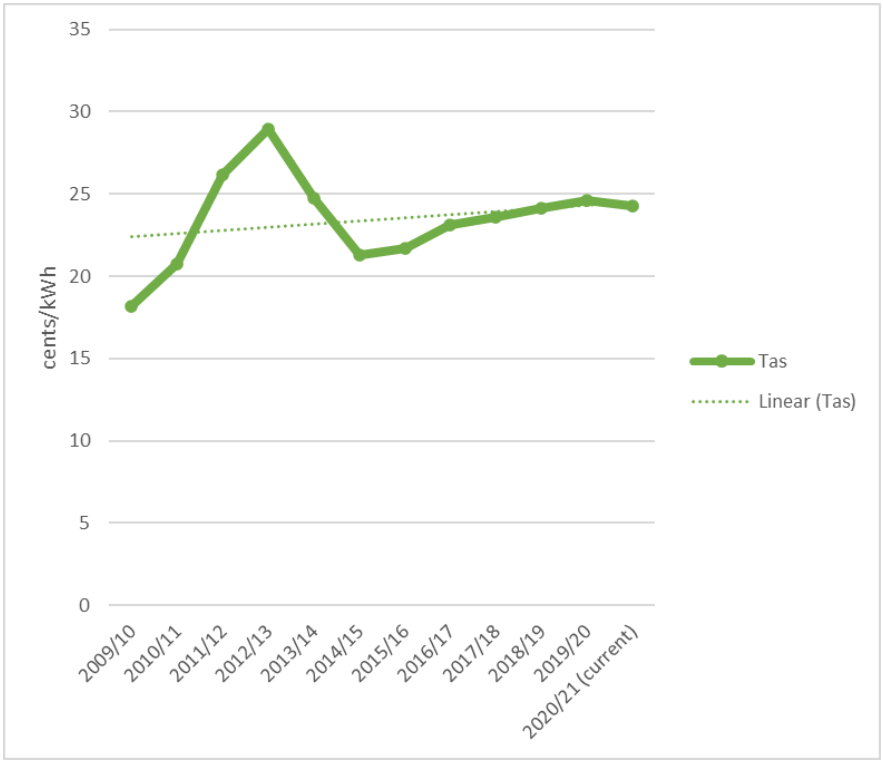
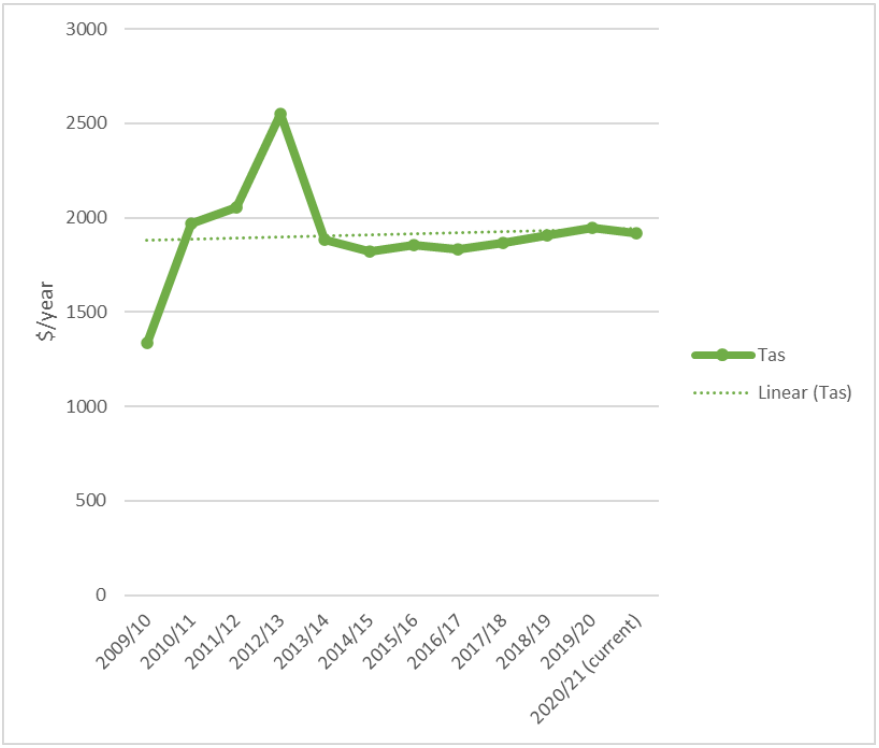
Figure 1: Trends in Tasmanian Household Electricity Prices



Source: Goanna Energy from AEMC data

Figure 2: Trends in Tasmanian Household Electricity Annual Bills



Source: Goanna Energy from AEMC data

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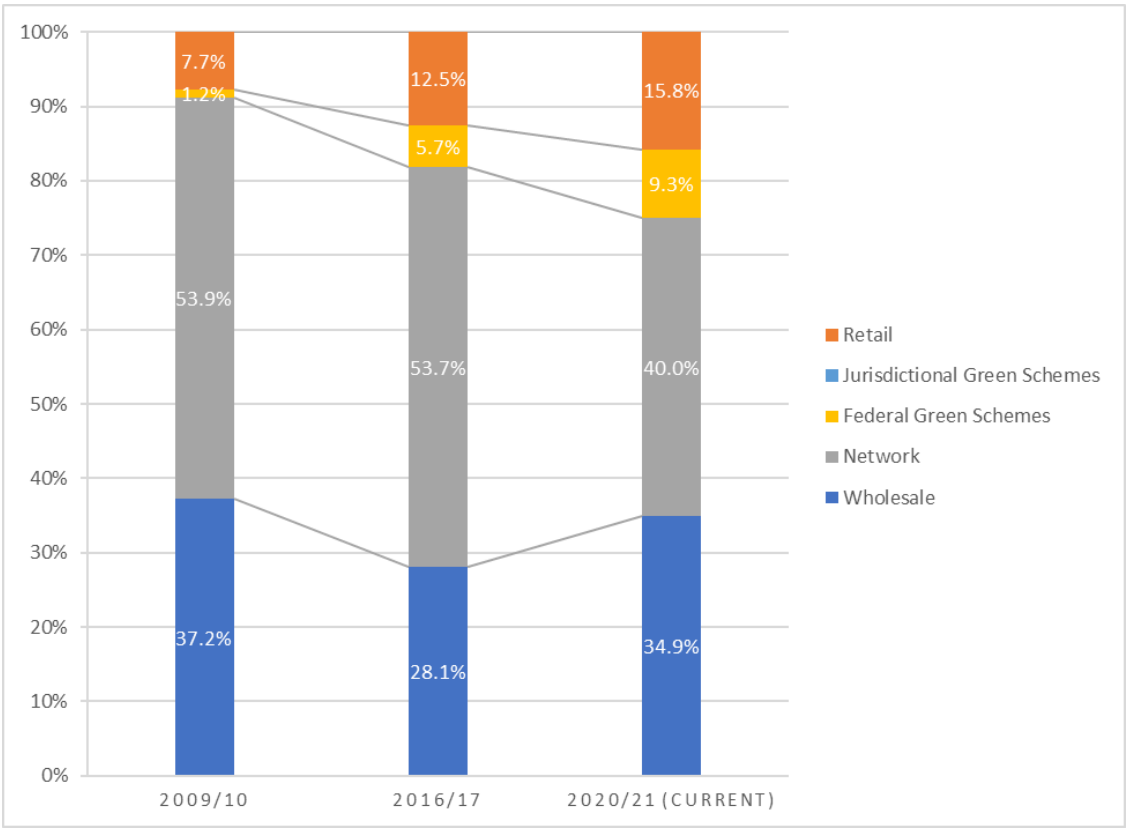
5.2 The Story Behind Tasmanian Electricity Price Trends

Firstly, we show the composition of Tasmanian electricity bills (the bill stack) according to the electricity supply chain (wholesale costs or generation, network charges, retail and environmental or green costs) for a typical household for the years 2009/10, 2016/17 and 2020/21 and how this has changed over the past decade (see Figure 3). In 2009/10 wholesale costs accounted for 37 per cent of a household bill, whilst in 2020/21 they make up 35 per cent of a bill (with a significant decline occurring in between). In 2009/10 network charges made up around 54 per cent of a household bill, a similar proportion to 2016/17, but by 2020/21 they have declined to only 40 per cent, due to reductions in network charges and increases in other bill stack components. Federal green scheme costs started the period at only about 1 percent of bills but have since grown significantly to account for just over 9 per cent of a bill in 2020/21. There are no jurisdictional green schemes in Tasmania. The retail component has more than doubled over the period, jumping from 7.7 per cent of a household bill in 2009/10 to 15.8 per cent in 2020/21.

Figure 3: Components of Electricity Bill Stack for a Typical Tasmanian Household



Source: Goanna Energy from AEMC data

Figure 4 below also shows the Tasmanian bill stack, but in terms of the annual value of its components in a typical household electricity bill and the total annual bill for 2009/10, 2016/17 and 2020/21. The increase in electricity bills is apparent, as are the main changes in the components of a household bill discussed in the previous paragraph. Electricity bills grew by $581 (or 30 per cent) over the period (mostly prior to 2016/17). Especially

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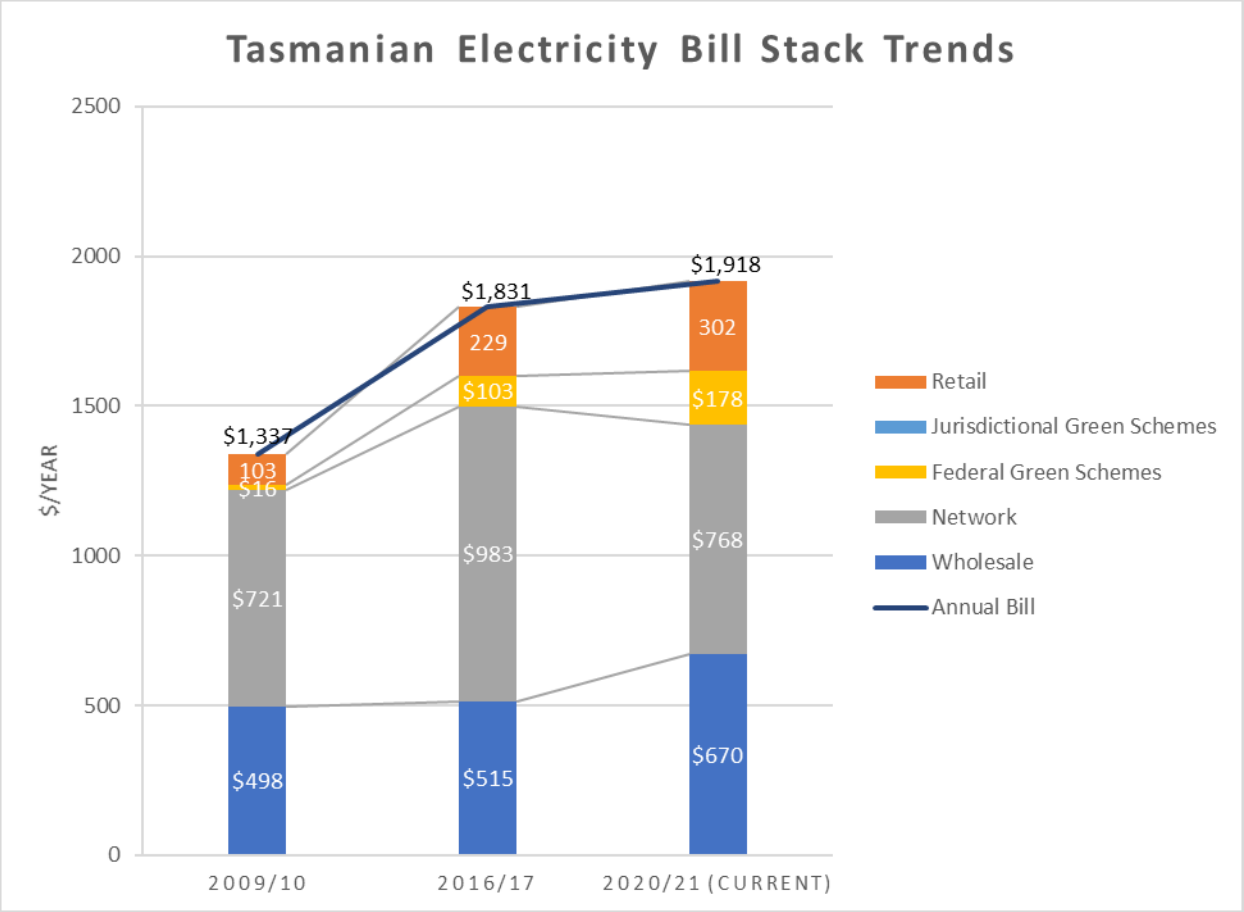
noticeable is the increase in wholesale charges of $172 since 2016/17 (a period characterised by increased government control of wholesale prices), as well as increases in Federal green scheme costs ($162) and in the retail component of $199 (over the entire period shown). Meanwhile, network charges finished the period only $46 higher than they began it, although there was a large increase in network charges in between ($262), followed by a reduction ($215).

Figure 4: Trends in the Tasmanian Electricity Bill Stack and Total Annual Electricity Bill for a Typical Household



Source: Goanna Energy from AEMC data

In Figure 5, we show the breakdown of how Tasmanian residential electricity bills have changed over the period 2009/10 to 2020/21 and what elements of bill have contributed to this change. The first important point to note is that all elements of the bill have added to the significant increase in electricity bills seen over this period. The biggest contributor has been the retail component, closely followed by wholesale and environmental charges. Meanwhile, network charges have been responsible for the smallest part of the increase, notwithstanding that they make up the largest share of annual bills. However, this masks some changes in the components that have taken place within the years shown, which we comment on below.

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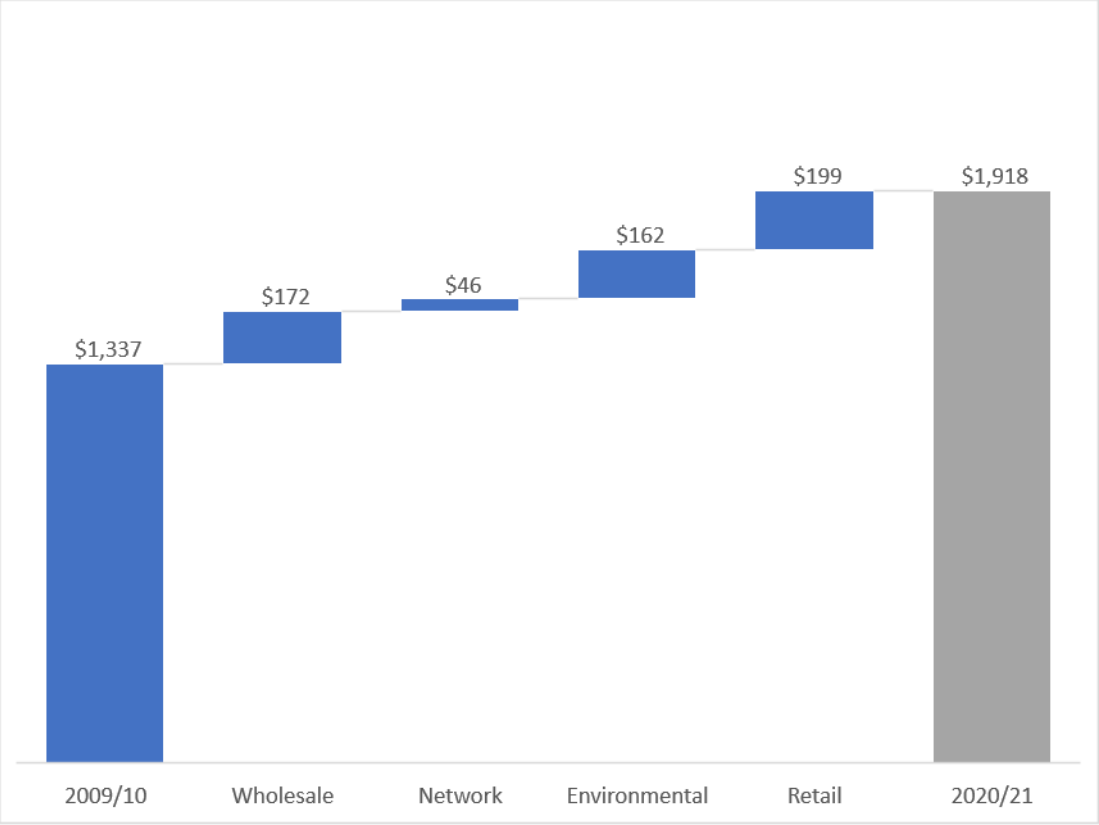
Figure 5: Contributions to the Change in Tasmanian Residential Electricity Bills, 2009/10 to 2020/21



Source: Goanna Energy from AEMC data

Figure 6 below shows the contributions of the main components of Tasmanian household electricity bills to the increase in bills over the periods 2009/10 to 2016/17 and 2016/17 to 2019/20. In the early period, all components contributed to higher bills, which increased significantly by $494. Network charges contributed $262, followed by the retail component ($126) and environmental costs ($87). Wholesale costs made a relatively minor contribution of $17 to higher bills in this period.

