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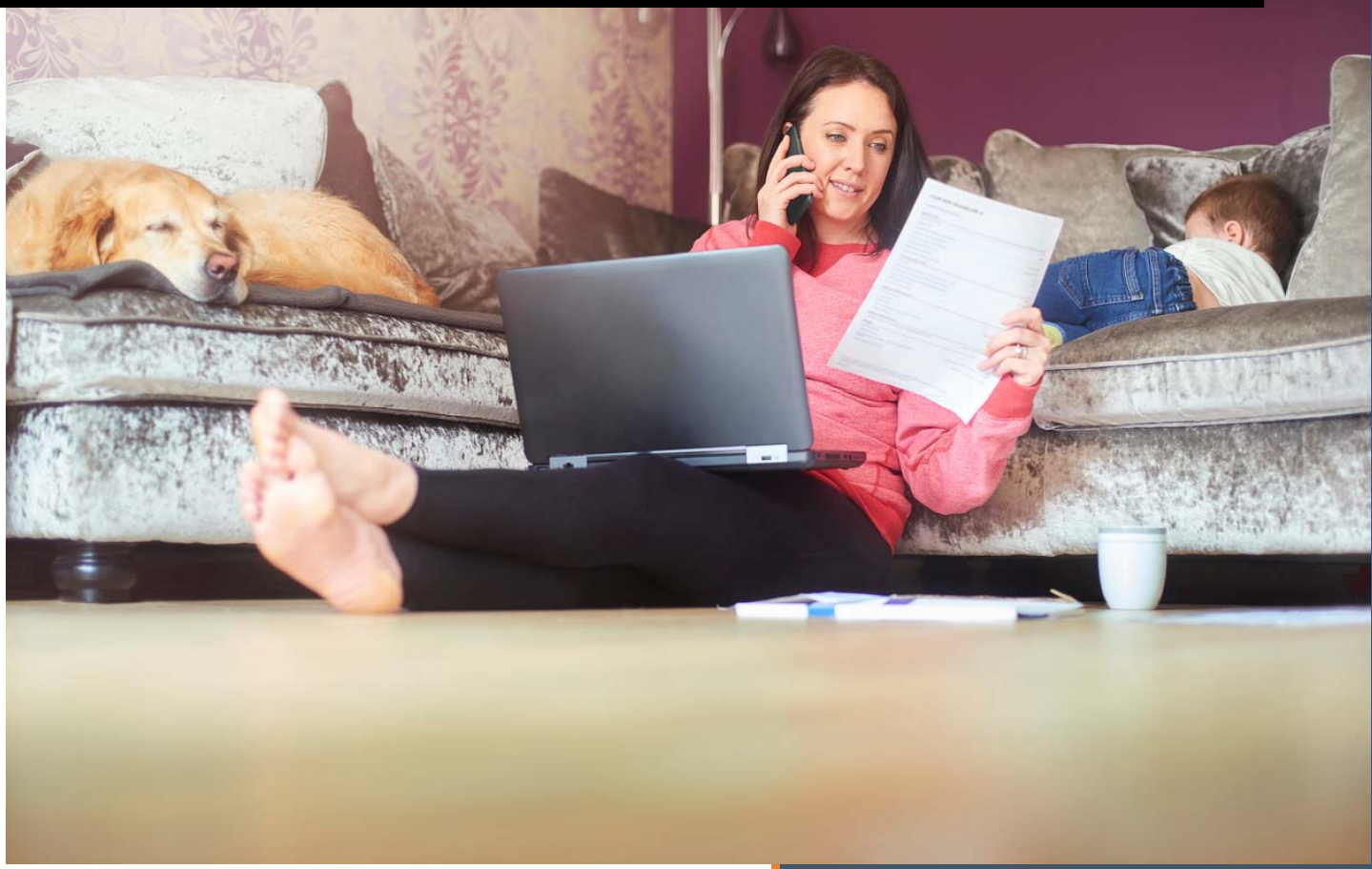
Brotherhood of St Laurence
Working for an Australia free of poverty

Affordable, clean energy for people on low incomes



January 2019

About the Australian Council of Social Service (ACOSS)

ACOSS is a national voice for the needs of people experiencing poverty, disadvantage and inequality; and the peak body for the community services and welfare sector. Our vision is for a fair, inclusive and sustainable Australia where all individuals and communities can participate in and benefit from social and economic life.

ACOSS leads and supports initiatives within the community services and welfare sector and acts as an independent non-party political voice. By drawing on the direct experiences of people affected by poverty and inequality and the expertise of its diverse member base, ACOSS develops and promotes socially and economically responsible public policy and action by government, community and business.

About the Brotherhood of St Laurence (BSL)

The Brotherhood of St Laurence is an independent non-government organisation with strong community links that has been working to reduce poverty in Australia since the 1930s. Based in Melbourne, but with a national profile, the BSL continues to fight for an Australia free of poverty. We undertake research, service development and delivery, and advocacy with the objective of addressing unmet needs and translating the understandings gained into new policies, new programs and practices for implementation by government and others. The BSL's Energy, Equity and Climate Change program has been undertaking research, advocating for equitable policies and delivering programs to low-income households since 2007.

The modelling for this report was provided by Associate Professor Ben Phillips, ANU, Centre for Social Research and Methods.

ACOSS and BSL would like to thank the Department of the Environment and Energy for providing us with the energy efficiency costings and savings used in the modelling for this project. Provision of the data does not constitute an endorsement of any policies advocated in this document.

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ACOSS and the Brotherhood of St Laurence (BSL) take responsibility for final views and recommendations.

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KEY MESSAGES

- People on low incomes are more vulnerable to climate change impacts and a poorly managed transition to a clean economy.
- Energy prices have risen significantly in the last decade and low-income households are hardest hit.
- An emissions trading scheme can help reduce energy prices but low-income households will still pay disproportionately more.
- Measures to reduce the size of energy bills and improve people's capacity to pay are needed.
- Investment in energy efficiency could provide annual savings from $289 for apartments to $1,139 for houses. It could reduce energy expenditure as a percentage share of income for lowest-income households from the current 6.4% to 4.1%.
- A fair regulated retail price could save $261 to $436 per annum for 37-60% of households and reduce energy expenditure as a percentage share of income for lowest-income households from the current 7.6% to 6.1%.
- Increasing Newstart by $75 a week would reduce energy expenditure as a percentage share of income for Newstart households from the current 6.3% to 5.6%, a $110 increase would reduce it to 5.3%.
- A shift to percentage-based concessions improves equity, responsiveness to change in energy bills, and provides greater support to couple and single parent families.
- A faster transition to clean energy is desirable and achievable with targeted affordability measures.

EXECUTIVE SUMMARY

This report is the final in our series on improving support for low-income households through the transition to clean energy. It models a number of policy solutions that would reduce the amount that people on low incomes spend on energy, in order to reduce their energy stress and support a faster transition to clean energy.

The results clearly show that measures focused on reducing the size of energy bills (investment in energy efficiency in homes and implementing a fair regulated retail price) and improving people's capacity to pay (increasing Newstart and better targeted concessions) have a positive impact on reducing energy costs for people on low incomes.

Implementing these measures would contribute to making energy more affordable to the three million people in Australia living in poverty, and mitigate costs that might be associated with a faster transition to clean energy.

People on low incomes or experiencing disadvantage are more vulnerable to climate change impacts and a poorly managed transition to a clean economy, as they have less choice and control to manage associated costs, and are less able to cope, adapt and recover from climate change impacts. Efforts to reduce their expenditure on energy could assist with these vulnerabilities.

The situation has not been helped by energy prices rising significantly in the last decade. Any additional costs resulting from a transition to clean energy are keenly felt. However, it is clear that certainty in climate and energy policy is sorely needed and when we get it, it will keep costs down. The current failure to manage the transition is contributing to price rises, in addition to high network costs, retail price gouging and high gas prices.