More recently, bills have increased less dramatically ($87) and wholesale costs have been responsible for the largest contribution to higher household electricity bills ($155), with environmental and retail charges making smaller, but still significant, contributions of $75 and $73, respectively. On the other hand, network charges have reduced bills by $215.

The above explanation for the increases in Tasmanian residential electricity bills provides some indication as to where advocacy by TasCOSS could most beneficially be directed. It suggests that, based on the most recent bill increases, wholesale costs should be an area of focus. However, network and retail costs should not be ignored as these make up a significant component of the bill, have seen periods of significant increases over the past and may do so again unless consumers are vigilant. The regulation of all components of Tasmanian retail bills affords formal opportunities for consumer consultation and input.

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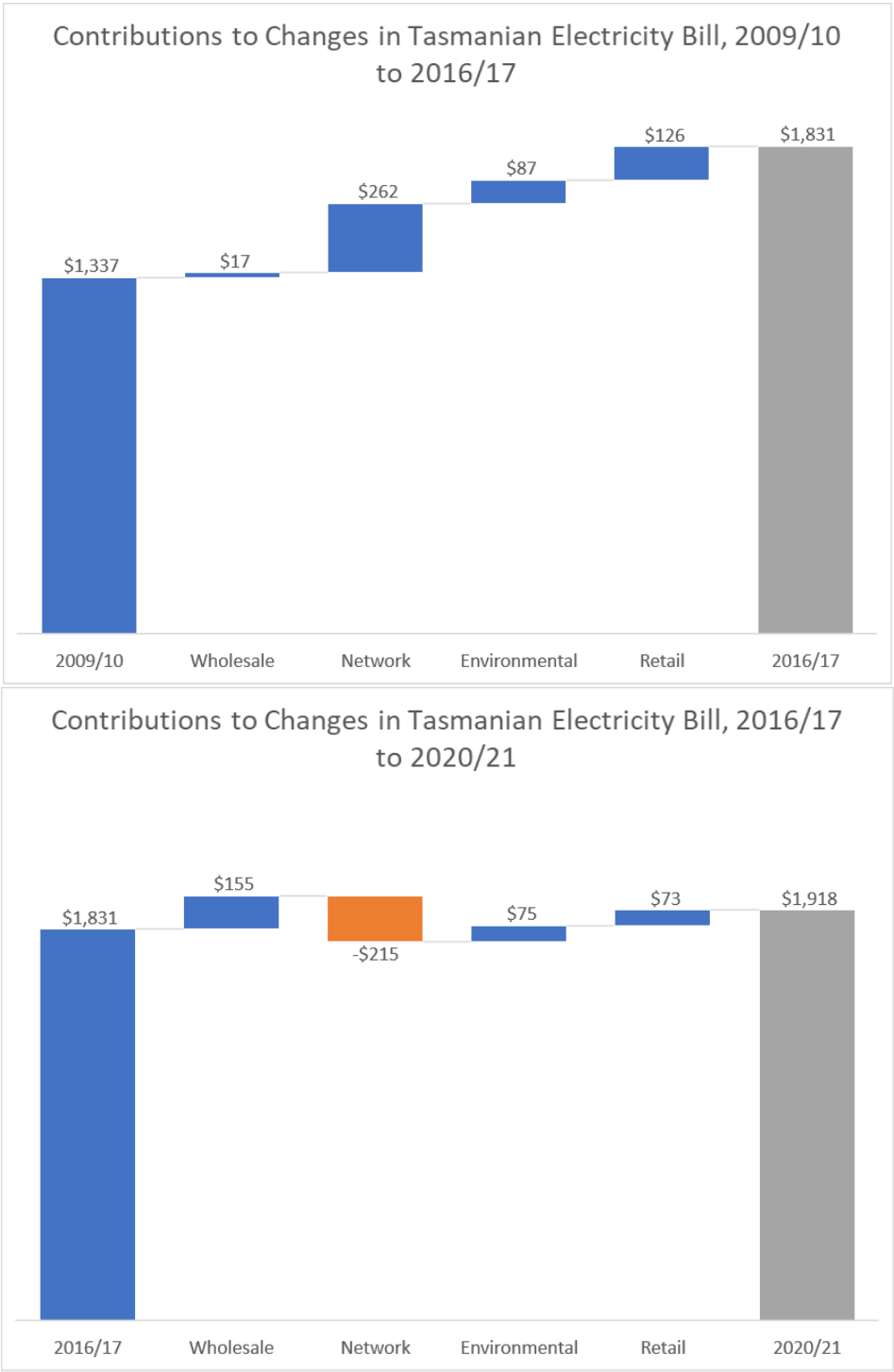
Figure 6: Contributions to the Change in Tasmanian Residential Electricity Bills, 2009/10 to 2016/17 and 2017/17 to 2020/21



Source: Goanna Energy from AEMC data

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6 TASMANIAN RESIDENTIAL ELECTRICITY PRICES COMPARED TO THE MAINLAND

In this section we undertake an assessment of Tasmanian residential electricity prices and annual bills compared to the rest of Australia. This is based on the methodology outlined in Section 3. Consistent with the AEMC's approach, we show both an average combined fixed and variable price, and the annual bill for a typical residential electricity consumer in each jurisdiction, i.e., NSW, Vic, SE Qld, WA, SA, Tas and the ACT, as well as a combined national price.[24]

The comparisons are based on the average annual consumption of electricity by households in each jurisdiction examined in this report (see Appendix B) and trends are examined over the period 2009/10 to 2020/21, with the addition of projections for 2021/22 and 2022/23. We reiterate that the latest actual prices/bills assessed in this report are for 2019/20, with 2020/21 (current year) based on known information for that year at the time the AEMC completed its 2020 report. Hence, the latest actual prices (2019/20) and current year prices (2020/21) are somewhat dated and neither necessarily reflects current electricity prices.

6.1 RESIDENTIAL ELECTRICITY PRICES AND ANNUAL BILLS

Below we discuss how Tasmanian electricity prices and annual bills for a typical residential consumer compare to the mainland. We first look at the current year (2020/21) followed by the trends in prices and annual bills since 2009/10.[25]

6.1.1 Current Residential Electricity Prices and Annual Bills

Figure 7 shows how the residential electricity price in Tasmania compares to the mainland in 2020/21, the current year.[26] Tasmania had the second lowest price, about one and a half c/kWh higher than SE Queensland, the lowest price State, and over three c/kWh lower than the national average. Compared to SA, the highest price State, Tasmanian households experienced electricity prices that were around 10.6 c/kWh lower.

However, this advantage was not translated into their annual electricity bills, as shown in Figure 8. Given the high consumption of electricity in Tasmania, consumers had the highest electricity bills in Australia, closely followed by the ACT. Households in Victoria had the lowest bills, being $863 lower than in Tasmania. Nationally, households had a $671 advantage over those in Tasmania. Of course, this does not take into account that households in most jurisdictions also use natural gas and have gas bills on top of their electricity bills, whereas in Tasmania gas is relatively little used.

[24] This is an average of the jurisdictional numbers weighted by total electricity consumption.
[25] The AEMC has not updated its WA electricity prices in its 2020 report as the WA Government chose not to provide it with updated data but noted that it had frozen residential prices due to the impacts of COVID19. We have therefore applied the 2019/20 prices (and annual bills) for WA to 2020/21.
[26] The choice of 2020/21 information rather than 2019/20 involved a trade-off between the use of the latest information available from the 2020 AEMC report, albeit incomplete, versus the use of actual information for 2019/20 which is less contemporary. We do, however, also refer on 2019/20 information where relevant.

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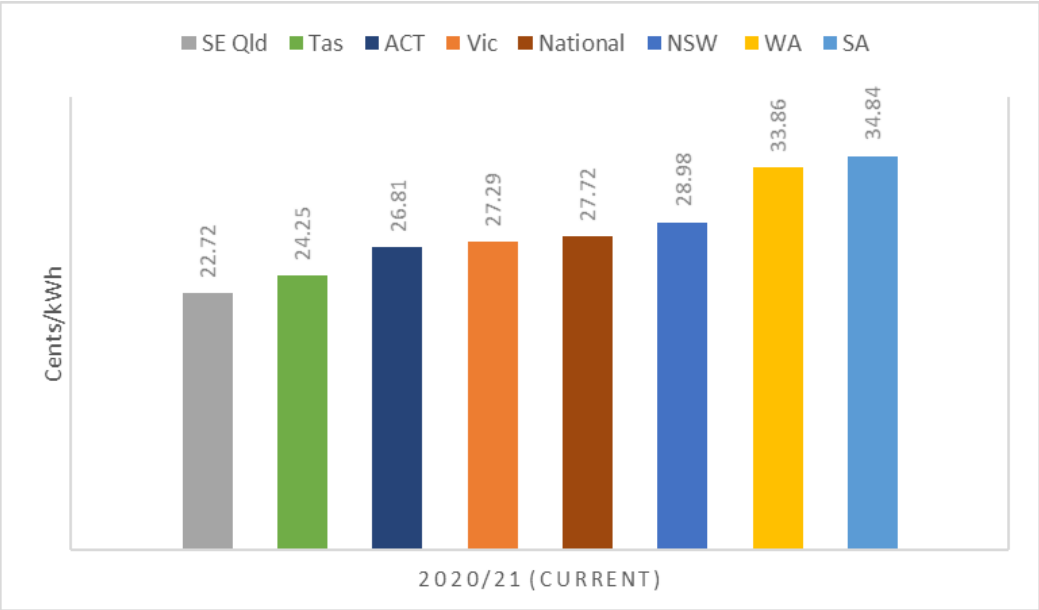
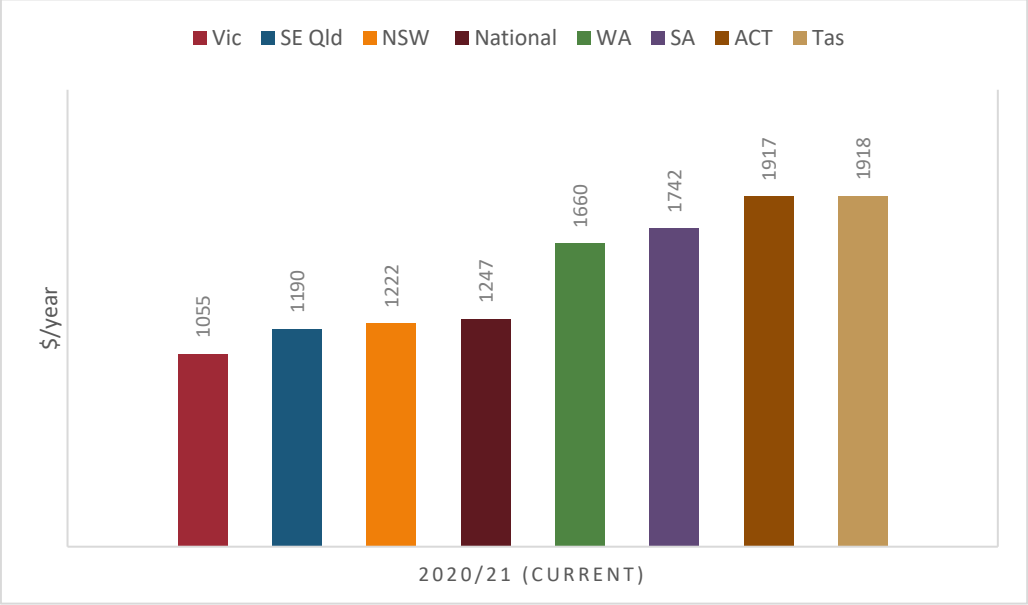
Figure 7: Residential Electricity Prices, Tasmania and the Mainland, 2020/21



Source: Goanna Energy from AEMC data

Figure 8: Annual Residential Electricity Bills, Tasmania and the Mainland, 2020/21



Source: Goanna Energy from AEMC data

6.1.2 Trends in Residential Electricity Prices and Bills

Figure 9 shows the trend in electricity prices for each jurisdiction. Tasmania is shown as the thicker line for ease of identification and the dotted vertical line separates actual/current prices from the forecasts (as is the case for similar charts used throughout this Report). A general trend of rising electricity prices across most jurisdictions and nationally from 2009/10 to 2020/21 is apparent, interspersed with some declines in prices mid-decade (apart from

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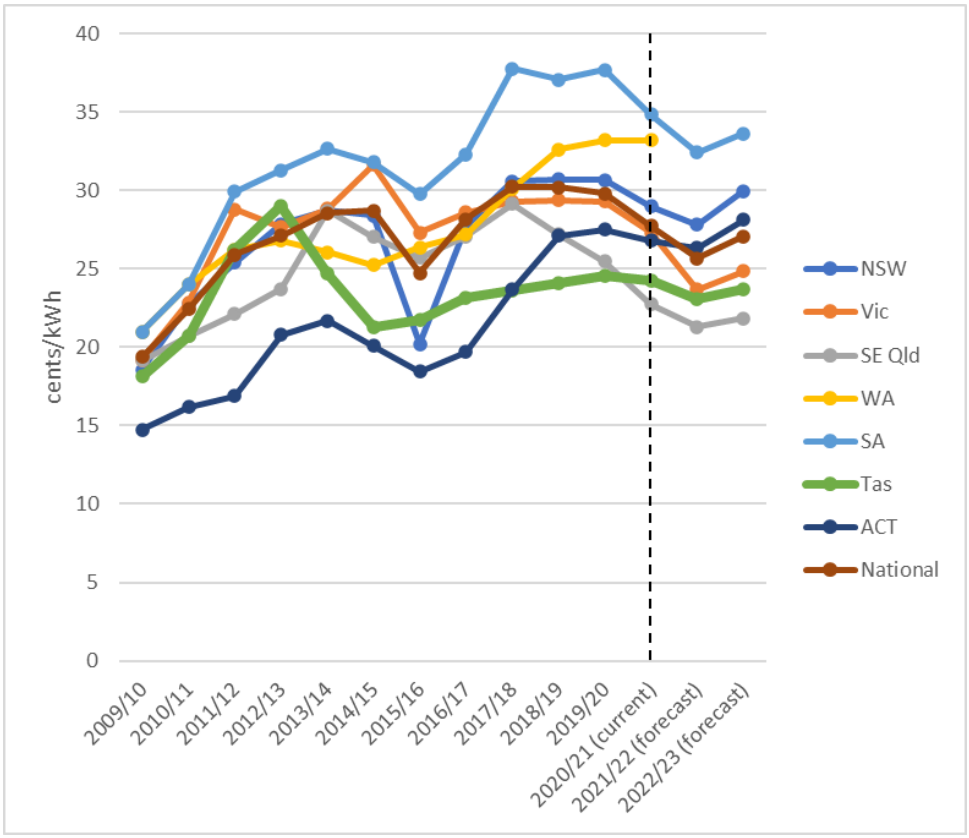
WA where prices increased and SE Queensland where they fell) and an increase in prices in most jurisdictions from the middle of the period until 2019/20. There have been significant reductions in residential prices in 2020/21 in all jurisdictions including Tasmania (except in WA where prices have been flat). Throughout the entire period, SA has had the highest prices and continues to do so even though they have fallen sharply in 2020/21. In 2009/10, Tasmania had the second lowest electricity prices and its prices then increased markedly until 2012/13, before declining until 2014/15 and then increasing again until 2019/20, but at a slower rate. Tasmanian experienced a modest price drop in 2020/21. Tasmania had the lowest prices in 2019/20 but dropped to the second lowest in 2020/21. SE Queensland currently has the lowest residential electricity prices and its prices have declined rapidly since 2016/17.

The AEMC's price forecasts for 2021/22 and 2022/23 suggest that residential electricity prices should decline in 2021/22 before increasing in 2022/23, but with little change in jurisdictional rankings. Expected price declines in SE Queensland in 2021/22 outpace those in Tasmania with the former maintaining its position as the jurisdiction with the lowest residential electricity prices and widening the gap between it and Tasmania. It is worth reiterating that, as pointed out in Section 4.3, the emergence of several new retailers in Tasmania has been accompanied by an increase in lower price market offers being made available to Tasmanian households. If this continues, it will help to lower Tasmanian residential electricity prices in future.

Figure 9: Trend in Residential Electricity Prices, Tasmania and Mainland Jurisdictions



Source: Goanna Energy from AEMC data

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OTTER's September 2020 report shows residential electricity prices separated into daily fixed charges, general use charges and controlled load charges in July 2020. OTTER's median price for each jurisdiction, shows that Tasmania's daily fixed charge and its general use charge rank mid-range, being the fourth highest, whilst its controlled load charge is the second highest. Compared to the lowest charges in each jurisdiction, Tasmania's daily fixed charge is the highest, with its usage charges (general and controlled load) ranking the second highest.

The AEMC series does not allow a comparison to be made of regulated residential electricity prices but, according to OTTER's report, Tasmania has the second lowest regulated tariffs, so the Tasmanian Government's commitment to have the lowest regulated electricity prices in the country by 2022 is within sight but not yet delivered.