Our previous report found that recent energy price increases have disproportionately affected certain vulnerable groups. The lowest-income households now spend on average 6.4% of their income on energy, while the highest-income households spend on average 1.5%.

The report found people receiving Newstart and Youth Allowance, sole parents, lone pensioners and renters are most vulnerable to rising energy prices. Low-income households are more likely to enter retail hardship programs; have their electricity disconnected; and reduce their energy consumption to dangerous levels (e.g. forgoing heating, cooling and cooking). They are also more likely to go without other essentials like medicine and dentist visits, so that they can pay their energy bills. They are also missing out on opportunities to take up clean, affordable energy sources like solar because they lack choice and control.

- ***A faster transition to clean energy is necessary and desirable and, if managed well, affordable***

Our first report, *Tackling Climate Change and Energy Affordability for Low-income Households*, argued that we cannot rein in energy prices unless we have in place policies to facilitate the transition to clean generation. The modelling found that, with the right settings, an emissions reduction mechanism could drive rapid emissions reductions in the electricity sector and put downward pressure on energy prices. Getting the design right is critical. The report concluded that higher emissions reduction targets are desirable and could be achievable coupled with energy affordability reforms.

- ***Policies need to focus not only on reducing energy prices, but also on reducing the size of household bills and improving people's capacity to pay***

Our second report, *Energy Stressed in Australia,* showed that low-income households pay disproportionately more of their income on energy, and that this has increased in the last decade. Even if energy prices do come down, these households are likely to continue to pay disproportionately more.

This report further investigates the distributional impact of an emissions reduction scheme using data from the first report, and indeed confirms that, while energy expenditure is reduced for everyone, low-income households still pay disproportionately more of their income on energy.

To make energy affordable, policy-makers must focus on reducing energy prices, reducing the size of energy bills and improving people's capacity to pay.

- ***Energy efficiency and rooftop solar provide big opportunities to reduce energy bills***

Two of the most effective ways to reduce the size of energy bills are energy efficiency and the installation of rooftop solar. The poor energy performance of Australian homes means that many people are living in homes that are damp, too cold in winter, too hot in summer and too expensive to run. People's health is at risk from either restricting energy use or from stress dealing with unaffordable bills.

The modelling for this report finds that for a one-off capital investment of $2,000 for apartments and $5,000 for houses, average annual savings ranged from $289 for apartments to $1,139 for houses.

When targeted to low-income households, some of those most in need are the major beneficiaries, experiencing the greatest reduction in energy expenditure as a percentage share of their income. For example, on average an investment of $5,000 would reduce energy expenditure as a percentage share of income for lowest-income households from the current 6.4% to 4.1%.

The benefits go beyond just energy savings, to improving people's health, reducing costs of the energy system (which benefits all), and reducing carbon emissions.

A step change in support is required to help households fund these upgrades and realise the savings. Measures to address the barriers to renters and others locked-out of key energy efficiency and solar savings are also needed.

- ***A fair, regulated retail price will put the "essential service" back in energy***

Retail energy market competition was supposed to increase efficiency and lower energy prices. Quite the opposite has happened and we are seeing high standing offers, opaque discounting, high retail margins, and increased costs as retailers compete to acquire and retain customers. While some low-income households actively shop around, many are unable to access fair deals and pay too much for energy that is essential to their health and well-being.

With the help of industry experts, this report modelled a fair retail price, and when compared to current electricity offers found in some of the Victorian, New South Wales and South Australian networks, we find that the retailers' margins are too high, a finding broadly consistent with recent observations by the Australian Consumer and Competition Commission (ACCC).

In those jurisdictions where a new regulated retail price might apply, under the scenario where all households take up the regulated retail price unless they are already on a better offer, the modelling in this report found 37 to 60% of households would be better off on a regulated retail price, by an average by $261 to $436 per annum, depending on the state of residence. This would reduce energy expenditure as a percentage share of income for lowest-income households from the current 7.6% to 6.1%. Under the scenario where only low-income households take up the regulated retail price, households would be better off on a regulated retail price, by an average by $200 to $385 per annum. This scenario would also reduce energy expenditure as a percentage share of income for lowest-income households from the current 7.6%% to 6.1%.

- ***Increasing Newstart and related allowances by at least $75 a week can help reduce energy stress for the most vulnerable in our society***

It's not surprising to find that Newstart households are hit hardest by high energy bills. Newstart and Youth Allowance have not increased in real terms in 24 years, leaving over 800,000 people struggling on $39 a day, while the cost of essentials, such as energy, have drastically increased. Even after concessions, on average these households spend 6.3% of their income on energy, with a quarter spending more than 9.7% of their income on energy.

Without a doubt, capacity to pay is the major barrier to energy affordability for these households.

The modelling in this report found that increasing Newstart and related allowances by $75 a week (just over $3,500 a year) would reduce energy expenditure as a percentage share of income for Newstart households from the current 6.3% to 5.6%, a $110 increase would reduce it to 5.3%.

Single parents who receive Newstart payments (the vast majority of whom are women), would be one of the main beneficiaries of a Newstart increase.

❖ ***Shifting to percentage-based energy concessions coupled with energy efficiency can be a win-win for all***

Energy concessions are critical to helping low-income households afford their energy bills. However, the current flat dollar-based system is inequitable and is not responsive to energy bill changes.

While this report found that a shift from a dollar-based concession to a full or partial percentage-based concession had minimal impact on reducing energy expenditure as a percentage share of income across all low-income households, it was found to provide better support for low-income couples and single parent families with children. This is because families typically use more energy than couples or singles but currently get lower concessions than other household types. It would also benefit other household types, such as people in regional areas and people with health issues who tend to use or pay more for their energy. However, some lower-consuming households would receive a lower concession than they currently receive under a flat rate.

One way for everyone to benefit would be to have a dual system where concession card holders could choose between a flat concession or percentage-based concession – whichever is higher – but our modelling shows this would be costly to government budgets. A better use of government budget would be to invest in energy efficiency for lower-consumption households at the same time as shifting to a percentage-based concession. This investment can be recouped as the rate of concession reduces as the size of the bill declines due to improvements in energy efficiency.

RECOMMENDATIONS

Invest in energy efficiency

Recommendation 1. States and territories should mandate minimum energy efficiency performance standards for rental properties, as part of a broader set of healthy and habitable rental housing standards.

- If necessary, federal or state government should consider the provision of incentives to landlords to upgrade rental properties, including potential tax mechanisms. Priority should be given to upgrade low-cost rental properties.
- Governments should implement safeguards to avoid any adverse effects on housing affordability, including measures to avoid significant rent increases or unnecessary removal of properties from the low-cost rental market following upgrades.

Recommendation 2. Federal, state and local governments should work cooperatively with energy retailers to co-fund ongoing programs to provide access to energy efficiency and solar photovoltaic technology for low-income households.

Recommendation 3. Federal and state governments should develop and implement programs to improve the energy efficiency and solar access of all social housing, community and other 'affordable' housing.

Recommendation 4. Federal and state governments should invest in energy efficiency and clean energy for remote Aboriginal and Torres Strait Islander communities.

Recommendation 5. COAG should agree to improve minimum performance standards for residential buildings to a 7-star Nationwide House Energy Rating Scheme (NatHERS) rating, and:

- extend the National Construction Code to include minimum performance standards for fixed appliances (a whole-of-building approach);
- enable renewable energy to contribute towards the energy usage budget, but not replace energy efficiency measures; and
- federal and state governments provide additional funding and assistance to ensure all new social and affordable housing complies with minimum performance standards.

Implement a fair regulated retail price

Recommendation 6. Governments agree to implement a regulated retail price, which guarantees a fair price for those consumers who want it. The regulated retail price should reflect fair retail margins and be available to all consumers. The fair regulated retail price should:

- be determined using a bottom-up approach to identify a fair and efficient price is in each network;
- apply to flat-rate, controlled-load tariffs, dual peak/off peak tariff. Innovation and further competition can occur around tariffs such as other time of use, demand tariffs, and solar energy tariffs;
- be a default offer and opt in for active market participants; and
- serve as a reference price for bill comparison.

Increase Newstart and related allowances

Recommendation 7. Increase the single rates of Newstart, Youth Allowance and related payments by at least $75 per week.

Recommendation 8. Index Newstart, Youth Allowance and related payments to wages, a representative basket of goods, or the CPI (whichever is higher) to ensure they maintain pace with community living standards.

Recommendation 9. Increase Commonwealth Rent Assistance by 30% or $20 per week for a single person on Newstart.

These measures should be complemented by increases to family payments for households with children on low incomes, as outlined in ACOSS, Budget Priorities Statement 2018–19.

Design and implement better targeted concessions

Recommendation 10. State and territory governments should replace the current flat dollar-based concession scheme with full or partial percentage-based concession schemes.

Recommendation 11. Energy concessions should be means tested.

Recommendation 12. Governments and retailers should implement strategies to improve awareness and uptake of energy concession eligibility:

- When applying for and/or on confirmation of receipt of a pension concession card, healthcare card or DVA gold card, the Commonwealth Government (who administer these cards) should inform recipients that they are eligible for energy rebates and provide instructions on where to find out more.
- When retailers sign up a customer to a new or renewed plan they should ask whether the customer is a recipient of a pension card, healthcare card, or DVA card and apply the concessions.

Recommendation 13. COAG Energy Ministers agree to review concessions to provide harmonisation across states and territories. Harmonisation should aim to reduce costs and improve choice, ensure energy concessions are targeted towards those most in need of assistance, and improve the value of concessions in lagging states.

The framework should set best practice benchmarks across jurisdictions, and allow flexibility for jurisdictions with distinct needs.

Other affordability measures

Recommendation 14. COAG Energy Council should request an energy market rule change to restrict conditional discounts, such as pay-on-time discounts, to ensure they reflect the true costs of late payment of bills.

Recommendation 15. Provide a mechanism to offer demand response to the market that can provide benefits to low-income households and avoid potential detriment.

Recommendations 16. Shift cost of solar schemes away from consumers' electricity bills to government budget.

Recommendation 17. COAG Energy Ministers request AEMC to consult on the introduction of pricing reform to ensure non-solar households are not paying too much for network costs. We note there may be benefits from moving to cost-reflective pricing, but there could be negative impacts for some households. Transitional government assistance would be critical.

Recommendation 18. Remedy past over-investment in networks, through a write-down of the regulated asset base in Queensland and Tasmania, and rebates on network charges in New South Wales.

Supporting a rapid transition to clean energy

Recommendation 19. The Australian Government should urgently implement policies to reduce emissions across our economy, in particular the emissions-intensive electricity sector. Whether the policies are economy-wide or sector-specific is less important, so long as the policies are credible, stable, low cost, and equitable with protections for vulnerable groups.

Recommendation 20. The Australian Government should set emissions reductions targets in line with our fair share of achieving the Paris Agreement goal to limit global warming to well below 2 degrees and pursue 1.5 degrees. We note the electricity sector can and should reduce its emissions faster than other sectors. A 2030 emissions reduction target of 45% reduction below 2005 levels should be seen as an absolute minimum and should preferably be higher. Implementing energy affordability measures outlined here for example would make a 65% emission reduction target more achievable.

Affordability benchmark

Recommendation 21. The COAG Energy Council should commission an expert review (similar to the Hills review in the UK) to identify appropriate benchmarks by which energy affordability can be measured over time, including a clear definition of energy stress as the level under which no person should fall in terms of being able to access energy supply. Multiple metrics will be needed. Once identified, COAG should adopt the benchmarks and report on progress over time, including the number of people lifted out of energy stress and the extent to which energy policy and market reforms deliver on a guarantee to energy affordability.

CONTENTS

1. INTRODUCTION

Supporting low-income households through a faster energy transition

This report is the third and final in our series that looks at how we can better support low-income households through the transition to clean energy. It models some of the policy solutions that can help to reduce the amount that people on low incomes spend on energy as a proportion of incomes, in order to reduce their energy stress and support a faster transition to clean energy.

ACOSS and BSL advocate to end poverty, inequality and exclusion, and create a more just, inclusive, equitable and sustainable nation. Major threats to achieving this vision are the impacts of climate change; a slow, poorly managed transition to a clean economy; and a high cost of living.

Those depending on low incomes and experiencing disadvantage spend disproportionately more of their incomes on essential services such as energy, food, water, transport, housing and health. They are more vulnerable to climate change impacts and a poorly managed transition to a clean economy because they have less choice and control over the dwellings they live in and the products and services they buy, and are therefore less able to cope, adapt and recover.

The world needs to rapidly reduce its emissions to limit the impacts of dangerous climate change. This can, and should, be achieved in a low-cost, equitable and inclusive manner, to make sure that people on low incomes or experiencing disadvantage are not left worse off. There will be some costs as we manage the transition to a clean economy, but the costs will be far greater the longer we delay that shift. Where there are costs, those most at risk of disadvantage must be supported, including those on low incomes.

The poorly managed transition to clean energy is particularly concerning. The energy sector is Australia's largest single emitter of greenhouse gases[1] and must be a key part of Australia's contribution to limit global warming. It also has better access to affordable clean technology than many other sectors, so it can and should transition faster.

However, over the last decade, electricity prices have increased by 117%, or 76% in real terms; and the price of gas has increased by 89%, or 53% in real terms.[2] High network costs, retail price gouging, high gas prices and a poorly managed transition to clean energy have all contributed to this increase.

The costs of providing renewable energy have decreased considerably, even in the last few years, with a number of analysts finding renewable energy installations such as wind and solar with firming technology are now cheaper to build than new gas or coal.[3] But emissions reduction policy is important to set the speed of the transition in line with our commitments to the international Paris Agreement to limit temperature rise to well below 2°C and pursue a limit of 1.5°C.

Despite this, stop-start policy has shaken investment confidence, at times halted investment (which has led to supply issues) and added risk premiums to finance, all resulting in increases to wholesale costs.

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[1] Department of Environment and Energy (2018) *Quarterly Update of Australia's National Greenhouse Gas Inventory: June 2018* http://www.environment.gov.au/system/files/resources/e2b0a880-74b9-436b-9ddd-941a74d81fad/files/nggi-quarterly-update-june-2018.pdf

[2] ACOSS and BSL (2018*) Energy Stressed in Australia* https://www.acoss.org.au/wp-content/uploads/2018/10/Energy-Stressed-in-Australia.pdf.

[3] Recent analysis from Bloomberg (http://bit.ly/2FXIPK6), Reputex (http://bit.ly/2mCNitT), the Centre for International Economics (CIE) (http://bit.ly/2oQu3fY) and the gentailer AGL (http://bit.ly/2oQu3fY) found that for a new energy generation build, renewable energy (wind and large scale solar pv) is now cheaper than gas and coal. Reputex and AGL found this is still the case with storage and/or firming capacity added.

In addition, inequitable policy design – where costs are distributed across bills and benefits go to those who have choice and control – means that those who can least afford it bear disproportionately more of the cost of the transition.

This does not have to be the case.

Background

First report - Tackling Climate Change and Energy Affordability for Low-income Households

The first report in this series, *Tackling Climate Change and Energy Affordability for Low-income Households*, examined the impacts of an emissions reduction mechanism on energy affordability for low-income households. The modelling found that, with the right settings, an emissions reduction mechanism could both drive rapid emissions reductions in the electricity sector and put downward pressure on energy prices. The modelling showed that higher emissions reduction targets for the energy sector (45–65% by 2030) provides more "bang for your buck". However, social equity concerns remain, especially if energy-intensive trade-exposed industries (EITEs) are excluded from the emissions reduction mechanism (see Appendix B for key summary and report recommendations).