Turning to annual residential electricity bills, Figure 10 shows the jurisdictional comparisons. The trends in annual bills are similar to those shown for prices. The major points are as follows:

- Victorian households have the lowest annual electricity bills in 2020/21 and have held that ranking since 2012/13.
- SE Queensland has the second lowest annual bills and has seen a steep reduction in electricity bills since 2017/18.
- Tasmania has the highest annual bills in 2020/21, closely followed by the ACT. This is a switch in their relative positions from 2019/20.
- The ACT is forecast to again overtake Tasmania and have the highest electricity bills by 2021/22, and maintain that position in 2022/23.
- There were large spikes in annual household electricity bills in Tasmania from 2009/10 to 2012/13 reflecting the jumps in wholesale, network, environmental and retail charges spoken about earlier, but also a significant increase in the annual consumption level used by the AEMC.
- Tasmanian electricity bills have been relatively stable since 2013/14, albeit on an upwards trajectory, but fell in 2020/21 (as did all jurisdictions, except WA).

We reiterate the point that annual bill comparisons reflect the significant differences in household electricity consumption across jurisdictions, which was discussed earlier and in Appendix B. In the case of Tasmania, it has the highest level of household electricity consumption reflecting its cold climate, low use of natural gas and lower penetration of small-scale solar installations. This significantly impacts the size of Tasmanian electricity bills relative to elsewhere in Australia (apart from the ACT), although prices also play an important role in determining bills.

The OTTER September 2020 Report, which used a common average annual electricity consumption of 8,422 kWh,[27] showed that in July 2020, four jurisdictions had tariffs that provided lower annual residential bills than Tasmania, whilst two had lower annual bills for the median of all offers. In terms of regulated tariffs, Tasmanian households enjoyed the second lowest bills, beaten only by the ACT, although this is a rather limited comparison

[27] It should be noted that this tends to orient the results more in favour of Tasmanian bills compared to the use of jurisdiction specific average household consumption levels in this report given that Tasmania has the highest consumption level.

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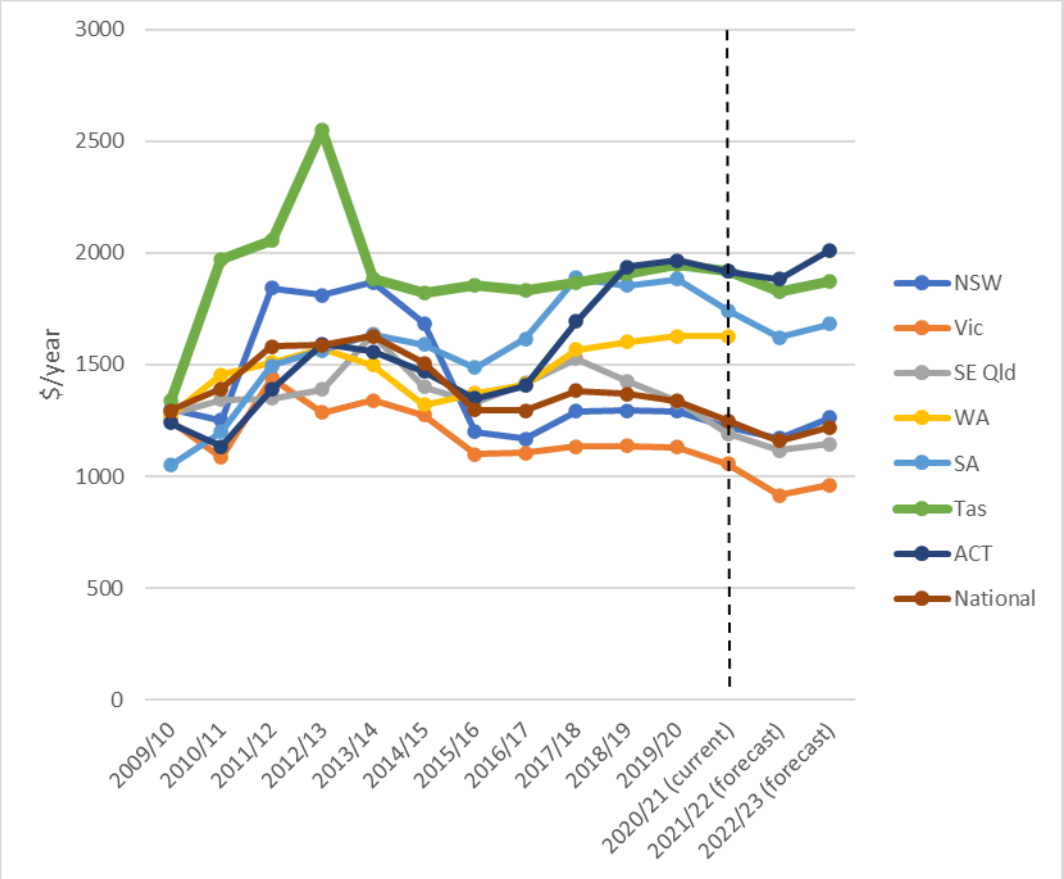
given that very few consumers in other jurisdictions are on regulated tariffs, so their use and impact is minimal.

Turning to the SVDP Tariff Tracker 2020 Report, which shows annual residential electricity bills across jurisdictions at the 6,000 kWhpa consumption level, in June 2020 Tasmania ranked as the jurisdiction with the fourth lowest residential bills. Over the past decade, Tasmania's middle ranking has changed little. Our higher ranking largely reflects the higher annual consumption level used in this report and demonstrates the important impact of the chosen annual consumption level on bills and jurisdictional rankings.

Figure 10: Trend in Residential Electricity Annual Bills, Tasmania and Mainland Jurisdictions



Source: Goanna Energy from AEMC data

6.2 The Story Behind the Jurisdictional Comparisons

We focus next on explaining the trends in residential electricity prices and the comparisons made in the previous section. To do this, we look at the changes in the composition of electricity prices (i.e., the price/bill stack) across jurisdictions.[28]

[28] As mentioned earlier, the WA Government did not participate in the AEMC's 2020 Residential Electricity Price Trends Project. Although it advised that it had frozen prices for 2020/21, the various components of the electricity price/bill stack for 2020/21 are unknown.

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6.2.1 Wholesale Prices

We turn first to wholesale costs, which in 2020/21 account for 34 per cent of average residential electricity bills nationally and 35 per cent in Tasmania.

Figure 11 shows the tends in wholesale prices for Tasmania and mainland jurisdictions from 2009/10 onwards.[29] It should be noted that wholesale prices exhibit volatility that stems from their commodity nature and reflect factors such as changes in underlying supply and demand conditions in electricity markets and government policies.

Since 2016/17, Tasmanian wholesale prices have consistently been the lowest of all the jurisdictions shown, although from 2009/10 to 2013/14 they were positioned towards the high end and showed a steeply increasing trend. It is worth mentioning that Tasmania's heavy reliance on older and well depreciated hydro-electric generation plant, which has a very low marginal cost of production, and arbitrage opportunities across BassLink when Victorian spot prices are low, suggests that it should have low wholesale prices. However, in 2020/21 in an environment of rapidly falling wholesale prices across the NEM, Tasmania has been overtaken by SE Queensland as the jurisdiction with the lowest wholesale prices.

Wholesale prices increased in all jurisdictions, apart from SE Queensland, from 2016/17 until 2019/20. In the NEM, this was due to factors such as the closure of some large coal generators (especially Hazelwood in Victoria), the transition to renewable generation and policy uncertainty regarding energy and greenhouse gas reduction policies. Being largely based on renewable generation already, Tasmania was somewhat insulated from these influences, although a combination of drought, a major Basslink outage and (more recently) the delinking of its regulated wholesale costs from lower Victorian market prices offset this. Wholesale prices across the NEM have now softened substantially with all NEM jurisdictions showing falls in wholesale prices in 2020/21, reflecting factors such as lower overall electricity consumption due to COVID19 impacts, mild weather, additional renewable capacity[30], lower gas prices and postponements in the closure of some coal generation, e.g., Liddell power station in NSW.

The outlook for wholesale prices over 2021/22 is also influenced by these factors and AEMC projections suggest further significant declines in most jurisdictions, followed by increases in 2022/23. The AEMC's forecast for higher wholesale prices in 2022/23 reflects the expected closure of Liddell power station in NSW.

[29] It is not possible to show wholesale prices on a continuous basis due to breaks in the AEMC's series and changes in its approach to calculating wholesale prices over time. For several years, in some jurisdictions, the AEMC did not report separate wholesale costs, but combined them with retail costs.

[30] According to AEMO's 2020 *Electricity Statement of Opportunities*, total capacity of committed projects includes 1,667 MW of solar and 2,580 MW of wind.

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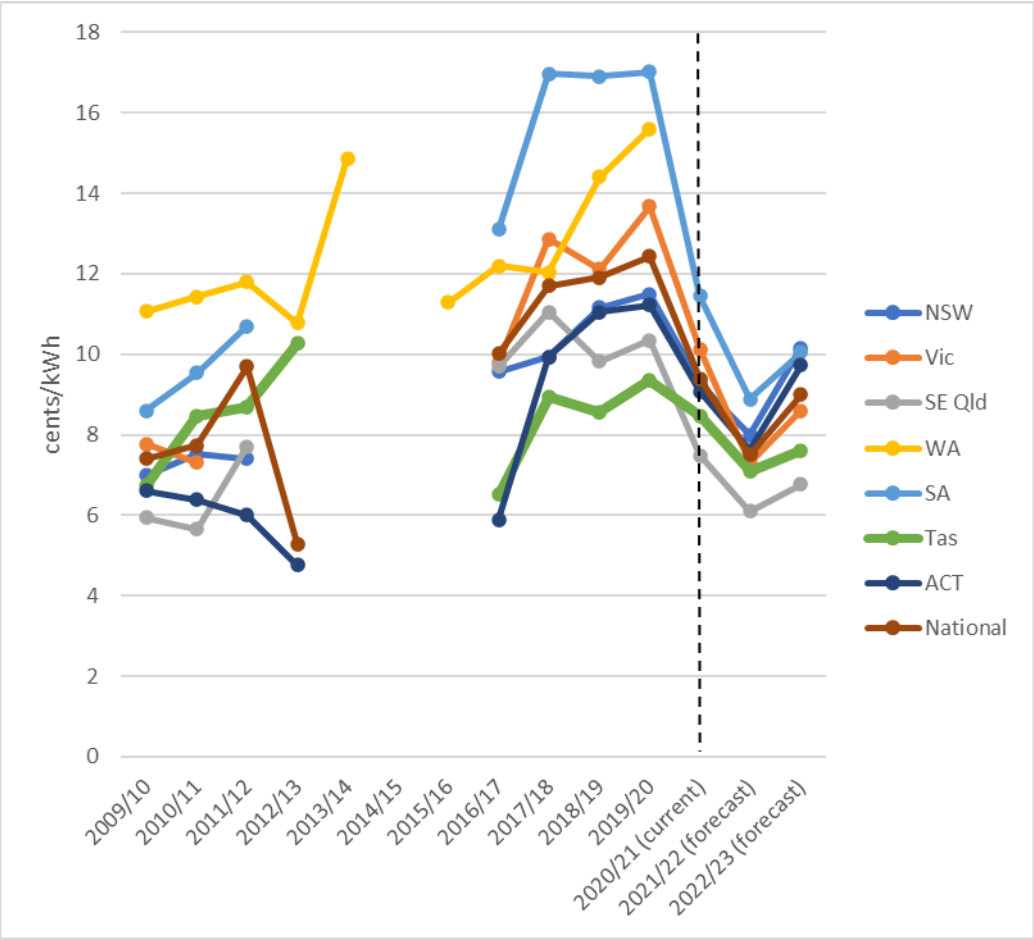
Figure 11: Wholesale Price Trends, Tasmania and the Mainland



Source: Goanna Energy from AEMC data

Shown in Figure 12 are wholesale costs expressed in terms of their impact on household electricity bills since 2002/10. The volatility of wholesale prices referred to earlier is also reflected in their impact on household bills.

Tasmania is placed in a mid-ranking position for much of the period shown in the chart but its ranking has fluctuated with changes in wholesale prices. Tasmania ranking slipped to the highest in 2020/21 (in the absence of data for WA) and is forecast to remain the highest in 2021/22, after which the ACT is expected to overtake it. The increases in wholesale prices across the NEM from 2016/17 until 2019/20, including in Tasmania, referred to above also impacted electricity bills significantly, as have the reduced wholesale costs seen in 2020/21. Victoria, SE Queensland and NSW are currently the lowest ranked jurisdictions (all with very similar wholesale costs), followed by SA. For an average household, Tasmanian wholesale costs are around $280 higher than in Victoria, notwithstanding the regulated nature of wholesale prices in Tasmania and their mandated close links to Victorian prices. The issues with regulating wholesale prices in Tasmania referred to in Section 4.2 are of importance in explaining Tasmania's recent and current ranking.

Consistent with the forecasts for wholesale prices, their impact on bills is forecast to result in a further decline in the wholesale component of residential bills in the NEM over 2021/22

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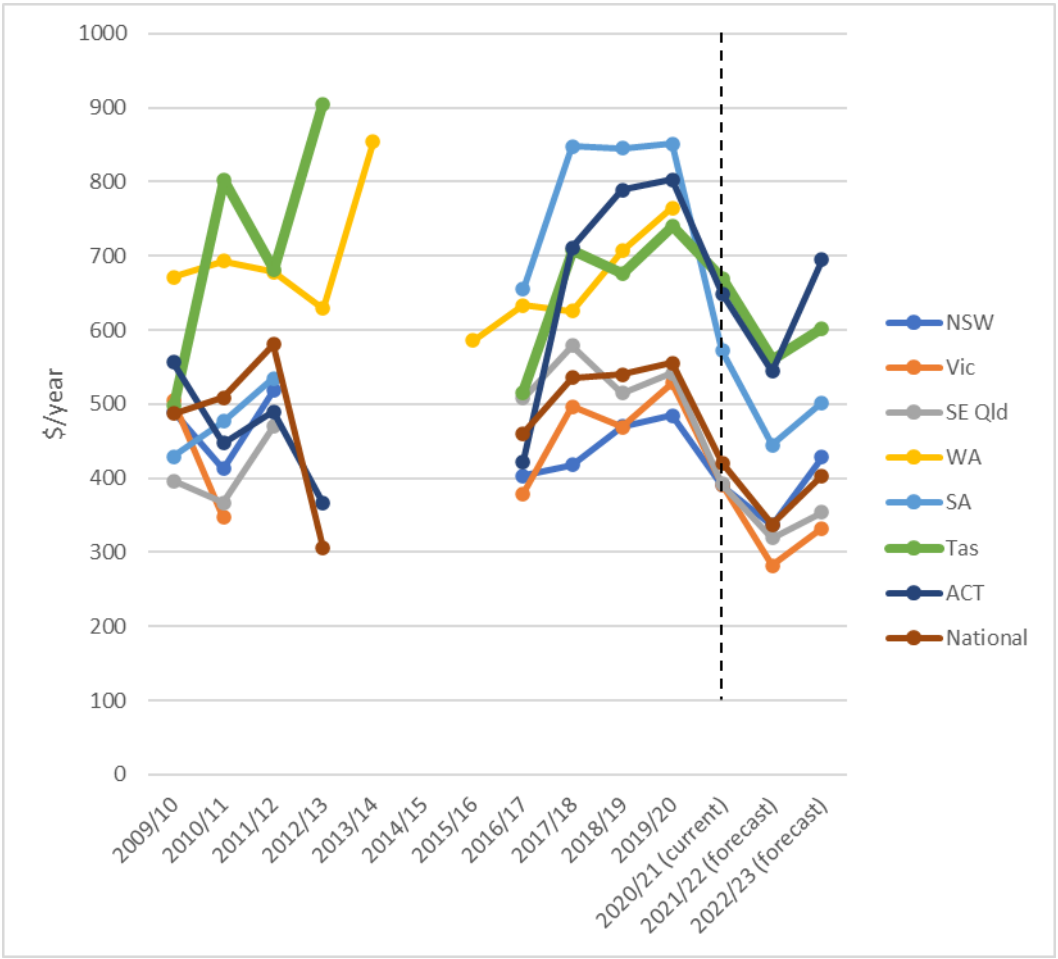
followed by increases in 2022/23. However, the expected increase in the ACT is more pronounced than in Tasmania so that it is expected to have the largest wholesale costs by 2022/23. Tasmania's current $280 wholesale costs deficit compared to Victoria is expected to decline only slightly to $270 by 2022/23. This is an issue that TasCOSS could consider raising with the Tasmanian Government in terms of its expected consideration of the future of wholesale price regulation after 30June 2021.

Figure 12: Impact of Wholesale Costs on Residential Electricity Bills, Tasmania and the Mainland



Source: Goanna Energy from AEMC data

6.2.2 Network Charges

In 2020/21, network charges made up 46 per cent and 40 per cent of an average household electricity bill nationally and in Tasmania respectively, and were the single biggest component of these bills. Distribution charges accounted for around 80 per cent of network charges and transmission charges most of the rest.

Figure 13 shows the trend in network prices since 2009/10. SA has the highest network prices in 2020/21 (16.18 c/kWh) reflecting the low density of its network, whilst the ACT had the lowest (8.05 c/kWh) reflecting its small concentrated urban network, small transmission

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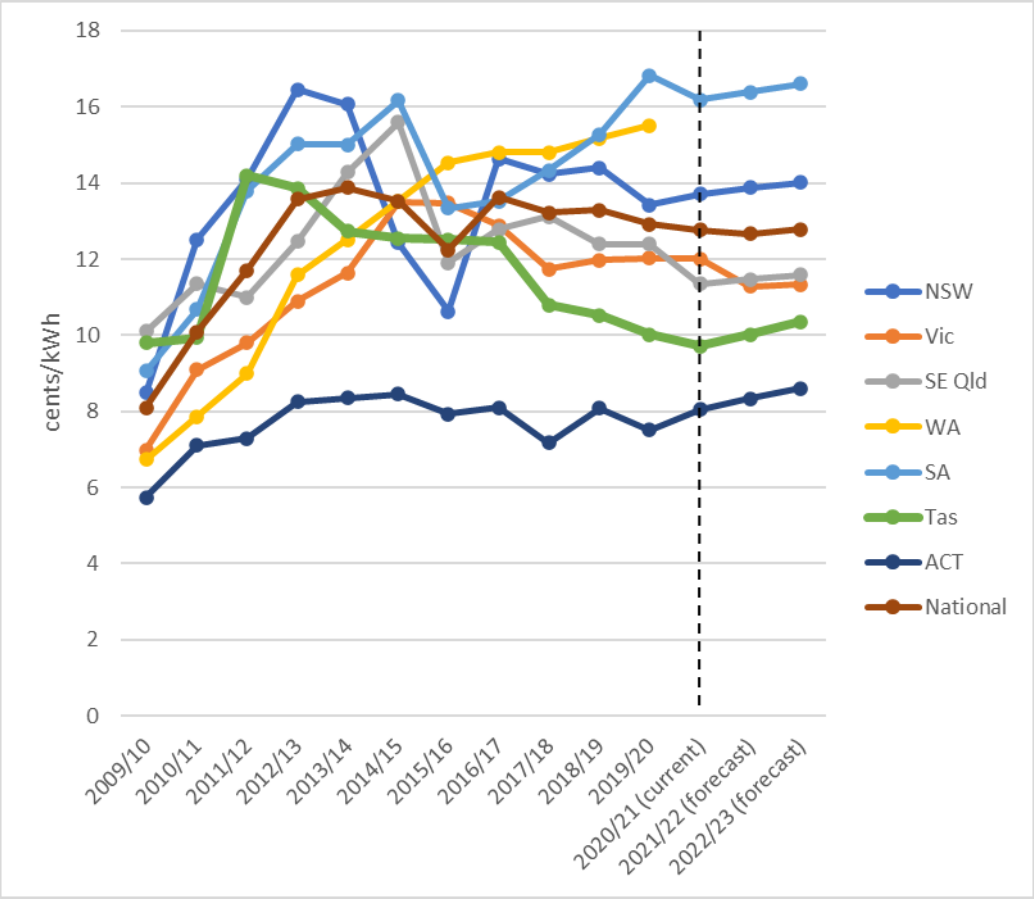
system and proximity to large transmission links in NSW. Tasmanian network charges started the period as the second highest in the country (9.80 c/kWh) and ended it as the second lowest (9.71 c/kWh). In the intervening period they increased dramatically until 2011/12, but have steadily declined thereafter.

Figure 13: Trends in Network Charges, Tasmania and the Mainland



Source: Goanna Energy from AEMC data

The early sharp increases in network charges after 2009/10 were due to factors such as some significant flaws in the regulatory framework administered by the AER that favoured the interests of network owners (especially those in State ownership, including in Tasmania), overly generous rates of return, the approval of inflated amounts of capital expenditure (capex) and operating expenses (opex), and forecasts of demand growth that proved to be far too optimistic. As a consequence, network prices escalated rapidly across-the-board in the first round of network determination administered by the AER. Subsequently, network prices moderated driven by factors such as some changes in the regulatory framework to make it less favourable to asset owners, greater political interest due to the rapid increase in network prices, the moderation of capex allowances, the impact of low interest rates on and changes in the parameters used to set regulated rates of return, and some improvements in the scrutiny of networks' expenditure proposals. In the case of Tasmania, the falls in network prices also reflect efficiencies gained through the merger of Transend and Aurora

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Networks to form TasNetworks, which then sought more actively to avoid contributing to electricity price pressures in light of the Tasmanian Government's commitment to lower electricity prices and to some improvements in TasNetworks' efficiency.

Looking forward to the forecast period shown in Figure 13, Tasmanian network prices are expected to increase again to reach 10.35 c/kWh by 2022/23, with TasNetworks' previous cost reductions abating and reflecting the impacts on the outyears of its current AER Determination. This is an area where TasCOSS and other consumer advocates should remain focused, including through the next AER regulatory determination for TasNetworks beginning in October 2021.

Bill trends closely follow those for network prices, including for Tasmania.

In terms of networks charges' contribution to electricity bills, Victoria is currently the lowest ranking jurisdiction (see Figure 14), whilst SA is the highest, closely followed by Tasmania. Tasmanian residential consumers are currently paying $304 (40 per cent) more per year than Victorian households for network charges. This reflects high levels of electricity consumption and a dispersed network, but also inefficiency within TasNetworks, especially in its distribution network, as shown by AER benchmarking. Further evidence of this is that Tasmanians are typically paying only $41 (5 per cent) less per year in network charges than South Australians, notwithstanding the less dense and thinner nature of SA's networks.

The network charge component of annual residential electricity bills in Tasmania is expected to increase by $50 to $818 from 2020/21 to 2022/23, with Tasmania still the second highest-ranking jurisdiction behind SA, but with the gap shrinking to only $12 (1.4 per cent).

6.2.3 Green Scheme Costs

Schemes intended to mitigate greenhouse gas emissions and support the local renewables industry (Green or Environmental Schemes) have become a feature of the Australian electricity market over the past two decades. They exist at both the Federal and State Government levels.

Federally, the main scheme that impacts electricity prices is the RET, which mandates that retailers must create a set amount of renewable energy certificates every year. It has two components, the LRET, used to assist the construction of larger renewable energy projects, especially wind, and the SRES, used to assist the installation of small-scale renewable energy units in dwellings, especially roof top solar and solar water heating.

Most jurisdictions (including Tasmania) have Feed-in-Tariffs (FiT) to support the installation of solar and some also have energy efficiency schemes (though not Tasmania), intended to make households more energy efficient. The installation of battery storage to accompany roof top solar is also starting to increase as battery costs decline.

Retailers generally pass on the costs of the RET and jurisdictional schemes to customers.

In 2020/21 Green Schemes made up 9.1 per cent of an average household electricity bill nationally (4.9 per cent in 2009/10) and 9.3 per cent in Tasmania (1.2 per cent in 2009/10).

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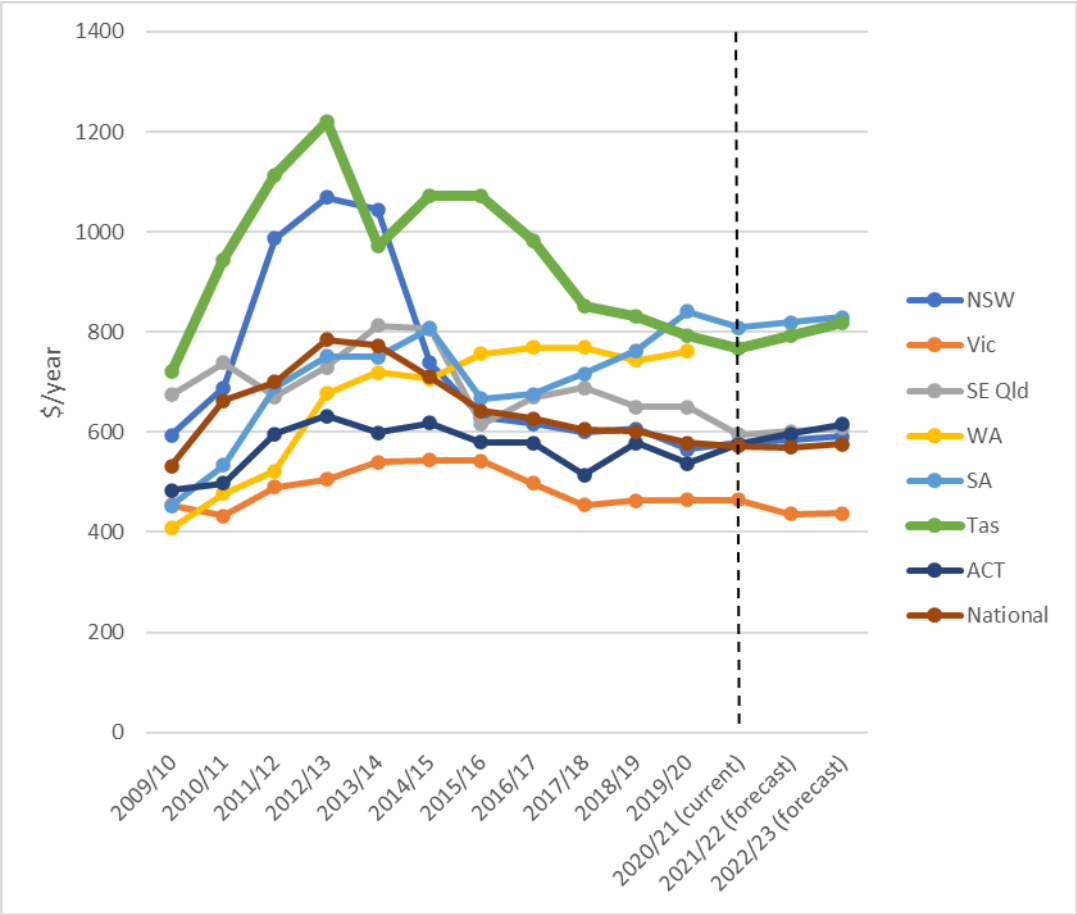
Figure 14: Impact of Network Charges on Annual Residential Bills, Tasmania and the Mainland



Source: Goanna Energy from AEMC data

Figure 15 shows the impact of Green Schemes on electricity bills in Tasmania and for the other jurisdictions used in this study. In 2020/21 Tasmania ranked as the lowest jurisdiction in terms of the impact of Green Schemes on average household electricity prices, slightly below NSW and Victoria. As the RET applies to all jurisdictions and imposes roughly similar costs on each, the main reason for Tasmania's position is that the AEMC does not include any State Green Schemes in Tasmanian electricity. Queensland has had schemes in place in the past, the removal of which resulted in a significant fall in green prices from 2017/18, but has recently re-introduced a solar bonus scheme resulting in higher green scheme prices. NSW and Victoria have green prices that correspond closely to Tasmania's, notwithstanding that both have State green schemes in place. The ACT and SA have the highest green prices, reflecting the fact that they have the most extensive and expensive jurisdictional green schemes. The high green prices in 2012/13 and 2013/14 followed by a sharp fall in 2014/15 reflects the imposition of the carbon tax by the Federal Government and its subsequent removal.

The AEMC's forecasts suggest that the cost of green schemes is set to fall in 2021/22 and 2022/23 across all NEM jurisdictions, including in Tasmania. As a result, Tasmania is projected to maintain its current ranking as the NEM jurisdiction with the lowest green prices.

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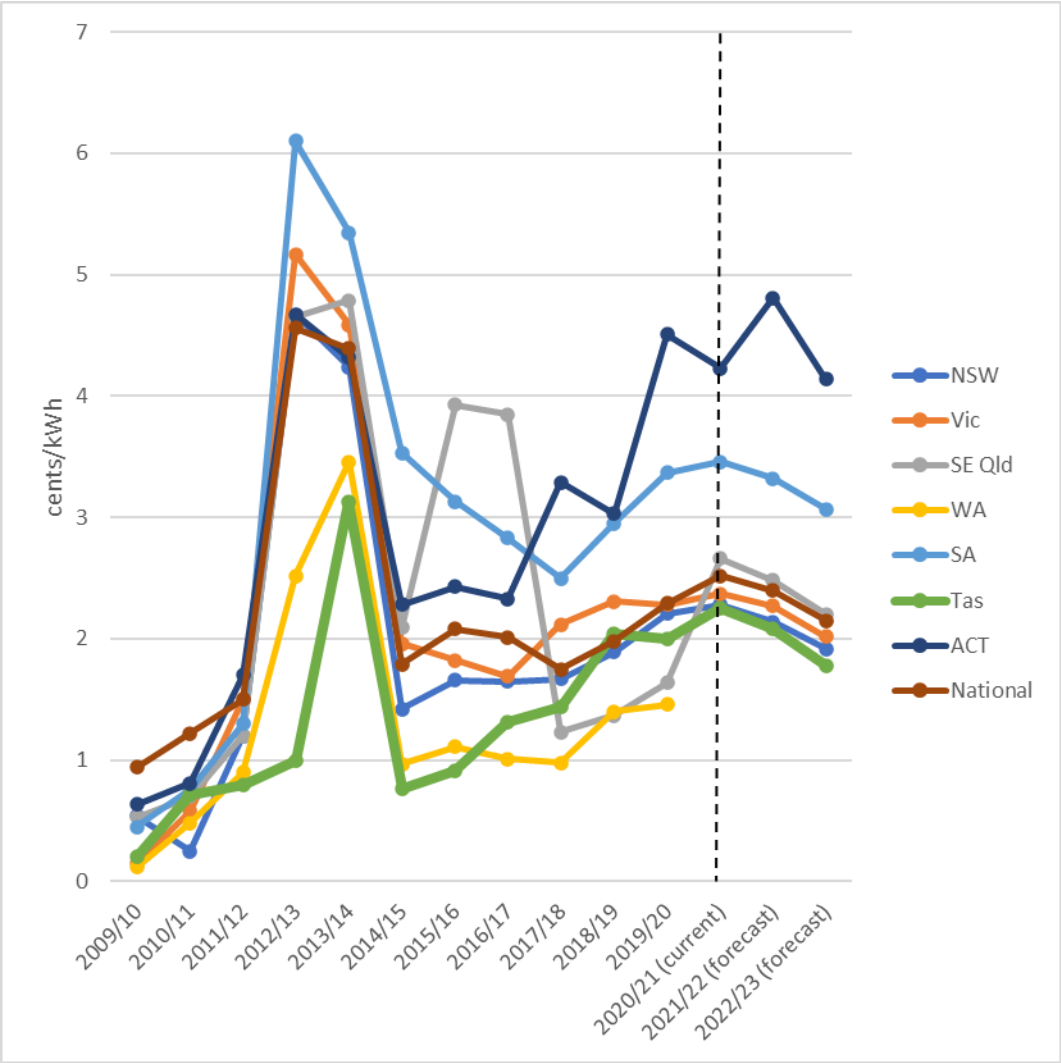
Figure 15: Impact of Green Schemes on Residential Electricity Prices, Tasmania and the Mainland



Source: Goanna Energy from AEMC data

The impact of Green Scheme costs on average residential electricity bills is displayed in Figure 16. The trends are similar to those for electricity prices discussed above. Currently Tasmanian residential consumers pay $178 annually in Green Scheme costs, the second highest of all NEM jurisdictions and just ahead of SA. This by-and-large reflects the fact that average electricity consumption in Tasmania is the highest of all the jurisdictions and this adds to the costs of green schemes on households. The absence of any jurisdictional Green Schemes in the AEMC's series for Tasmania has the impact of keeping Green Scheme costs on household bills lower despite high consumption levels. However, it is worth noting that Tasmania had the second lowest Green Scheme bills in 2009/10, after which they escalated and have climbed persistently after 2014/15 and by 2018/19 Tasmania household electricity bills had the second highest Green Scheme costs in the nation. The ACT has the highest Green Scheme costs due to its high annual consumption and because it has the most expensive jurisdictional schemes.

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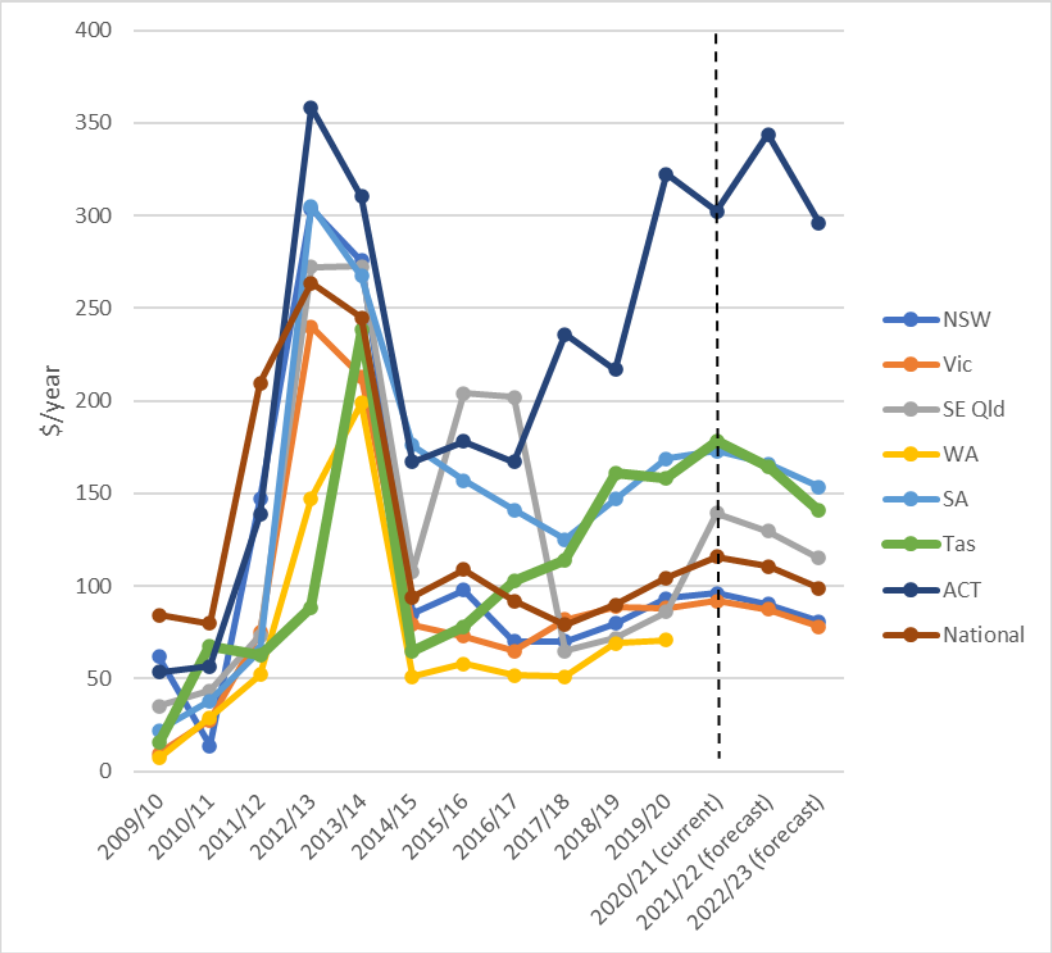
Looking at the forecasts for 2021/22 and 2022/23, the impact of green schemes on household electricity bills is set to fall across both years with slightly larger falls in Tasmania so that it improves its ranking to the third highest by 2022/23.