Second report - Energy Stressed in Australia

While an emissions reduction mechanism would put some downward pressure on residential retail prices, there remains a need to look at other measures to make bills more affordable, to (a) normalise energy price in line with pre-2007 trends and (b) support more ambitious emissions reductions.

Our second report, Energy Stressed in Australia, examined who has been most affected by skyrocketing energy prices, in order to inform energy affordability reforms. It found that low-income households now pay disproportionately more of their income on energy than higher-income households. The report also showed that not only are low-income households hardest hit by high energy bills, they may miss out on the opportunity to take up cleaner, more affordable energy sources such as solar power.

Importantly, our second report made it clear that policies need to focus not only on reducing energy prices, which will help everyone, but also on **reducing the size of household bills and improving people's capacity to pay**, if we are to make energy more affordable to the three million people in Australia living in poverty.[4]

Policy solutions to minimise energy stress and support a faster transition to clean energy

This third and final report sets out to model a number of policy solutions that would reduce the amount that people on low incomes spend on energy, in order to alleviate their energy stress and support a faster transition to clean energy

To support the policy analysis, this report also includes the results of a distributional analysis of energy prices against the projected changes in energy price under the emissions reduction mechanism from our first report. The results, found in Appendix C, confirm our understanding that while energy prices decrease for all by 2030, low-income households are still paying disproportionately more of their income on energy bills than other income quintiles and additional policies will be needed to improve affordability for low-income households.

[4] ACOSS and UNSW (2018) Poverty in Australia 2018 https://www.acoss.org.au/wp-content/uploads/2018/10/ACOSS_Poverty-in-Australia-Report_Web-Final.pdf

After consultation with key community and energy stakeholders, ACOSS and BSL chose to model the following four policy solutions:

Reducing the size of energy bills:

1. Home energy efficiency and solar measures
2. Introducing a regulated retail price

Improving capacity to pay:

3. Increasing Newstart and related allowances
4. Better targeted energy concessions

ACOSS and the BSL commissioned Associate Professor Ben Phillips, from the ANU Centre for Social Research and Methods, to model the potential impacts of implementing the four policy solutions on households.

Overview of methodology

The analysis underpinning this report was conducted using PolicyMod, a detailed microsimulation model of the Australian tax and transfer system, developed by the ANU's Centre for Social Research and Methods. The model is based on the 2015–16 Australian Bureau of Statistics (ABS) Survey of Income and Housing. This survey has around 18,000 households, which we use for simulating the tax and transfer system. The survey has detailed information for each person, income unit and household, which enables the model to accurately simulate the complexity of the tax and transfer system. Because the ABS survey data for 2015–16 are unlikely to closely match up with administration numbers for the tax and social security system, and our year of interest is 2018–19, we make a number of adjustments to dollar values for incomes and payment levels. We also benchmark the population to known population estimates from the ABS and official administration data for most of the major social security payments.

For this research we use both the standard PolicyMod and a version based only on the records contained in the Household Expenditure Survey (HES) sub-sample, which is around two in three records from the original PolicyMod model. The HES survey includes detailed expenditure data including electricity and gas for both owner-occupier housing and any investment properties owned by the household. The survey also includes information on whether solar panels are used by the household.

The HES expenditure data is based on the household. For some of our scenarios we require expenditure at the income unit level. For most households the income unit is also the household. Some households, such as share households, have multiple income units. For these households we split the cost of energy equally between income units. We prefer to make our calculations at the income unit level as several policies modelled in this paper are based on the income unit rather than the household.

The results of the modelling are based on comparisons of a "base world" and an "alternative policy world". The base model calculates energy concessions for each household based on the given rules for each state as they apply to concessions. For most states this involves being an income unit entitled to various concession cards. PolicyMod bases these concession cards on whether an income unit is entitled to various federal government social security payments. In some instances the concession cards are broader such as seniors' cards or simply being older than a certain age. The model uses a "take-up" variable to account for the fact that not all eligible income units take up the concession. Depending upon the state, this take-up variable was typically between 60 and 70%.

Some further imputation work was required to enable the modelling in this research. Using the ABS Household Energy Consumption (HECS) 2012 survey we developed various statistical models (logistic and linear regressions) to impute the share of energy expenditure for the fixed supply charges and the variable supply charges. We also imputed the energy use (kWh and MJ), which enables the calculation of the per-

unit costs for electricity and gas that was required for some of the scenarios. As the modelling is based on 2018 prices, relevant adjustments are made in the model to ensure all dollar values are relevant for 2018. As the ABS expenditure data is in net terms (after concessions), we had to adjust the ABS net figures back to gross figures using our own modelled estimates of the concessions.

Broadly we modelled four separate types of scenarios with three variations for each – 12 scenarios in total. For all scenarios, with the exception the Newstart scenarios, we modelled all states and territories except for Western Australia and the Northern Territory, unless stated otherwise.

Characteristics of households can be found in Appendix D.

2. POLICY SCENARIOS

Scenario 1: Home energy efficiency and rooftop solar measures

Overview

The energy performance of Australia's residential buildings is low by world standards.[5] Roughly 95% of homes were built before adequate minimum energy efficiency standards were introduced for residential buildings in 2005. Adoption of residential solar has been relatively widespread in Australia, but many vulnerable people are unable to install them, especially renters and apartment-dwellers.

The poor energy performance of our homes, combined with significant increases in energy costs over the past decade, mean that many people are now living in homes that are damp, too cold in winter and too hot in summer. Each year more than 6% of deaths in Australia are due to the effects of cold living environments, while a further 1% of deaths are heat related.[6]

People on low incomes, especially those in rental properties, are particularly vulnerable because they are more likely to live in inefficient homes and have less efficient appliances.[7]

Thirty-nine per cent of people on low incomes live in rental properties. The rate is higher among some low-income groups – lone parents are more likely to be renting than couples, as are people on Newstart and newly arrived migrants.[8] Analysis of the Household, Income and Labour Dynamics in Australia survey finds that renters make up 59.6% of households in persistent energy payment difficulty, and 67.2% of households with persistent heating inability.[9]

Investment in energy efficiency and solar can provide significant ongoing energy savings. For example, research by Environment Victoria[10] found that raising an existing home from a 2-star to 5-star rating can

[5] The 2018 ACEEE International Energy Efficiency Scorecard ranks Australia 18th among the world's 25 largest energy users, a fall from its 16th position in the 2016 ranking.
[6] *Mortality Risk Attributable to High and Low Ambient Temperature: A Multicountry Observational Study,* www.thelancet.com/journals/lancet/article/PIIS0140–6736(14)62114–0/fulltext. By way of comparison, cold-related deaths in Sweden were 3.9% of deaths.
[7] ACOSS (2013) *Energy Efficiency and People on Low Incomes*http://www.acoss.org.au/images/uploads/ACOSS_ENERGY_EFFICIENCY_PAPER_FINAL.pdf.
[8] ACOSS and BSL (2018) Energy Stressed in Australia. https://www.acoss.org.au/wp-content/uploads/2018/10/Energy-Stressed-in-Australia.pdf
[9] VCOSS (2018) *Battling on: Persistent Energy Hardship* https://vcoss.org.au/wp-content/uploads/2018/11/Persistent-Energy-Hardship-FINAL-Web-Single-Page.pdf.
[10] Environment Victoria (May 2013) *One Million Homes Roundtable Summary Report*, http://environmentvictoria.org.au/wp-content/uploads/2016/06/OneMillionHomes_RoundableSummaryReport.pdf.

result in a 54% reduction in energy use or up to $600 in savings a year. In Sydney, St George Community Housing, with support from the Clean Energy Finance Corporation (CEFC) and the New South Wales Government, have invested in building new community houses and retrofitting older ones to incorporate energy efficiency and solar PV, resulting in savings to residents of up to $570 each year per property.[11]

However, persistent barriers prevent people on low incomes from investing in energy efficiency and solar to reduce costs. These barriers include a lack of access to capital for high-value energy efficiency upgrades (like hot water, and heating and cooling); tenants being unable to improve the energy efficiency of rental properties; and information barriers.