Figure 16: Impact of Green Schemes on Residential Electricity Bills, Tasmania and the Mainland



Source: Goanna Energy from AEMC data

6.2.4 Retail Costs

The final element of the household electricity price/bill stack to discuss is retail costs. In competitive markets, retail costs include costs to serve customers, including retail operating expenses, CARC and a retail margin to cover the retailer's return on investment.

In competitive markets, which includes most of the NEM (apart from Tasmania and regional Queensland), retail costs cannot be directly observed. Consequently, the AEMC treats these costs as a residual component in its annual price trends reports.[31] That is, the AEMC derives this component by establishing the wholesale, network and environmental costs that

[31] In its early reports, when NEM retail markets remained subject to price regulation, the AEMC included a direct retail component based on the retail costs set by jurisdictional regulators. This became more problematic as retail markets opened to competition and regulation of retail charges was relaxed. Retailer's costs became commercially confidential.

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make up an electricity bill, and then subtracts these from the market offers for each jurisdiction, leaving a residual component. However, it is possible that the residual component contains not only retail costs but also data errors. Whilst emphasising that the residual component is not a direct proxy for retail costs, we believe it provides a reasonable indication of retail costs.

It is also worth mentioning that the change in the AEMC's approach to retail costs has resulted in a discontinuity in the AEMC's reports and in the measurement of retail costs (except for WA). In addition, the AEMC also combined wholesale and retail costs in some years and for these years no separation of the two was provided.[32]

Figure 17 shows trends in retail costs for Tasmania and the other jurisdictions included in this report. In unit price terms, the Tasmanian retail component amounted to 3.82 c/kWh in 2020/21, making it the second highest in the country, behind the ACT (5.46 c/kWh) and just above NSW (3.72 c/kWh). Tasmanian retail costs had been as low as 1.4 c/kWh in 2009/10 – the lowest in Australia – but have increased steadily and significantly since then. It is noteworthy that Tasmanian retail costs are higher than those in jurisdictions where retail competition is most prevalent, such as NSW, Victoria and SE Queensland (which currently has the lowest retail costs), but also significantly higher than WA, where retail prices are regulated.

The AEMC's forecasts for retail costs in 2021/22 and 2022/23 assume that these will remain constant in real terms across all jurisdictions. They note that, in reality, retail cost changes may differ from this over time.

The retail component currently makes up around 16 per cent of an annual household electricity bill in Tasmania but only 11 per cent nationally.

As shown in Figure 18, in 2020/21 Tasmanian households paid, on average, $302 in retail charges but nationally the retail component amounted to less than half that ($132). Tasmania's retail costs are the second highest (behind only the ACT). Moreover, average retail costs paid by Tasmanian households have increased dramatically since 2009/10, almost tripling from $103 annually to $302 in 2020/21. Tasmanian retail costs are significantly higher than those in SA ($188), NSW ($157), Vic ($108) and SE Qld ($65), all jurisdictions with competing retailers. However, they are lower than the ACT ($391).

Whilst the small market size would make it more costly for retailers to serve Tasmanian households, there are other factors that raise concerns about the level and high ranking of retail costs in Tasmania:

- Aurora is a dominant retailer (still with 98 per cent of residential customers) and has opportunities to use its market power or be prone to cost inefficiencies.

[32] Apart from WA, this was the case from 2012/13 until 2015/16, as well as 2012/13 in Victoria, although there was a breakdown provided for 2012/13 in Tasmania.

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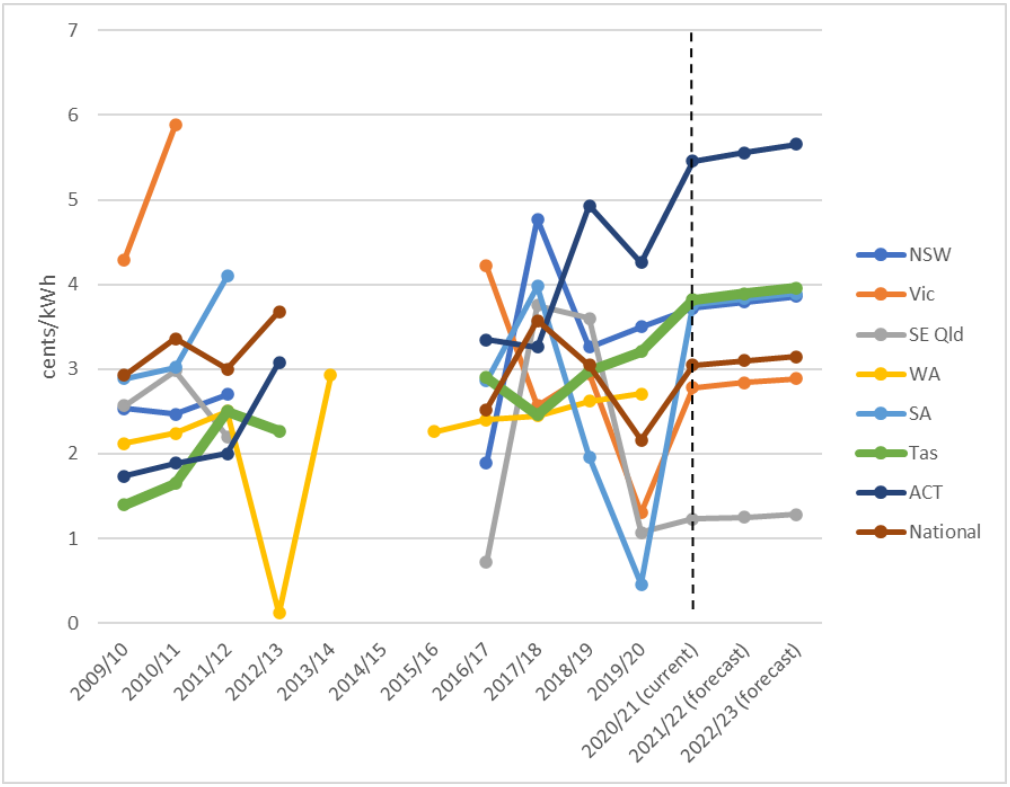
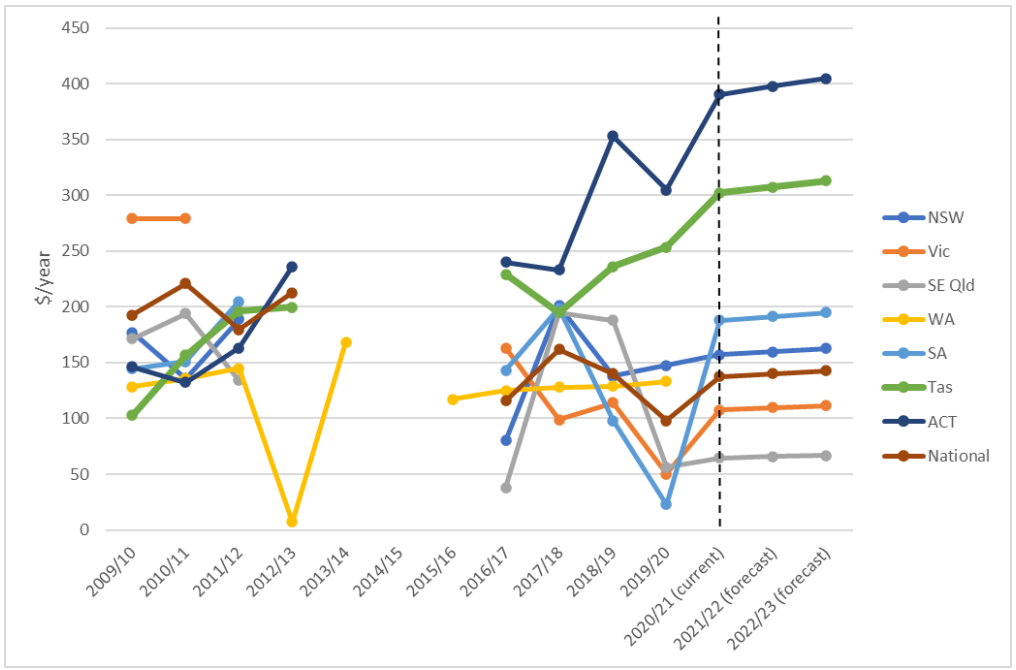
Figure 17: Impact of Retail Costs on Residential Electricity Prices, Tasmania and the Mainland



Source: Goanna Energy from AEMC data

Figure 18: Impact of Retail Costs on Residential Electricity Bills, Tasmania and the Mainland



Source: Goanna Energy from AEMC data

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- Aurora has been provided with a retail margin and a CARC allowance that reflects the conditions it would face if it had to defend its position against strong competitors. This is patently not the case, even with some new entry and, in our view, has added unnecessarily to electricity bills in Tasmania, notwithstanding that OTTER has taken some steps to reduce the level of these costs. The current nascent signs of new entry may force additional competition onto Aurora, although it is still too early to be certain about the success of new entry and TasCOSS should monitor these developments closely.
- Aurora has not always been timely in introducing customer innovations into Tasmania, most likely because it does not have to. For example, delays in the introduction of ToU or other more innovative retail tariffs, few and limited price discounts, limited online customer access and information, and the like. Unless newcomers get a firm foothold in the Tasmanian market this is unlikely to change. Tasmanian energy policy should focus more on this issue.

6.3 COVID19 Electricity Impacts and Support Measures

Some of the restrictions imposed by jurisdictions in response to COVID19 have had impacts on household electricity bills. For example, restrictions on attending workplaces and eating out have forced people to stay at home more and increased their home electricity consumption. The nature of these restrictions and their severity has also varied across jurisdictions and over time.

Energy regulators have also tightened the customer protection requirements on electricity utilities in dealing with COVID19 impacted customers. These cover areas such as financial hardship, dealing with debt, timeframes and disconnection. The national restrictions apply in Tasmania.

Most jurisdictions have provided support to their residents as part of their COVID19 response. This has included support to help alleviate cost of living pressures, including electricity, gas and other utility bills. In Tasmania, the main electricity support mechanism has been through re-affirming the cap on regulated household electricity tariffs that applies until the end of 2020/21. Aurora Energy also established a $5 million Customer Support Fund.

In other jurisdictions assistance has mostly gone further than in Tasmania and included bill rebates and supplementary payments, additional concession payments and regulatory support for customers.

The impacts of these measures have not yet been fully assessed and the analysis remains incomplete, although *prima facie* it seems that Tasmanian residential consumers have received less support than in most other jurisdictions.

We have not separately assessed COVID19 measures in this report but it could be worthwhile subjecting them to a detailed assessment, including how they have impacted households and how they compare across jurisdictions. TasCOSS could consider undertaking such an analysis or supporting a national advocacy effort.

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7 COMPARISON OF RESIDENTIAL ELECTRICITY CONCESSIONS

Electricity concessions are an important way in which the cost of electricity is reduced to vulnerable and disadvantaged consumers. Concessions are provided by all State and Territory Governments as a form of Community Service Obligation (CSO). A variety of concessions are provided covering the following:

- A rebate on electricity bills provided to holders of a Centrelink Pensioner Concession Card, Centrelink Low Income Health Care Card, Veteran's Affairs Pensioner Concession Card or Gold Card Holders, and seniors card holders (in Queensland, WA and NT). This is the main form of assistance provided by States and Territories.
- Various other forms of concessional support are provided by States and Territories covering Medical and Heating concessions, emergency assistance, life support concessions, family energy rebates, supply charge concessions, non-mains energy assistance, controlled load concessions, account establishment rebates, dependent child rebate and an allowance for carers. These vary across jurisdictions.
- The Commonwealth also provides support to recipients of disability pensions, partner allowance and widow allowance through a quarterly Utility Allowance but, as the name implies, this is intended to provide support with the costs of utility bills generally.

Given the importance of these concessions to vulnerable and disadvantaged electricity consumers and therefore to TasCOSS, we undertook an analysis of the main electricity concession in each jurisdiction to determine their impact on electricity bills and how Tasmania's concession compares with the other jurisdictions included in this study.

7.1 VALUE OF MAIN JURISDICTIONAL ELECTRICITY CONCESSIONS

Table 3 below shows the current value of the main electricity concession in each jurisdiction. All concessions are paid as a dollar amount except for Victoria, which applies a set percentage discount to the concession holder's bill.

Table 3: Main Electricity Concession by Jurisdiction

Jurisdiction	Name	Value
NSW	Low Income Household Rebate	Up to $285 pa
Vic	Electricity Concession	17.5% discount
SE Qld	Electricity Rebate	$340.85 pa
WA	Cost of Living Allowance - Energy	$300 pa
SA	Energy Bill Concession	$231.41
Tas	Electricity Concession	$514 pa
ACT	Energy Concession	Up to $542.62 pa

Source: Goanna Energy from published information

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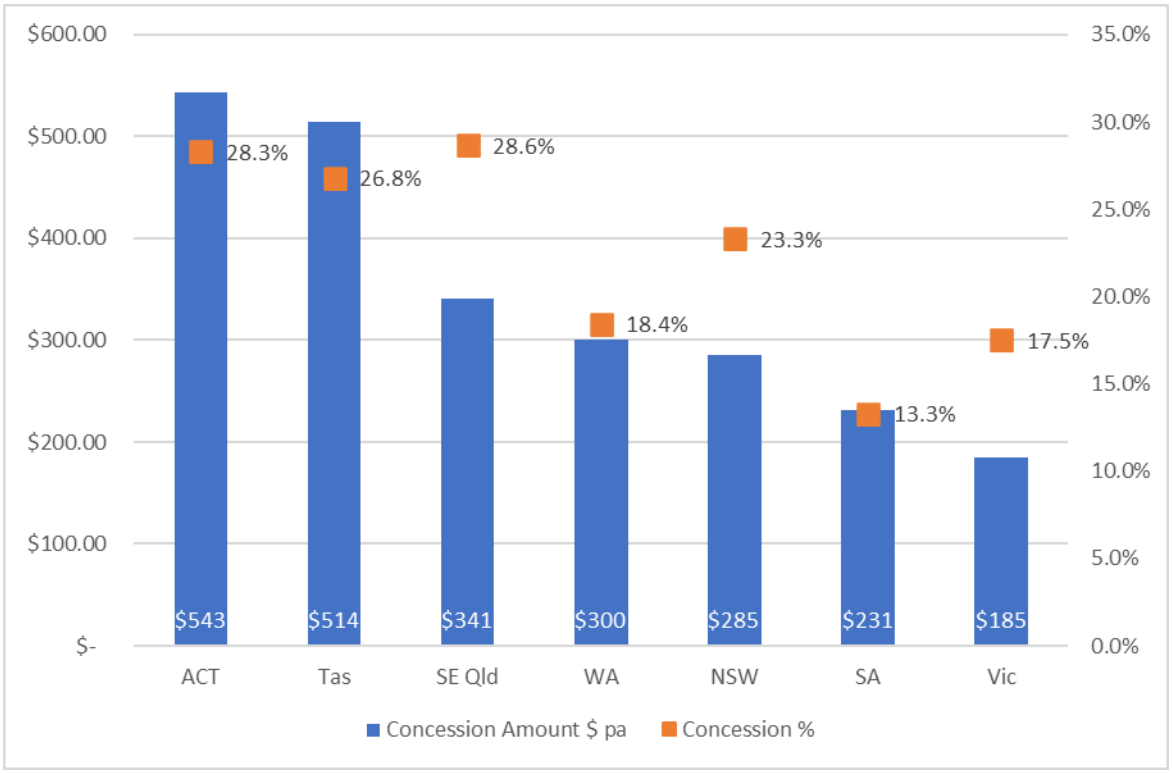
In Figure 19 below, we show the value of the main electricity concession in each jurisdiction in both dollar amounts and expressed as a percentage of an average annual electricity bill for concession holders. This allows comparisons to be made across jurisdictions in terms of both the annual dollar value of the concession and the percentage discount it provides. As can be seen, the value of these concessions varies quite significantly, as do the percentage discounts they provide. In dollar value terms, there is a $358 per annum variation in the concession across jurisdictions. The ACT provides the highest dollar value concession ($543) and Victoria the lowest ($185). Tasmania's electricity concession is the second highest at $514 pa. As a percentage of a typical bill, the variation in the concessions is 15.3 per cent. Qld provides the highest percentage discount (28.3 per cent) and SA the lowest (13.3 per cent). Tasmania's percentage discount off a typical concession holder's bill is the third highest at 26.8 per cent.

Figure 19: Value of Main Electricity Concessions by Jurisdiction, 2020/21



Source: Goanna Energy from AEMC data

7.2 Impact of Main Jurisdictional Concessions on Electricity Bills

We next look across the jurisdictions to consider the impact of these concessions on the annual electricity bills of concession holders, ranked from the highest to the lowest annual bill in Figure 20.[33] We show the typical bill for a concession holder before and after the

[33] It should be noted that we have used annual consumption levels for typical concessions holders that are 21 per cent below those used for non-concession households. This is based on OTTER's *2020 Typical Tasmanian Customer* report, which contained estimates for the annual consumption of both concession and non-concession electricity consumers.

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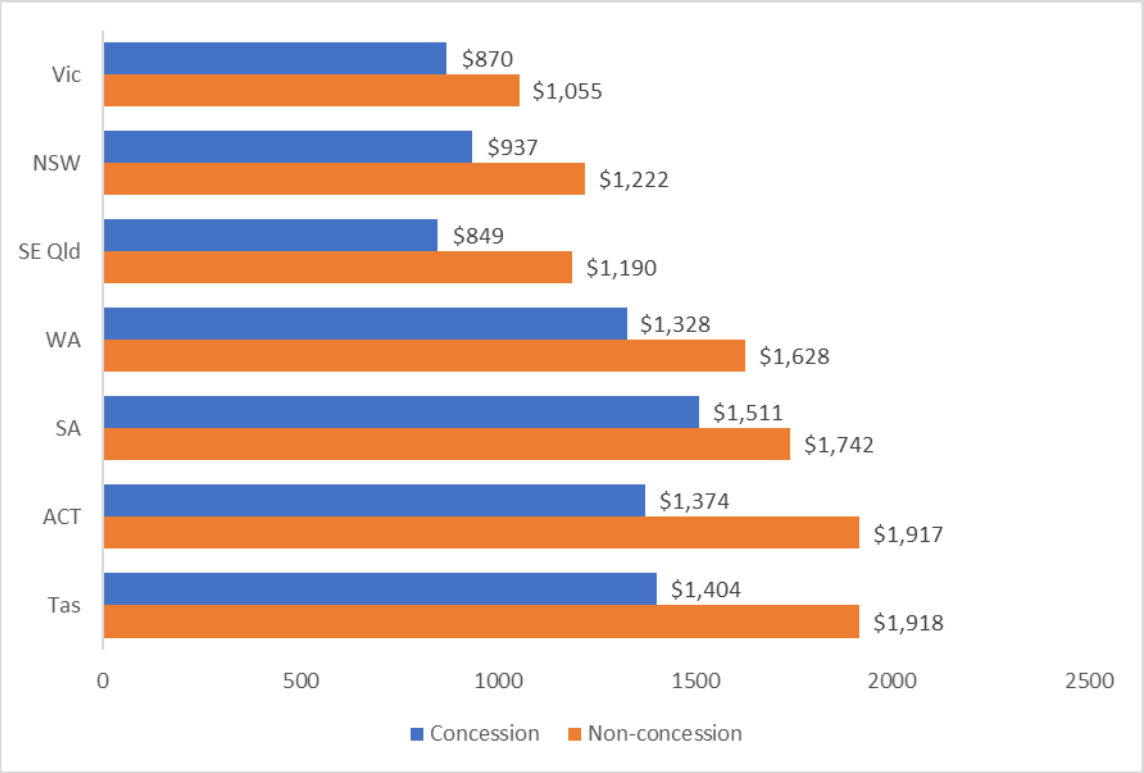
concession has been applied. The value of the concessions has a significant impact in evening up electricity bills across these jurisdictions and those with the highest bill generally also have the largest concessions. The concessions also change some of the jurisdictional rankings compared to a pre-concession bill, with SA moving to the highest annual bills for concession holders and SE Queensland to the lowest. Tasmania ranks as the jurisdiction with the highest bills before the application of the concession and the second highest after concessions are applied, although its relatively high concession results in it closing the gap on all jurisdictions apart from the ACT, which has a higher concession.

Figure 20: Impact of Main Electricity Concessions on Annual Electricity Bills by Jurisdiction, 2020/21



Source: Goanna Energy from AEMC data

7.3 Assessment of the Impact of Concessions

Concessions clearly have a desirable impact in reducing electricity bills for vulnerable and disadvantaged electricity consumers. Without access to these concessions, these consumers would be under more financial stress, be more susceptible to the consequences of such stress and could even face undesirable situations, such as disconnection. The fact that the highest concessions tend to be applied in those jurisdictions with the highest bills adds to the desirable impact they have, as those facing the highest cost of living burden through their electricity bills gain access to the highest concessions. Tasmania's vulnerable electricity consumers are in receipt of one of the highest dollar value and percentage concessions in Australia with a commensurate beneficial impact in lowering their electricity bills, although they remain high.

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Concessions are usually paid as a fixed dollar amount (except in Victoria where they are paid as a fixed percentage of the bill), which adds certainty to concession amounts but as these amounts are fixed they do not change with changes in the bill due to electricity price changes, for example. Of most concern is a scenario where electricity prices increase, but the value of the concession remains unchanged, whereas if paid as a percentage of the bill as in Victoria, the amount of the concession would automatically increase with price increases. On the other hand, the opposite would be the case for bill reductions, though bill increases are probably of more concern to concession holders and more common (based on recent experience).

We note that the type of people who would normally be eligible for concessions, if they lived at home, may live in aged or disability care facilities, or in retirement homes. Because they are not direct electricity customers, these people would not receive the Tasmanian Government's electricity concessions. This issue could be examined in more detail to determine the impacts on would be concession recipients living in such premises and whether providing them with concessions is justified.

It should be noted that our analysis of the impact of electricity concessions has several limitations, including the following:

- We have assessed the effects of the main concessions not all the various other concessions that are available, nor their impact on electricity bills.
- We have not assessed whether the concessions available are adequate in terms of meeting the needs of disadvantaged consumers. For example, just because concessions in some jurisdictions are higher than in others does not mean that they are adequate in meeting the genuine needs of disadvantaged consumers. Furthermore, some aspects of the concessions or some types of vulnerable consumers may not be well catered for by the existing range of concessions.
- We have based our analysis on limited information about the consumption levels and electricity needs of disadvantaged consumers.
- We have not considered the impacts of emerging trends in the electricity market on concession holders, such as renewable energy subsidies, solar tariffs, ToU tariffs, embedded generation, smart meters, web-based applications and the like.

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8 POLICY AND ADVOCACY ISSUES

There are several advocacy issues that TasCOSS could consider pursuing as a result of the price comparison analysis in this report or because they impact on electricity prices for Tasmanian households, including those living with physical, social and economic disadvantage. We discuss these below.

8.1 DO TASMANIAN HOUSEHOLDS ENJOY THE LOWEST ELECTRICITY PRICES IN AUSTRALIA?

As discussed in Section 4.2, the Tasmanian Government has made a commitment to have "the lowest regulated electricity prices in Australia by 2022".

Notably, the Government's commitment is in terms of "regulated" electricity prices. AEMC price trend reports do no separate regulated prices from market ones, so a comparison of regulated prices cannot be made. SVDP only compare annual electricity bills, not prices. Only OTTER show actual prices for regulated and market prices (in June 2020). According to these comparisons, Tasmania does not yet have the lowest regulated prices, although it does have the second lowest regulated tariff.

It is worth pointing out that attaching a commitment to the lowest "regulated" prices is not all that meaningful or helpful to Tasmanian consumers. Regulated prices in other parts of the country, including the recently introduced DMO/VDO prices, are in limited use by consumers, apart from in WA. The DMO/VDO is also a default offer that must be made available, not a regulated tariff of the kind used in Tasmania. A Tasmanian Government commitment based on Tasmania's relative position in terms of market offers would be more meaningful.

Based on the analysis in this report, of the seven jurisdictions we compared, Tasmania has the second lowest electricity prices in 2020/21 and forecasts suggest that it will remain in second position by 2022. However, the gap to top ranking is relatively small and there is still time for Tasmania to establish a leading position, including by acting on wholesale or retail costs.

Based on the current AER determination for TasNetworks, network charge increases of 6.6 per cent are expected in Tasmania from 2020/21 to 2022/23 (with no increase nationally). There is little scope to adjust these unless TasNetworks reduced its revenue (and hence prices) to below the determined amount.

Whilst RET costs are expected to reduce, they will do so in all jurisdictions, they contribute only about 9 per cent to Tasmanian prices and they are market determined. They are therefore expected to have limited impact on retail price relativities.

Market determined wholesale prices are forecast to fall by 10 per cent in Tasmania from 2020/21 to 2022/23, but over the same period they are expected to fall by the same amount in SE Queensland and by 15 per cent in Victoria. To improve on its relative position, the Tasmanian Government (or OTTER) would need to set wholesale prices below these forecasts. Continuing, or strengthening, the link to Victorian prices would help (based on these forecast).

Another lever the Government has is to reduce retail costs by improving the efficiency of Aurora or creating conditions more conducive to new retailers entering Tasmania to compete

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Aurora's costs down. As discussed in Section 6.2.4, there appears to be scope to improve the performance of Aurora and there are currently signs of nascent new entry.

Of course, as the shareholder of the electricity businesses in Tasmania, the Government does have other options it could use. For example, it could reduce its dividend call on the businesses, although this could have other undesirable consequences.

TasCOSS and other small consumer advocates in Tasmania should keep a close eye on how the Government's commitment for Tasmania to have the lowest regulated electricity prices by 2022 is tracking. This should also keep in mind that electricity bills, which are ultimately more visible to household consumers than electricity prices and have more meaning to consumer budgets, are elevated in Tasmania by the high level of electricity consumption. Hence, low electricity prices are even more important to keeping the cost of living down, which the Government has committed to do.

Keeping both the cost of living down and electricity prices affordable will, no doubt, continue to be important to TasCOSS and Tasmanian households after 2022. Therefore, it would be useful for TasCOSS to advocate for this to remain parts of the Government's policies.

It would also be more meaningful for the Government to commit to a future promise that has more relevance to Tasmanian consumers than one linked solely to the lowest regulated prices. TasCOSS should advocate to the Government on this. One option would be to link a future commitment to improving Tasmania's relative position based on a clearly measurable goal, such as relative to the lowest prices in each jurisdiction (not just regulated prices) and also one that recognises that electricity bill comparisons are more meaningful to household consumers than prices. In our view the policy should be based around the aim of Tasmania having the most affordable and competitively-priced electricity in the country.

Given the high level of household electricity bills in Tasmania, TasCOSS could also look towards advocating for measures that improve the energy efficiency of Tasmanian households and help them to reduce their energy bills. Vulnerable and disadvantaged consumers would benefit from such measures given both that electricity bills make up a disproportionate part of their expenditure and they often live in premises that are the least energy efficient. Such advocacy could be directed at the Tasmanian Government[34] and its electricity businesses, especially Aurora and TasNetworks but also engaging with Hydro Tasmania and Entura, its consulting arm.

As mentioned earlier in this report, in many of the other jurisdictions covered in this report there is more significant use of natural gas by households, which helps to keep their electricity consumption lower, whereas Tasmania has a low penetration of natural gas. It would be advantageous for TasCOSS to explore how gas prices and bills in Tasmania compare to elsewhere in the country, whether it would be beneficial to households if gas use increased and to undertake a joint analysis of both electricity and gas prices/bills.

[34] For example, the Tasmanian Energy Efficiency Loans Scheme (TEELS) was a joint initiative delivered by the Tasmanian Government, Aurora Energy and Westpac Banking Corporation, providing Tasmanians households and small businesses with no-interest loans to assist in purchasing eligible energy efficient products. The scheme closed on 30 April 2019. As far as we are aware, nothing has replaced it, whereas most other jurisdictions have energy efficiency initiatives in place.

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8.2 The Residential Electricity Price Cap, Wholesale Price Regulation and Delinking from the NEM

The Tasmanian Government's cap on residential electricity prices helped to keep residential electricity prices in Tasmania lower than they otherwise would have been in 2017/18 and 2018/19. As shown in Section 4.2, this was mainly achieved through the delinking of the wholesale price in OTTER's annual regulated retail price decisions from the Victorian wholesale price, which increased significantly over this period. However, in both 2019/20 and 2020/21 (to date) the opposite has been the case with wholesale costs kept higher than Victorian prices. Whether the impact of the price cap has been beneficial to household consumers to date is therefore somewhat problematic given the mixed outcome for household consumers of wholesale price setting. Taken over the life of the policy, it seems to have benefitted Tasmanian households in its first two years but sharp declines in Victorian wholesale prices since and a muted regulatory response to these prices (especially for 2020/21) has turned this around so that the policy is now costing consumers more than if Victorian wholesale market prices had applied, although with less price volatility, which is also important to residential consumers.

As mentioned in Section 4.2, these policies also raise other issues that are beyond the scope of this study to assess in full.

The current price cap and wholesale price determination arrangements are due to expire on 30 June 2021. The Tasmanian Government has not yet made announcements on whether they will continue or not and, if not, what will replace them. An important input into this decision will likely be the outcome of the Tasmanian Treasury's review of wholesale electricity price regulation, which is yet to be completed. Given their importance to household consumers, TasCOSS should continue to advocate on these matters to the Government and the Treasury. Furthermore, given the importance and complexity of these issues, TasCOSS should consider informing its advocacy through a more detailed examination of these matters. This would help to bolster its advocacy and maximise its impact.

The Tasmanian Government has said that it intends to delink from the NEM. We take this to apply to the wholesale market only and not physical connection to the mainland. When invoked, the Treasurer's WEP Orders based on the prevailing wholesale cost of power in Tasmania effectively delinks Tasmania from the NEM financially. However, it is unknown whether a more permanent delinking is being considered. A more permanent delinking of Tasmania from the NEM wholesale market is a complex issue that needs to be assessed carefully in terms of its impacts on smaller consumers. It would be advantageous for TasCOSS to consider the impacts in detail and use this information to develop a position on delinking to advocate on to the Government and Treasury. Given that some new retail entry into Tasmania has recently taken place, it would be useful for TasCOSS to monitor its development and consider developing a position on this.

8.3 Need for Further Work on Tasmanian Residential Electricity Price Comparisons

The household electricity price comparisons provided in this report have a number of shortcomings. These have been well set out in the report but include the following:

- They are historical, not current, and therefore could be out-of-date to some extent, although they remain useful for advocacy.

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- They are based on an average of the lowest market offer prices in most jurisdictions and based on a typical household consumption level for each jurisdiction. It would be useful if they included other consumption levels, at least high- and low-end levels.
- The AEMC price trend series is not completely contiguous, having breaks brought about by data availability issues and some changes in approach.
- The forecasts provided by the AEMC are based on a model of the electricity market commissioned by the AEMC. We have no reason to doubt this model, but nor have we checked its veracity.
- The AEMC has checked the accuracy of its national forecasts by comparing them to actual outcomes and found a reasonable degree of accuracy but has not done so at the jurisdictional level, which is more important for jurisdictional comparison purposes, a focus of this study.
- The AEMC price trends reports do not separately cover newly emerging tariffs such ToU and Solar. It would be helpful to include them in price comparisons.
- Other available series, including those by the OTTER and SVDP referred to in this study where relevant, also have shortcomings discussed earlier in this report.
- The SVDP study usefully provides some online tools for consumers and advocates to run their own simulations. However, other tools could be developed to allow for improvements in user experience and to allow users to have access to real time prices and to prices that look forward. And means developed to better put disadvantaged consumers in touch with their best price offers.
- The issue of how disadvantaged consumers can best gain access to relevant and timely information to ensure they benefit from access to the best market offers for them has not been addressed in this report

We believe that it would be valuable for TasCOSS to consider undertaking further work that extends this study to areas addressing shortcomings in electricity price comparisons, including matters listed above.

8.4 COVID19 Electricity Measures

All jurisdictions and energy regulators have introduced measures to assist households struggling with their electricity bills due to the impacts of COVID19. The Tasmanian Government main response has been to reaffirm its previous commitment to keep electricity price increases to no more than the Hobart inflation rate. Whilst important, other jurisdictions have gone beyond this and provided additional concessions or other financial help. Tasmania therefore appears to have the least extensive COVID19 electricity consumer assistance measures.

TasCOSS could consider a more detailed assessment of the impact of COVID19 measures on household consumers to assist with advocacy on this.