And while there are some energy efficiency programs being run by state and territory governments, the CEFC and community groups, major problems remain. Failure to invest in high-value measures, small targets, and the on-again, off-again nature of policies, reduce the programs' effectiveness and ability to reach all those in need.

Investment in energy efficiency for households can provide ongoing multiple significant benefits to people, governments, retailers and the broader community. Benefits include lower energy bills, improved health and wellbeing, improved resilience of the electricity system, and a reduction in carbon emissions.

A more detailed discussion of these issues can be found in Appendix E.

ACOSS and BSL sought to model the following three scenarios, to understand the impact that targeted energy efficiency models would have on improving energy affordability for low-income households:

Scenario 1a. Grant of $2,000 for houses and apartments, targeted at people on low incomes.

Scenario 1b. Grant of $5,000 for houses and $2,000 for apartments, targeted at people on low incomes.

Scenario 1c. Energy efficiency standard for rental properties, targeted at 75% of rental properties, equivalent to $5,000 for houses and $2,000 for apartments.

Methodology

The federal Department of the Environment and Energy provided ACOSS and BSL with information about the costs and savings from different energy efficiency technologies assuming given characteristics.[12] These measures include new hot water systems and air-conditioning and LED lights. Each measure provides an assumed fixed benefit for each household. Appendix E details the criteria of each of the scenarios and provides data tables summarising the energy efficiency measure in each scenario, their cost and savings, by climate zone and household type.

Using PolicyMod model we imputed the assumed savings for the energy efficiency measures at the household level. The savings were applied as per the assumed savings which the Department provided for each capital city and remainder area for each state. The Department split the savings between detached houses and units. Townhouses and terrace houses were included with detached housing. To account for the fact that some households may not take up the savings 25 per cent of households were randomly not assigned savings. Alternative scenarios were provided for a full take-up for 75 per cent of rental households and separately for households within a target group of low income households. The low income household scenario savings were assumed to be based on a lower capital cost of $2,000 whereas the other scenarios were based on $5,000 for detached households and $2,000 for units.

[11] http://www.sgch.com.au/reducing-energy-poverty-in-community-housing/.

[12] The provision of the data does not constitute an endorsement from the Department of the Environment and Energy or the Commonwealth Government of any policies advocated in this publication.

Results

Analysis by the Department of Environment and Energy (see Appendix E) showed that with a small to medium investment in high-value energy efficiency or potentially solar, significant ongoing savings on energy bills can be made.

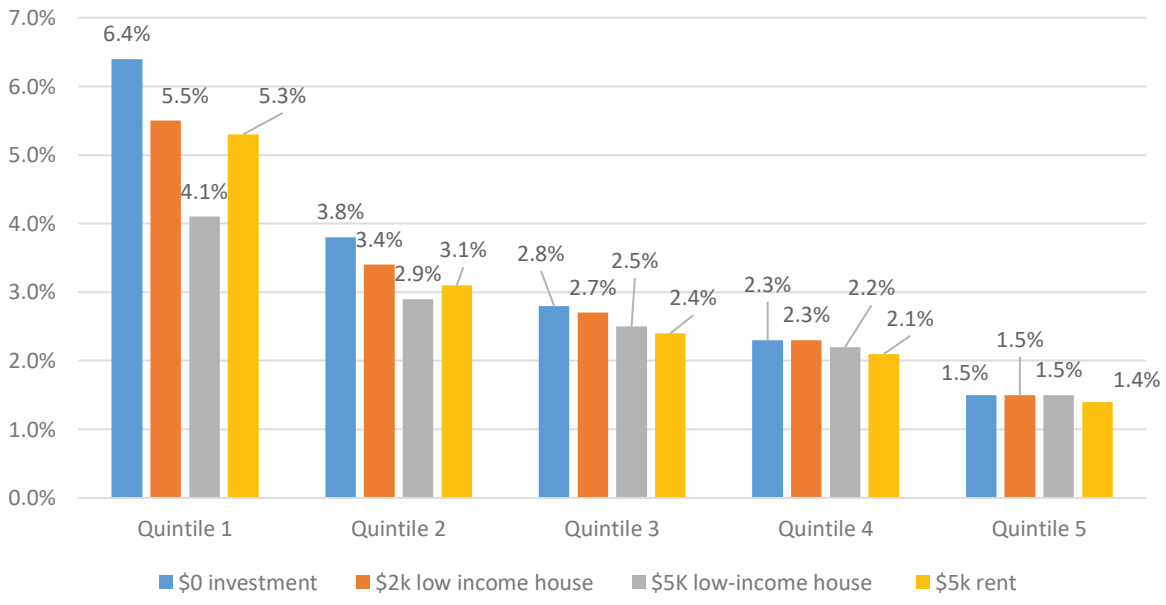
Potential savings for apartments (for a reverse cycle air-conditioner used for heating and cooling) could be between $128 and $246 per annum, depending on climate zone and size of investment.

For houses, the potential savings were larger, from $310 (or a reverse cycle air-conditioner used for heating and cooling) up to $1,749 (reverse cycle air-conditioner, more efficient hot-water system and LED lighting) per annum, depending on type of measure and climate zone.

When we modelled the energy efficiency scenarios across household types, the modelling found significant benefits for households, in particular low-income households (who were the target for interventions 1a and 1b). Figure 1 shows there are positive changes to energy expenditure as a percentage share of income under all three energy efficiency scenarios.

The lowest-income households (quintile 1), followed by the second-lowest-income households (quintile 2) (who were the targets of 1a and 1b) experience the greatest reduction in energy expenditure as a percentage share of income, across all three scenarios modelled.

Figure 1. Electricity and gas expenditure as a percentage share of income by income quintiles and by different energy efficiency scenarios



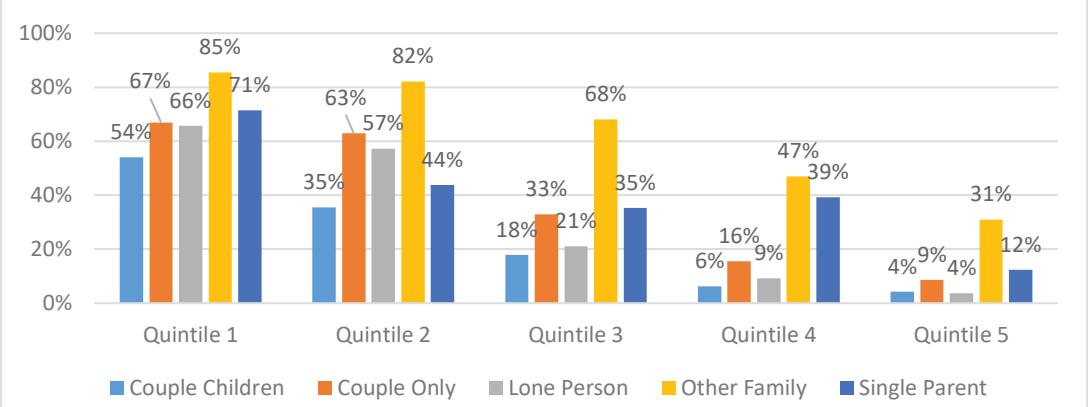
- A $2,000 investment in energy efficiency for apartments and houses would reduce energy expenditure as a percentage share of income for the lowest-income households (quintile 1) from the current 6.4%[13] to 5.5%, and second lowest-income households (quintile 2) from 3.8% to 3.4%.
- A $5,000 investment in energy efficiency for houses and $2,000 for apartments would reduce energy expenditure as a percentage share of income for the lowest-income households from the current 6.4% to 4.1%, and second lowest-income households (quintile 2) from 3.8% to 2.9%.
- A mandatory energy efficiency standard for rental properties with $5,000 investment in energy efficiency for houses and $2,000 for apartments would reduce energy expenditure as a percentage