8.5 Residential Electricity Concession Issues

We have undertaken a limited analysis and comparison of the impacts of the main concessions available to vulnerable and disadvantaged electricity consumers in Tasmania and mainland jurisdictions (except the NT). This has confirmed the importance of concessions to disadvantaged and vulnerable electricity consumers, and that the main Tasmanian concession is the second highest in the country and the third highest expressed

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as a percentage of typical concession holder bills. It significantly reduces the difference between high household bills in Tasmania compared to other jurisdictions This should provide TasCOSS with some useful basic information and inform its advocacy on the impact of the main energy concession in Tasmania.

However, we believe that TasCOSS and its constituents would benefit from further work on energy concessions and their impacts. This could provide valuable information to better inform TasCOSS's advocacy on concessions and electricity prices, as well as help to improve its effectiveness. In Section 7.3, we outlined some of the gaps in our analysis of concessions. We also note that Energy Consumers Australia appears to have had a limited number of grant applications dealing energy concessions, including in Tasmania, with most of dating back some years.

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9 CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

Below, we have set out our conclusions, findings and recommendations from this study.

9.1 ASSESSMENT OF OUR RESULTS AGAINST THE STUDY SCOPE, OBJECTIVES AND OUTCOMES

Turning first to the **study scope**. We were asked to address the following seven matters.

1. ***How should Tasmanian electricity prices be measured and compared with those in other parts of the country to obtain a meaningful and robust price comparison?***

In this study we have compiled a time series on household electricity prices based on AEMC data that provides a reasonable means of comparing Tasmanian prices with those in six other mainland jurisdictions. It also allows price trends to be compared over a period of eleven years and for prices to be decomposed into a price stack comprising wholesale, network, green and retail charges in order to help assess the reasons behind price changes.

We have also compiled a related set of comparisons based on the annual electricity bills of typical households in each jurisdiction, as this is a more meaningful measure to households than prices. The comparative series we have developed is amenable to being updated annually.

We have supplemented our preferred series (AEMC Price Trends) with information from two others (OTTER price comparisons and the SVDP Tariff Tracker). Our comparisons are based on historical not current prices/bills. A real time price comparison would require further development, including a tool that facilitates this.

2. ***Is such a comparison possible using only existing data?***

We have used existing data in our comparisons. This data has some shortcomings (as discussed in Section 3.1 and Appendix A, but it does allow reasonable comparisons to be made.

3. ***What are the differences/benefits of current measures such as Tariff Tracker,* Energy Made Easy*, Energy Compare Victoria, other private comparator sites/tools, AER (*State of Energy Market *reports), AEMC annual price trends reports, OTTER standing offer reports and the like?***

We undertook a detailed assessment of all the publicly available electricity price comparison information and assessed each against a set of criteria that met the objectives of this study and the task of comparing household electricity prices and bills (see Table 1). Based on this, we conclude that the AEMC price trends series best serves our purpose in this study but recognise that this was an 'on balance' decision. However, all the available data has shortcomings and only a dedicated series developed from scratch could overcome these. Gaps include an ability to assess prices in real time, to develop price forecasts and to provide access to a range of analytical tools with which to assess prices and bills. Two Government and at least one private price comparator would be amenable to this, but it would require significant effort.

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4. ***Would Tasmanian consumers receiving the lowest regulated price in the country be better-off than customers on unregulated prices elsewhere in the NEM? Would the outcome of this analysis differ for low income and vulnerable consumers, household consumers in the broad and smaller consumers in general? Are any non-price factors relevant to such an assessment?***

Our comparisons showed that, based on 2020/21 prices, a Tasmanian household with average annual consumption had the second lowest electricity prices (based on market offers) of the seven jurisdictions compared and that Tasmanian prices have consistently been among the lowest in the country since 2014/15.

In terms of household bills, our comparison showed that Tasmania has the highest annual bills in 2020/21, with the relatively high household electricity consumption in Tasmania an important influence. This highlights the need to keep electricity prices low in Tasmanian and to improve energy efficiency.

Our assessment of the main electricity concessions in each jurisdiction, found that Tasmania had the highest value concession and that the concession made a material difference to the electricity bills of concession holders, although Tasmanian electricity bills for concession holders were still the second highest of the seven jurisdictions we compared after application of the concession. As a percentage of a typical concession holder's bill, Tasmania's concession was the third highest.

We were not able to assess non-price factors in this report, but such an assessment of national and jurisdictional policies could provide TasCOSS with additional useful information, e.g., examining consumer protections, the NEM retail rules, consumers' access to information, and non-price issues impacting vulnerable and disadvantaged consumers.

5. ***What do the results of the research say about the Tasmanian Government's current policy of capping residential electricity prices compared to alternative approaches?***

Our results show that the Government's policy of capping residential electricity prices had a significant impact in keeping electricity prices lower than they otherwise would have been in 2017/18 and 2018/19, when Victorian wholesale prices spiked. However, based on Victorian wholesale market prices, electricity prices would have been almost the same in Tasmania in 2019/20 and would have been lower in 2020/21 without the regulation of wholesale prices. Therefore, the policies have had mixed results over the past four years and Tasmanian consumers would have experienced higher electricity prices in some years but lower prices in others without wholesale price regulation, though prices would have been more volatile.

6. ***Is the current approach of using the wholesale cost of power in Tasmania to set the wholesale price in the best interests of household consumers or would consumers be better off with an alternative approach, e.g., using the Victorian wholesale market price?***

As noted in our assessment of Scope number 6 above, delinking wholesale prices in Tasmania from Victorian prices through Ministerial price orders had a desirable impact in keeping electricity prices for Tasmanian consumers down in 2017/18 and 2018/19, has kept electricity prices in Tasmania almost the same in 2019/20 but kept them higher in 2020/21

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than if the Victorian wholesale market price had applied. However, their electricity prices have been more stable under the policy.

7. ***What avenues and processes might TasCOSS have to feed the research findings into the price setting, policy and regulatory processes both in Tasmania and nationally? What gaps might need to be overcome to make TasCOSS advocacy in this regard as credible as possible?***

There are multiple ways in which TasCOSS could use the results of this study in policy and regulatory processes. First and most urgently, it should use them to inform its advocacy on decisions the Tasmanian Government will need to make before 30 June 2021 on the future of the residential electricity price cap, the setting of wholesale prices (including the Treasury wholesale price regulation review) and delinking from the NEM. If the Tasmanian Government reverts to OTTER setting the WEC used in establishing regulated residential electricity prices, OTTER will need to make a new retail price determination and TasCOSS could feed our results into that process, preferably supplemented by a detailed fact-based submission.

More generally, TasCOSS can make use of our report in its regular advocacy to the Tasmanian Government on a range of electricity related issues. The results could also be useful in TasCOSS participation in the next AER regulatory determination for TasNetworks, which begins in October 2021. Advocacy opportunities may also present in the Federal sphere, either directly or in conjunction with other consumer bodies.

We have identified several gaps in knowledge in this study that would be useful to address through additional research and hence to better inform TasCOSS advocacy. These are set out in Section 8 and in our recommendations in Section 9.2.

TasCOSS had three **objectives** for this study. Our report has responded to each of these as outlined below.

a. ***That Tasmanian consumers, the Tasmanian Government and other stakeholders are well-informed of Tasmania's electricity prices relative to the NEM.***

The information contained in this report provides a useful basis to better inform TasCOSS and its main stakeholders about how Tasmanian household electricity prices and bills compare to the rest of the NEM, although the improvements and additional research identified in this report would enhance this.

b. ***That Tasmanian and interstate prices are easily compared using a pricing tool/measure.***

We have provided a convenient, easily accessible and readily updateable comparison of Tasmanian and interstate household electricity prices (and bills). However, a well-developed suite of tools for users to compare prices, assess them in real time and enabling them to access price forecasts would be valuable additions for TasCOSS to consider.

c. ***That energy affordability is improved by influencing the price-setting process.***

We believe that the results of this study provide a useful initial basis for TasCOSS to seek to improve energy affordability through policy and regulatory forums. Importantly, they provide

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a factual basis for highlighting the status of Tasmanian household and concessional electricity prices (and bills,) and how they compare to other jurisdictions. They also support the need to undertake advocacy to help keep electricity prices low for Tasmanian consumers and to lower the energy use of Tasmanian households, including vulnerable consumers.

Our results will assist TasCOSS in meeting the study **outcomes** it set for itself as follows:

- The findings and results are directly relevant to its advocacy on energy affordability, especially those related to high Tasmanian electricity bills and the impact of concessions.
- They relate well to its aim of ensuring that Tasmanian consumers are paying the lowest possible electricity prices by providing factual information about Tasmanian prices and how they compare to other Australian jurisdictions. They also highlight that high electricity bills are more important than low prices, especially to household and vulnerable consumers. Indeed, prices and bills are closely related.
- The results of the study provide an evidence-base for TasCOSS to influence government, decision-makers and key stakeholders about household electricity prices and bills in Tasmania and how they compare to elsewhere in the country.
- The results can provide valuable support to TasCOSS in its advocacy on:
    - the review process for the setting of electricity prices post the removal of the price cap in 2021;
    - consultations with the community services sector;
    - submissions to government; and
    - engagement with the Tasmanian Government, Department of Treasury and Finance, and the Tasmanian energy businesses.

9.2 RECOMMENDATIONS

Based on our results and findings, we make the following recommendations for TasCOSS to consider:

1. TasCOSS and other smaller consumer advocates in Tasmania should closely monitor how the Government's commitment for Tasmania to have the lowest regulated electricity prices by 2022 is tracking and advocate for its delivery.
2. TasCOSS should advocate for affordable electricity prices and lowering the cost of living to remain planks of Government policy, supported by a range of policies linked to this, including ones that facilitate a more competitive electricity market and ensure that new entry is stimulated. In our view the policy should be based around the aim of Tasmania having the most affordable and competitively-priced electricity in the country.
3. TasCOSS should advocate for the Government to commit to a future promise that has more relevance to Tasmanian consumers than one linked to the lowest regulated electricity prices, e.g., a future commitment linked to improving Tasmania's relative position in terms of the lowest market (not just regulated) household electricity prices and one that includes electricity bill comparisons (not just prices), which are more meaningful than prices to household consumers.
4. Bearing in mind Recommendation 3 and the results of this study, TasCOSS could consider advocating to the Tasmanian Government and its energy businesses to support improvements in the efficiency of energy use in Tasmanian households,

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including disadvantaged consumers. Its advocacy would be better informed if it were supported by work that assessed the current situation, how improvements could be made cost effectively and how Tasmania's approach compares to other jurisdictions.

5. It would be advantageous for TasCOSS to explore how gas prices and bills in Tasmania compare to elsewhere in the country, whether it would be beneficial if gas use increased in Tasmania and to undertake a joint analysis of both electricity and gas bills.
6. TasCOSS should continue to advocate to the Government and Treasury on the future of the residential price cap, the future of wholesale price regulation, the possibility of Tasmania delinking from the NEM wholesale market and the development of policies that encourage greater competition in Tasmania (including facilitating new retail entry).
7. TasCOSS should include in its future advocacy a more detailed and updated examination of the impact of electricity prices/bills on household and disadvantaged consumers in Tasmania.
8. TasCOSS should consider undertaking further work that extends this study to areas overcoming existing shortcomings in electricity price comparisons, including the inclusion of real time and forecast prices, the inclusion of ToU and solar tariffs, extending the analysis to include additional electricity consumption levels (e.g., high, low and disadvantaged consumers) and the development of tools that would allow consumers and their advocates to quickly and accurately analysis electricity prices and bills. We believe that it would be beneficial to include the needs of disadvantaged consumers in this work.
9. TasCOSS and/or its fellow consumer advocates should undertake further work on energy concessions and their impacts, including assessing all concessions, extending the work to gas concessions and gaining a deeper understanding of the adequacy of energy concessions in terms of their levels, their breadth, how well they are structured and how well they meet the needs of disadvantaged consumers.
10. TasCOSS could consider a more detailed assessment of the impact of COVID19 measures on household and disadvantaged consumers to assist with advocacy on this, bearing in mind that the Tasmanian Government's COVID19 response has been more limited than that of other jurisdictions.
11. As shown in this report and bearing in mind the importance of network charges in household bills and the high retail costs in the electricity bills of Tasmanian households, TasCOSS should advocate on these matters, including through the next AER regulatory determination for TasNetworks beginning in October 2021.
12. TasCOSS could undertake (or support at the national level) an examination of national and jurisdictional non-price factors that impact residential consumers, including consumer protections, the NEM retail rules, issues pertaining to consumer information, and non-price issues impacting vulnerable and disadvantaged consumers. A cross-jurisdictional comparison should form part of such an analysis.

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Appendix A. Available Measures of Australian Electricity Prices

There are numerous series available whereby Australian residential electricity prices and annual electricity bills can be measured and compared across different jurisdictions. Other available approaches would allow a measure of comparative electricity prices and bills for households to be constructed. We assess five series and two approaches in this Appendix in terms of their ability to undertake our task and satisfy the scope of this project as far as possible.

AEMC Electricity Price Trends Report

The AEMC has been publishing annual residential electricity price trends reports since 2010. This provides access to a reasonably consistently comparison of actual prices (and annual electricity bills) covering the period 2009/10 to 2020/21. The AEMC's comparisons have been produced on a reasonably consistent basis over time. The main changes that have occurred in the series over time do not prevent its use as a handy and reasonably robust time series of residential electricity prices.[35]

In this report we have used the AEMC's 2020/21 (current year) results as the end point for our historical time series comparisons, even though results for 2020/21 are based on expected rather than actual outcomes for that year. Actual outcomes end in 2019/20.

The AEMC also provide a comparison of expected trends in prices for two years into the future, the only series to do this.

Where market offers are available, the prices used for each jurisdiction are the average of the lowest representative offer from each retailer. Prices are expressed exclusive of GST. Market offer prices are drawn from the AER's *EnergyMadeEasy* website for NSW, SE Queensland, SA and Tasmania, and the *Energy Compare* website for Victoria. Regulated DMO prices in NSW, SE Queensland and SA and VDO prices are also used, although these are not assessed separately. Earlier reports used regulated standing offers gradually supplemented by a mixture of market offers and standing offers drawn from various sources, such as retailers and the Victorian ESC's comparator website. Regulated standing offer prices in WA and Tasmania are provided by the WA Government and OTTER, respectively. In jurisdictions with more than one electricity distributor (NSW and Victoria) the market offers for each distributor are weighted by retail customer numbers. The national results are then determined by weighting the jurisdictional price and bill outcomes by the number of consumers in each state or territory. The AEMC's is the only series with national prices/bills.

Residential electricity bills are calculated by multiplying the consumption of the representative consumer in each jurisdiction by the price they pay for electricity (as determined above). The representative consumer's consumption is based on the most

[35] The main changes that have occurred over time reflect matters such as the initial inclusion of a retail component and its subsequent treatment as a 'residual' component (from 2016/17), policy and regulatory changes (e.g., the introduction and subsequent abolition of the carbon tax and some State environmental measures, such as the Queensland Gas Scheme) and a change in the modelling of wholesale electricity costs from 2018 (to more realistically reflect changes in the way retailers hedge their positions given emerging uncertainty about reliability in the NEM).

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common annual consumption profile of consumers in each jurisdiction (using either AER consumer survey data for NSW, Victoria, Queensland and Tasmania, or a quantity provided by the jurisdictional government for WA and SA).[36] A separate level of consumption is therefore used for each jurisdiction, reflecting factors such as different local climates, access to substitute fuels such as natural gas, local energy policies and the like. Changes in energy consumption levels over the time covered are to be expected and reflect changes in consumption patterns, price changes, energy efficiency improvements and the increase in solar installations. However, there have been some significant year-on-year changes in average jurisdictional electricity consumption that are not well explained and the provision of consumption data by the WA and SA governments, rather than through an independent survey, could also be questioned. Appendix B discusses consumption issues in more detail.

The AEMC's comparisons include a breakdown of supply chain costs, namely, wholesale, network (typically broken down into transmission and distribution), environmental (broken down into schemes applying in each State/Territory and federally), and a residual/retail component (for NEM jurisdictions the summation of the other supply change components is subtracted from the total price/bill and for WA a direct retail component is added).. Whilst it would be preferable to directly determine the NEM retail component, the workings of the NEM and the vertically integration common to all the main retailers, make this difficult (especially for unregulated market offers). In practice the residual component would typically comprise retail costs and any residual errors.

Wholesale costs comprise wholesale electricity purchase costs, network losses, ancillary services and market fees. To determine wholesale costs a price path is first determined using market modelling, a hedging portfolio is established next and finally wholesale purchase costs are determined for each distribution network. The process is described in more detail in the AEMC's 2020 price trends report.[37]

Network costs are estimated using Annual Pricing Proposals produced by the distribution businesses before each new financial year (or calendar year for Victoria). Where the period covered involves a redetermination of network charges, the most up-to-date information available is used (e.g., a network businesses' pricing proposal or an AER draft determination).

Environmental costs are calculated using information provided by the CER and jurisdictional data. Federally, the LRET cost is the product of the price of Large Generation Certificates (LGCs) times the Renewable Power Percentage; whilst the SRES cost is the Small-scale Technology Certificate (STC) price times the Small-scale Technology percentage.

The residual component, or retail cost proxy, is simply the total price minus the wholesale, network and environmental components as calculated, except for WA (as explained above).

Importantly. the AEMC's identification of changes in energy supply chain cost components show how these are driving residential electricity prices and bills for each jurisdiction and nationally. The reports therefore help to focus attention on key sectoral issues, allowing consumer advocates to target areas of the supply chain that are contributing to price pressures. The AEMC's approach in this regard involves primary research and official data.

[36] Before the AER survey became available in 2017, each jurisdiction provided a consumption level.
[37] AEMC, *Residential Electricity Price Trends 2020*, Final Report, 21 December 2020, Section 3.3, pp. 27-30 at https://www.aemc.gov.au/market-reviews-advice/residential-electricity-price-trends-2020.

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It is the most comprehensive available and of benefit to advocacy. It is far more powerful to be able to say not only that prices are going up, but also point to where they are going up.

The AEMC approach does not include Time-of-Use tariffs or Solar tariffs.[38]

The AEMC point out that:

> *"Given this methodology, it is important to recognise that the pricing and billing outcomes do not constitute specific pricing and billing forecasts, and that the results may not reflect the actual prices and bills that consumers pay. Actual price movements will be influenced by how retailers compete, the dynamics of the wholesale spot and contract markets, the outcome of network regulatory decisions, and changes in policy and legislation. However, the results do reflect movements in the underlying costs of service provision and are a guide to pricing and bill directions based on current expectations, policy and legislation."*[39]

The 2019 and 2020 reports also provide a 'look back' at how expected future trends from past reports dating back to 2014/15 compare with actual historical prices, together with the major factors that caused them to diverge, although this is only done for national prices, not the individual jurisdictional ones. This provides some useful information on the AEMC's record in forecasting near term future price trends. The results show that:

- In most cases the direction of the change was accurately predicted.
- Accuracy was highest in forecasting the total retail electricity price and network charges (which are regulated).
- Accuracy diminished, but was still reasonable, for the wholesale and environmental components, which are more subject to uncertain market and policy influences.

As the AEMC's reports are published annually and around six months after the end of the financial year to which they relate, they are historical and may not reflect current prices. They are also not amenable to dynamic or real time assessment. This limits their value for up-to-date advocacy and use by consumers as a tool for price comparisons. In a dynamic market characterised by many and frequent price changes, this is a potentially important drawback.

To date, the AEMC has only made publicly available its workbooks (jurisdictionally based in recent years) and has not provided any other tools that would allow consumers or advocates to easily undertake their own price analysis or comparisons. It would be useful if they extended their data provision and access to online tools in future, allowing advocates to access and analyse the results more readily.

SVDP Tariff Tracker

SVDP, in conjunction with Alviss Consulting, has been tracking changes to residential energy tariffs and reporting on household impacts since 2010. Initially the Tariff-Tracking

[38] It does, however, include an estimate of how much solar subsidies such as the Small Renewable Energy Scheme (SRES) and State based solar feed-in-tariffs (FiT) add to the price of electricity and annual electricity bills.
[39] AEMC, *Residential electricity price trends 2020, Final report*, 21 December 2020, p. 1 at https://www.aemc.gov.au/market-reviews-advice/residential-electricity-price-trends-2020.

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project only covered Victoria but subsequently expanded to include NSW, Queensland, SA, Tasmania and the ACT.

Annual bills are calculated as the average electricity bill for each network area, based on the average electricity offers available as of July each year (for households using 6,000 kWh per annum, on a single rate tariff, include GST and they exclude any additional discounts). Bill calculations are based on average market offers or regulated/standing offers. Historically, the comparisons for Vic (2009), NSW (2009, 2010), SA (2009-2011), Qld (2009-2011), ACT (2009-2012), Tas (2009-2018), NT (2009-current) and WA (2009-current) used regulated tariffs. With the introduction of the DMO and VDO, the 2019 and 2020 reports also analysed the impact of these on bills (the only report to have done so to date). The use of average market offers means that the Tariff Tracker does not compare the lowest bills available in each jurisdiction.

The Tariff Tracker also provides information based on an electricity bill-stack that includes all key components of electricity bills, that is, wholesale, network, green schemes and retail costs. It includes a specific retail component, although using the AEMC's approach, so that it is a residual after all other components have been accounted for. It is worth also stating that the wholesale and green scheme costs included in the Tariff Tracker also make use of the AEMC's numbers.

The Tariff Tracker does not include electricity price information but relies on annual bills.

Solar offers have also been included for the past four years, allowing a comparison of these to be made across jurisdictions and over time. Tariff Tracker is the only series to include solar prices.

The Tariff Tracker has developed five workbooks for each of the NEM jurisdictions. The workbooks allow the user to enter consumption levels and analyse household bills for standing or regulated electricity and gas offers, as well as published electricity and gas market offers.

It is also accompanied by several web-based applications including:

- A 10-year summary of results by jurisdiction.
- The workbooks allow for the jurisdictional comparisons and comparisons of solar offers (limited to 1.5 and 3 kW systems)

As the SVDP Tariff Tracker is published annually and around six months after the end of the financial year to which it relates, the prices are historical and not current. It is therefore not amenable to dynamic or real time price assessment. This limits its value for up-to-date advocacy and its use by consumers as a tool for price comparisons. In a dynamic market characterised by many and frequent price changes this is a potentially important drawback.

OTTER Price Comparisons

OTTER have reported biannually on how Tasmanian regulated residential (and small business) electricity and gas tariffs compare with standing offer (regulated) tariffs in all mainland jurisdictions since February 2008. Consumer advocates have pointed out that standing offer comparisons are limited as they do not account for the fact that, small consumers in the NEM (outside Tasmania and regional Queensland) have access to

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competitive electricity and gas retail markets with a range of market offers they can choose from. These have hitherto not been included in the OTTER reports, which we consider to be a significant limitation in their comparisons.

OTTER's September 2020 report extends, for the first time, to include a comparison of Tasmanian standing offers with market offers (as well as standing offers) available in other jurisdictions. This is a welcome extension of OTTER's reporting and provides Tasmania's small consumers and their advocates with important additional price comparison information. In particular, it allows small Tasmanian consumers to see whether the competitive electricity retail market in other jurisdictions delivers lower prices and bills compared to Tasmania's regulated tariffs. However, as there is only one report that currently includes market offers, there is no means yet of comparing how Tasmania's relative position has changed over time.

For residential consumers, OTTER compare the general use tariff (Tariff 31) and controlled load tariff (Tariff 41), as well as the residential time-of-use (ToU) tariff (Tariff 93) to "similar tariffs" offered on the mainland. However, it is not clear why the limited regulated tariffs used in Tasmania has restricted the choice of mainland tariffs to compare with Tasmania's and whether this has had any impact on the comparisons. This could potentially paint a skewed picture of Tasmanian electricity bills. We note that the comparisons produced by AEMC and SVDP include all publicly available market offers.

Using these tariffs, comparisons are undertaken for prices and annual bills. A total of 277 tariffs were included in OTTER's comparisons, split across all the electricity distributors operating in each jurisdiction. Comparisons are provided for concession and non-concession customers, the OTTER series being the only one to include comparisons for concession customers.

The jurisdictional comparisons of annual bills are shown across a consumption range of zero up to 10,000 kWh in addition to the level of typical annual Tasmanian household consumption (i.e., 8,422 kWh for non-concession customers[40] and 6,688 kWh for concession customers). The price comparisons are shown as a daily fixed charge and variable energy use charge. This is done for general use/controlled load tariffs and for ToU tariffs. Whilst the separate daily and consumption-based charge comparisons reflect the reality of electricity tariffs, this complicates the comparisons and makes their interpretation more complex.

Consumption splits for each distributor were taken from regulator data for each distribution area, except for WA and regional Queensland, where the average for all the other distributors was used. For ToU tariffs, average hourly data was used and applied to the peak, off-peak and shoulder time periods for each distributor.

Total annual consumption figures to apply across the distributors are taken from Tasmanian estimates used in OTTER's Typical Customers 2020 Report.[41] This provides for a normalisation of consumption across all the jurisdictions using the Tasmanian average. The approach of adopting a single consumption number (one for concessional and one for non-

[40] It should be noted that this is around 500 kWh higher than that used in the AEMC's reports.
[41] OTTER, *Typical Electricity Customers in Tasmania, 2020* at https://www.economicregulator.tas.gov.au/Documents/Typical%20Electricity%20Customers%20in%20Tasmania%20-%202020.PDF

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concessional customers) across jurisdictions and distributors is similar to the approach used by SVDP, but differs from the AEMC.

This allows a total annual bill for customers to be estimated for each tariff in the sample.

For ToU tariffs, the same total annual usage is used for concession and non-concession customers due to insufficient data being available to allow a separation at this point in time. ToU tariffs are relatively new to Tasmania and still lightly used). The report does not discuss the potential impacts that this might have on the comparisons for concession customers, but we note that concession customers are likely to have lower consumption levels.

For each customer group and jurisdiction, tariffs were ranked in order with the "representative tariff" identified as the one with the median annual bill (that is, the one in the middle of the sample with an equal number of bills above and below it). Whilst being acceptable, this approach raises some issues. The median annual bill is the one that is in the middle. It is not the lowest bill or tariff. It therefore provides a limited means of comparing how Tasmanian prices compare to the rest of Australia, given that the lowest market offers provide the lowest price. The report could have more fully compared Tasmanian tariffs with the lowest market offers (an Appendix to the report does show the range of annual bills from highest to lowest in chart form but does not discuss these in any detail), as such a comparison could be more relevant to determining how low Tasmanian residential electricity prices are relative to the mainland.

The report mentions a series of differences across jurisdictions that could impact the comparisons: some tariffs have stepped energy prices associated with consumption thresholds and these vary; for ToU tariffs, the hours applicable to peak and off-peak rates can vary; some also include a shoulder period and weekend rates; for controlled load, rules on what types of appliances can use these tariffs vary; and some mainland tariffs specify the hours these tariffs can be used, whereas in Tasmania they are anytime use.

The September 2020 report compares tariffs across jurisdictions but does not provide results for individual distribution areas.

Moreover, the use of general and controlled load tariffs varies with Tasmania generally having a greater share of controlled load consumption, which tends to lower annual bills (other things being equal).

Finally, the usage of electricity by households varies across jurisdictions, with Tasmania having a higher usage due to its colder climate and limited access to natural gas. This is accounted for by adopting uniform consumption numbers for households (as explained above). Whilst this normalises the comparisons, it does so at the cost of not accounting for the impact on bills of differences in consumption across jurisdictions.

As OTTER's reports are published biannually and around six months after the end of the period to which they relate, they report historical and not current prices. They are also not amenable to dynamic or real time assessment. This limits their value for up-to-date advocacy and use by consumers as a tool for price comparisons. In a dynamic market characterised by many and frequent price changes, this is a potentially important issue.

OTTER has not made generally available its workbooks or provided information that would allow consumers or advocates to undertake their own price analysis or comparisons. It would be useful if it did so in future.

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AER Retail Electricity Price Comparisons

The AER has published its annual *State of the Energy Market* Report each year since 2007. This includes some information on recent changes in electricity prices for each NEM jurisdiction by distribution area. It also shows estimated annual customer bills by distribution area. There are no jurisdictional total comparisons, nor are price comparisons provided.

The AER estimates are based on generally available offers for residential customers on a 'single rate' tariff structure. Annual bills and price changes are based on median market and standing offers at June 2018, June 2019 and January 2020, using average consumption in each jurisdiction: NSW 5,881 kWh, Queensland 5,699 kWh, Victoria 4,589 kWh; South Australia 4,752 kWh and ACT 6,545 kWh. Market offer prices include all conditional discounts.

The AER's information is published annually and at least six months after the end of the period to which they relate. As such, they are historical and not current prices and not amenable to dynamic or real time use. This limits their value for up-to-date advocacy and use by consumers as a tool for price comparisons. In a dynamic market characterised by many and frequent price changes this is a potentially important issue.

The AER's comparisons are not as useful for our purposes as the three series previously discussed.

ABS Electricity Price Index

The ABS publish an index of electricity prices which forms part of the CPI. The index relates to residential electricity costs which form part of the CPI basket of commodities. Being an index, it does not show actual prices paid or annual electricity bills. As the index forms part of the CPI, it relates to capital city prices and does not include regional prices. The ABS electricity index has been published since the 1970s.

The ABS series is published quarterly about one month after the end of each quarter. This makes it more up-to-date than the other series discussed above, although still not amenable to dynamic or real time use. This limits its value for up-to-date advocacy and use by consumers as a tool for price comparisons. In a dynamic market characterised by many and frequent price changes this remains a drawback.

Government Website Comparators

The AER has a retail electricity price comparator web site *Energy Made Easy* that covers New South Wales (NSW), Queensland (Qld), South Australia (SA) and Tasmania, whilst the Victorian Government has a separate site called *Energy Compare*. WA's residential electricity prices are regulated. Hence, it does not have a website comparator.

Energy Made Easy and *Energy Compare* provide users with access to all published electricity market offers, DMOs and VDOs offered by retailers in the jurisdictions they cover.[42] This includes single rate, multiple rate, controlled load, ToU and Solar tariffs. It is relatively simple to log on, enter details and obtain a comparison of existing offers in real

[42] It should be noted that some retailers do not publish all their offers and may have better than published offers available through direct contact or privately negotiated with third parties.

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time. However, obtaining the sort of information needed for comprehensive price comparisons across multiple jurisdictions, whilst valuable, would require extensive effort.

Private Website Comparators

As mentioned above, there are various privately operated comparator websites that can be used to compare available offers for all States in real time. However, they often operate based on agreements with certain retailers (commission or otherwise incentive based) and offers are limited to these retailers. This does not mean that the sites are not useful, merely that users should be aware of their limitations. This limitation is a drawback in terms of obtaining meaningful and robust comparisons of residential electricity prices.

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Appendix B. Electricity Consumption Estimates Used in This Report

As explained in the main body of this report, in this study we have relied on average annual household electricity consumption estimates used in the AEMC's annual Electricity Price Trends reports. These are sourced by the AEMC from the AER's annual survey of electricity customers, except for WA and SA, which are provided by the jurisdictional governments. Table B 1 below shows the estimates used in each AEMC report.

Table B 1: Electricity Consumption Estimates

Report	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	kWh pa	kWh pa	kWh pa	kWh pa	kWh pa	kWh pa	kWh pa	kWh pa	kWh pa	kWh pa	kWh pa
NSW	7,000	5,500	7,000	6,500	6,500	5,936	5,936	4,215	4,215	4,215	4,215
SE Qld	7,000	6,500	5,370	5,370	4,533	5,173	5,173	5,240	5,240	5,240	5,240
ACT	8,420	7,000	8,162	7,670	7,180	7,312	7,312	7,151	7,151	7,151	7,151
Vic	6,500	4,750	5,000	4,645	4,645	4,026	4,026	3,865	3,865	3,865	3,865
SA	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Tas	7,362	9,500	7,841	8,800	7,627	8,550	8,550	7,908	7,908	7,908	7,908
WA	6,067	6,067	5,801	5,841	5,747	5,229	5,198	5,198	5,198	4,904	4,904
National	6,577	6,204	5,985	5,780	5,578	5,353	5,350	4,720	4,720	4,697	4,697

Source: AEMC, *Electricity Price Trends Reports*, various years
Note: National estimates are calculated as a weighted average of the jurisdictional consumption estimates.

The application of annual average household consumption numbers for each jurisdiction has a material impact on the electricity prices and annual bills used in this report. Therefore, it is worth noting the following in relation to the AEMC's electricity consumption numbers, which could impact the comparisons made in this report:

- Electricity consumption varies significantly across jurisdictions and this impacts annual bills. A jurisdiction which has a high level of annual electricity consumption will have higher bills than one that does not (all other things being equal). Tasmania has a relatively high level of annual electricity consumption and this alone will increase annual bills. Of course, prices also vary across jurisdictions, which also materially impacts bills.
- Household electricity consumption across Australian jurisdictions has come down over time, reflecting factors such as a consumer response to higher electricity prices and greater energy efficiency. Of course, this is offset to some extent by factors such as population growth and economic growth, which tend to increase overall electricity consumption and may also influence average levels of consumption (e.g., higher standards of living may increase average consumption but could also allow

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consumers to improve their energy efficiency. The falling trend in average household electricity consumption can be seen in most jurisdictions in Table B 1. However, Tasmania is an exception to this trend with electricity consumption increasing over the period shown.

- There are some large abrupt annual changes shown in some of the jurisdictions, which would not be expected. These are highlighted in Table B 1. These are too large to explain by way of normal influences and may be due to issues with the data provided. These abrupt changes would have had an impact on the point-in-time annual electricity bills shown in this report and they should be interpreted with caution. However, they are unlikely to have impacted most of the annual estimates. Tasmania is a case in point, with some large jumps in household electricity consumption shown, quickly followed by abrupt falls to more normal levels. Annual jurisdictional consumption levels have been more stable across the jurisdictions since the AEMC's 2017 report likely providing more robust and stable estimates.
- SA average annual household electricity consumption, which is provided by the State Government, remains static across the entire period. This is a highly unlikely scenario and has probably impacted, to some extent, the SA results. SA consumption is likely to have reduced over time, as it has in other jurisdictions. If this is so, the annual bills for SA shown in this report would be higher as a result.
- The AER's last survey took place in 2017 and the AEMC continues to make use of its results in its reports. Some changes in average household electricity consumption would almost certainly have taken place since then. The AER updated its estimates in 2020, but these were too late to be included in the AEMC's 2020 report.

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