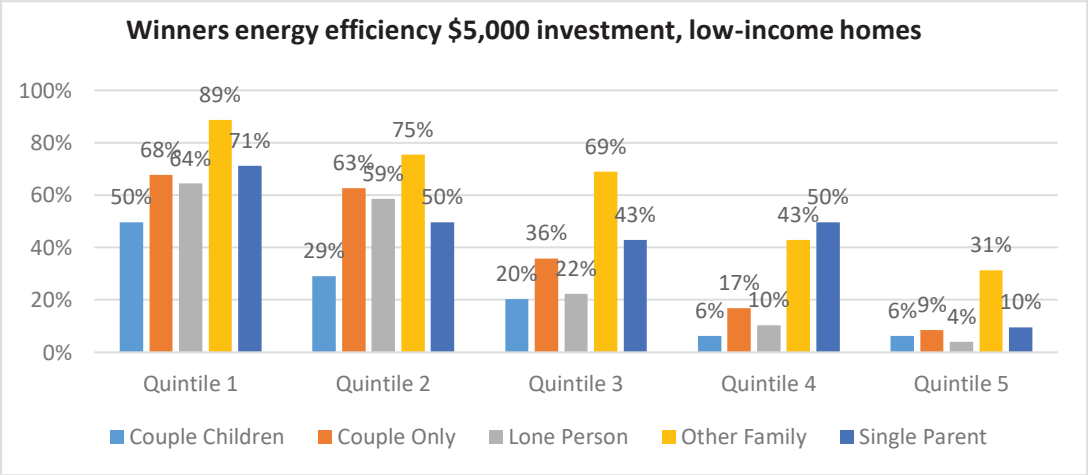
[13] As per ACOSS and BSL (2018*) Energy Stressed in Australia* https://www.acoss.org.au/wp-content/uploads/2018/10/Energy-Stressed-in-Australia.pdf

share of income for the lowest-income households from the current 6.4% to 5.5%, and second lowest-income households (quintile 2) from 3.8% to 3.1%.

We note that scenario 1c (a mandatory energy efficiency standard for rental properties) was, on average, not as beneficial as the $5,000 investment to all low-income houses. With the exception of low-income single parent households, reflecting their high levels of renting (see Figure 2).

Figure 2. Energy bill winners resulting from energy efficiency investment by household type





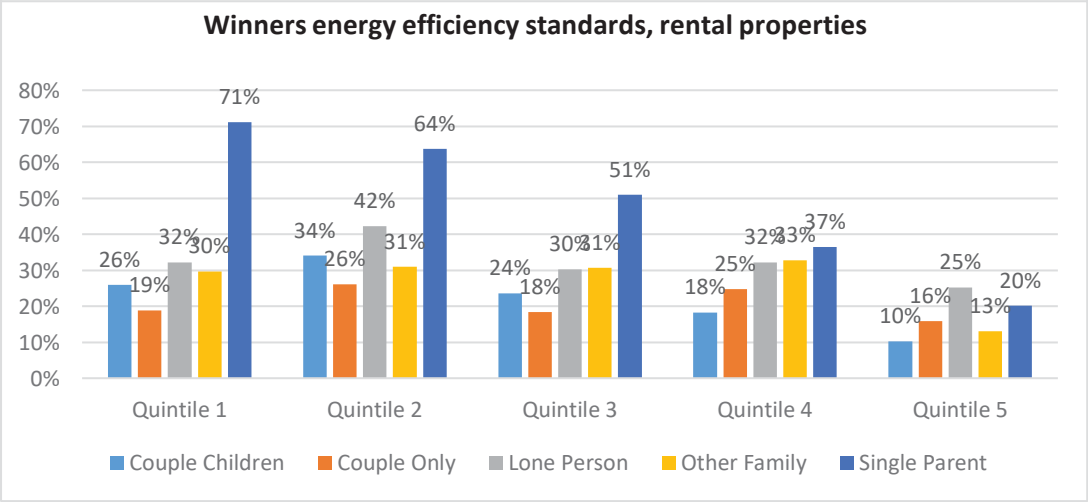


Table 1 demonstrates the significant financial benefits that energy efficiency measures will have, on average, for household budgets.

Table 1. Average household budget impact for energy efficiency investment

	Scenario 1a – $2,000 energy efficiency investment		Scenario 1b – $5,000 house and $2,000 apartment energy efficiency investment		Scenario 1c – mandatory rental standards on rental properties	
	Average $ savings per household as a result of take-up	Overall savings to households by state $m	Average $ savings per household take-up	Overall savings to households by state $m	Average $ savings per household take-up	Overall savings to households by state $m
NSW	$317.6	$420.1m	$759.4	$1,017.3m	$1,032.4	$991.5m
Vic	$328.6	$340.4m	$749.4	$775.8m	$1,059.9	$735.1m
QLD	$289.2	$247.6m	$785.0	$681.1m	$923.1	$630.5m
SA	$307.8	$111.7m	$929.7	$344.3m	$1,139.6	$306.3m
Tas	$376.9	$44.8m	$858.9	$101.0m	$1,014.5	$68.3m
ACT	$333.7	$17.9m	$750.6	$40.9m	$1,050.7	$51.4m

Scenario 2: Fairer regulated retail price

Overview

Competitive retail energy markets are not currently delivering the expected benefits to customers and have not fulfilled the promise of increased efficiency and lower prices for all. This is a major concern given that energy is a daily essential, not a market that people can opt out of.

In its final report on retail electricity prices, the ACCC argued:

> *Retailers have made pricing structures confusing and have developed a practice of discounting which is opaque and not comparable across the market. Standing offers[14] are priced excessively to facilitate this practice, leaving inactive customers paying far more than they need to for electricity. Pay on time discounts, which have emerged as a response to attempts to constrain late payment fees, are excessive and punitive for those customers who fail to pay bills on time.*

In addition, the ACCC found that certain Australian states have some of the highest retail margins in the world, with big differences between Australian jurisdictions, which suggests that retail prices in some jurisdictions are not being priced fairly.

A large gap exists between the cheapest and dearest electricity offers available to residential consumers. The difference between the worst standing offer and the best market offer can be up to $2,675 per annum (depending on their network area).[15] The difference between the best market offer and the worst market offer can be up to $1,000 a year.[16]

[14] Retailers are required to provide a standard retail contract if a customer does not want to accept a market offer. These 'standing offers', are usually the highest offer the retailer provides. In many cases customers with a poor record of paying bills are forced on to standing offers.

[15] Victorian Energy Prices(July 2018*) An update report on the Victorian Tariff-Tracking Project* https://www.vinnies.org.au/icms_docs/291687_Victorian.pdf.

[16] Taken from various state tariff-racking project reports in 2018, https://www.vinnies.org.au/page/Our_Impact/Incomes_Support_Cost_of_Living/Energy/.

The Australian Energy Market Commission's (AEMC) 2017 Retail Energy Competition Review found that about 50% of all customers had not switched electricity retailer or plan in the last five years.[17] These households are likely to be paying significantly more than customers who actively pursue a better offer.

Colmar Brunton, in a report for the ACCC's retail price review, found low-income households (on less than $25,000), those with no or limited internet, households that speak a language other than English at home, and private rentals, pay a higher unit cost for electricity than other households. Further, unpublished research from BSL, which controlled for energy consumption, found low-income and CALD households also pay a higher unit cost than others.

While there may be evidence that some low-income households actively engage in the energy market to try to find the best deals, as identified above a significant proportion of low-income households do not access the same low-cost offers. They are being further penalised as a result of their vulnerability, whether it be through lack of access to the internet, language and literacy skills, time, trust, and understanding of the complicated practices of electricity retailers.

The ACCC and an Independent Review into the Electricity and Gas Retail Markets in Victoria (the Thwaites Review) both recommended the development of some form of regulated retail price to replace the standing offer, while still supporting competition. The federal government has since instructed the Australian Energy Regulator (AER) to develop a Default Market Offer (DMO) and the Victorian Government is introducing a Victorian Default Offer.

A more detailed discussion on the need for a regulated retail price and options for how it could be structured can be found in Appendix F.

To understand the impact a regulated retail price could have on improving affordability of energy bills for low-income households in those jurisdictions where a new regulated retail price might apply (Vic, NSW, SA, ACT, and South East Queensland), ACOSS and BSL sought to model three scenarios:

Scenario 2a. All households take up the regulated retail price unless they are on a cheaper price already.

Scenario 2b. 100% of low-income households (concession households and working families earning $53,728 for couples and $28,912 for singles) take up the regulated retail price, unless they are on a cheaper price already.

Scenario 2c. 30% of households take up the regulated retail price across all households.

Methodology

ACOSS and BSL worked with an industry expert to develop a retail tariff model to estimate a regulated retail price (RRP) and the Basic Service Offer (BSO) proposed by the Thwaites Review.

The model, detailed in Appendix F, includes the generally accepted costs faced by retailers in supplying electricity to small retail customers. These include wholesale electricity costs, network costs, costs of complying with green schemes and energy efficiency schemes, market fees and ancillary services, retail operating costs, a retail margin of 5.7% of total costs and customer acquisition costs (CARC).

Full modelling assumptions can be found in Appendix F.

The RRP and BSO were then compared to standing offers and market offers (with guaranteed discounts and with conditional discounts), in each network region.

Given that there was relatively little difference – $53.90 per annum – between the RRP and the BSO, we chose to focus only on the RRP to simplify the modelling and understand the impact on households. However, we felt it was still informative to report on both the RRP and BSO against existing tariffs.

[17] AEMC (2017) *Retail Energy Competition Review* https://www.aemc.gov.au/sites/default/files/content/006ad951–7c42–4058–9724–51fe114cabb6/2017-AEMC-Retail-Energy-Competition-Review-FINAL.pdf.

Using PolicyMod model we compared the imputed unit price (imputed from HECS and HES data) on our base data set with that offered by a regulated price. Households with solar panels were excluded.

We note that the process of imputing unit costs using the HECS and HES data for households was based on regression modelling that is only an approximation of the true distribution of current actual prices. The imputation may lead to some slight inconsistencies with the current actual unit price, which could result in some modest under- or over-reporting of impact of the regulated price for some households in the sample.

Results

As discussed in Appendix F, the RRP was modelled to be a fair retail price with fair retail margins and CARC. A comparison of the RRP to standing offers and market offers (with guaranteed discounts and conditional discounts) in each retail competitive network jurisdiction was undertaken and can be found in Figures 2–13 in Appendix F. The comparison found that:

- the RRP is below the standing offers and often the market offers with guaranteed discounts, suggesting these offers are above a fair price; and
- the RRP was closer to but mostly still above the market offers with conditional discounts.

In some of the Victorian, New South Wales and South Australian networks, the RRP is often below a number of market offers with conditional discounts, suggesting retailers are making higher retail margins, which is consistent with the ACCC's observations.

The graphs also show there are significant savings that can be made for those people who are on high standing or high market offers, more than $1,000 per annum in some cases.

When the data was analysed through PolicyMod, this high level of potential savings was not seen across household groups, mainly because the modelling aggregates and averages out the data (e.g. one household might save $800 a year and another household might only save $10 a year).

As shown in Table 2, those who take up the regulated retail price are better off on average by $200 to $436 per annum, depending on state and scenario. However, the average positive impact on household budget by state diminishes as take-up is restricted (scenario 3b) or limited (scenario 3c).

Table 2. Average financial gain for households who take up regulated retail price

	Scenario 2a – everyone can take up regulated retail price		Scenario 2b – low-income only take up regulated retail price		Scenario 2c – 30% take up regulated retail price	
	Average savings per household as a result of take-up	Overall household savings $m	Average savings per household take-up	Overall household savings $m	Average savings per household take-up	Overall household savings $m
NSW	$378.0	$527.0m	$346.4	$256.8m	$278.4	$139.2
Vic	$436.2	$642.9m	$351.3	$278.0m	$379.2	$198.0
QLD	$306.5	$104.1m	$268.8	$47.1m	$278.2	$30.5m
SA	$411.8	$116m	$385.0	$69.9m	$355.7	$38.8m
ACT	$261.6	$17.4m	$200.7	$6.5m	$270.5	$5.4m

Implementing scenario 2a: everyone can opt-in and take up regulated retail price unless already on a better offer – would reduce energy expenditure as a percentage share of income for lowest-income households from the current 7.6%[18] to 6.1%.

Implementing scenario 2b: low-income only take up regulated retail price – would reduce energy expenditure as a percentage share of income for lowest-income households from the current 7.6% to 6.1%.

Implementing scenario 2c: 30% take up regulated retail price – would have the least impact on reducing energy expenditure as a percentage share of income for lowest-income households, with a change from the current 7.6% to 6.2%.

The take-up rate of the regulated retail price varies by scenario and jurisdiction.

In scenario 2a the number of households who take up the regulated retail price in those jurisdictions where the new regulated retail price might apply, is as follows:

- 45% for NSW,
- 60% for Vic,
- 37% for Brisbane,[19]
- 38% for SA, and
- 41% for ACT.

This suggests, noting limitations of the modelling outlined in the methodology, that the remaining households are already on better offers.

Figures 3-5 show take-up rate by family type and quintile. For scenario 2b, where only low-income households take up the regulated retail price, the rate of take-up was similar to scenario 2a in quintile 1 (the lowest income level), with a slight decline in quintile 2 and a sharp drop-off for the remaining quintiles, which is to be expected (see Figure 4[20]). The take-up rate was low for the restricted scenario 2c (see Figure 5). Note the graphs produced from the modelling had some restrictions and these figures represent national data (all jurisdictions) therefore take-up rate appears lower then reported above because it includes jurisdictions where the regulated retail price doesn't apply.

Across all scenarios, the take-up rate across family type and income source was fairly evenly spread, with the exception of "other family type", who were least likely to already be on a better price and would therefore benefit most from a regulated retail price. This group includes couple or lone parents with non-dependent children or a relative, relatives (brothers or sisters), or non-related group households.

We note the modelling was not able to consider whether there would be any impact on competition of the implementation of a regulated retail price, but it did assume fair retail margin and CARC, so there should be limited impact.

[18] This figure (7.6%) is based on average income for the lowest-income households (quintile 1) in NSW, Vic, SA, ACT and Southeast Queensland, and not the national average for quintile 1 households used elsewhere in this report.
[19] Only South-East Queensland has retail competition the rest of QLD is already on a regulated price. Numbers were not available for South-East Queensland, only Brisbane.
[20] Low-income was defined as concession card holders and annual household income of $53,728 for families and $28,912 for singles. There are some cases where blended families, "other family" category, will have someone in the households like an elderly parent who is on a concession. Some single parents may fall into quintile 4 on a sole person salary of $53,728, there are only small number of single parents in quintile 4.

Figure 3. Percentage of households who take up a regulated retail price (scenario 2a – everyone takes up unless already on better offer) by quintile

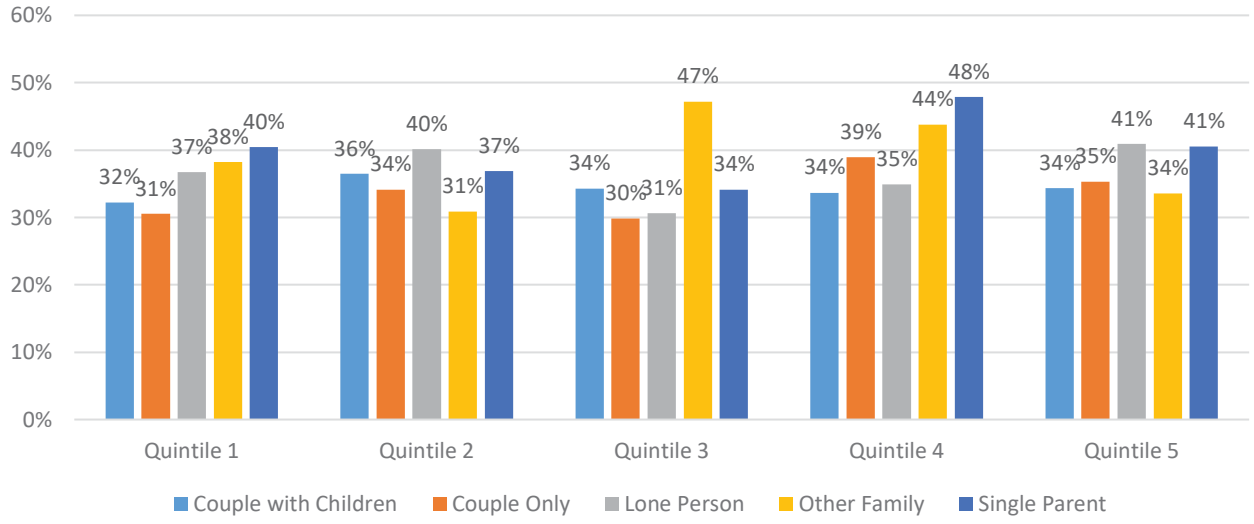


Figure 4. Energy bill winners from regulated retail price (scenario 2b – low-income households only take up regulated retail price) by quintile

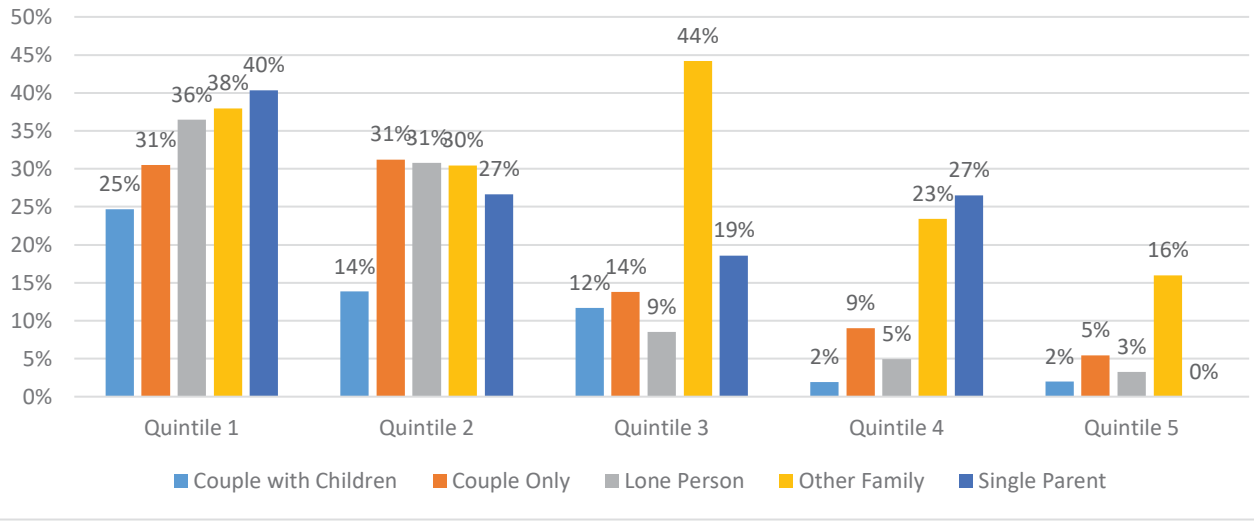
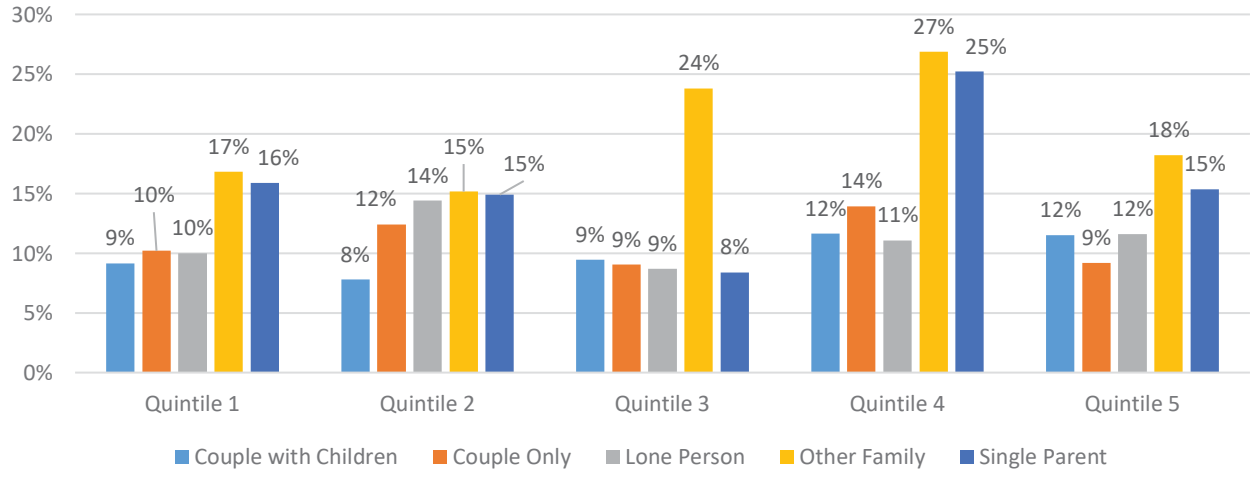


Figure 5. Energy bill winners from regulated retail price (scenario 2c – 30% of households take up regulated retail price) by quintile



Scenario 3: Increasing Newstart and related allowances

Overview

Newstart has not increased in real terms in 24 years, leaving over 800,000 people struggling on $39 a day. Meanwhile, the cost of essentials such as energy has drastically increased.

The ACOSS and BSL report, *Energy Stressed in Australia*, found even after energy concessions are taken into account, those households dependent on Newstart and related allowances are hit hardest by high energy bills. On average these households spend 6.3% of their income on energy, up from 5.2% ten years prior. A quarter of these households are spending more than 9.7% of their incomes on energy.

Our earlier research also found that while low-income households paid more of their income on energy, they typically used less energy.

Appendix G looks in more depth at issues for Newstart recipients, who they are, and what is needed in order to raise Newstart to cover the basic costs not currently being met.

Lack of capacity to pay is clearly a key factor affecting energy affordability for Newstart households.

For the purposes of this research, ACOSS and BSL sought to measure the impact an increase to Newstart would have on improving the capacity of low-income households to pay their energy bills, and modelled the following three scenarios:

Scenario 3a. Increase in Newstart only by $25 a week.

Scenario 3b. Increase in Newstart only by $75 a week.

Scenario 3c. Increase in Newstart only by $110 a week.

Methodology

Three separate scenarios are modelled, increasing Newstart Allowance by $25, $75 and $110 per week. These scenarios are independent of the concession currently paid. The modelling here was based on the standard PolicyMod model based on the full sample. The estimates of the benefit to households in dollar terms match similar exercises undertaken by the Parliamentary Budget Office.

Results

Increasing Newstart and related allowances by:

- $75 a week (just over $3,502 a year), would reduce energy expenditure as a percentage share of income for Newstart households from the current 6.3% to 5.6%.
- $110 a week (just over $5,185), would reduce energy expenditure as a percentage share of income for Newstart households from the current 6.3% to 5.3%.
- $25 a week (just over $1,169), would only reduce energy expenditure as a percentage share of income for Newstart households from the current 6.3% to 6.0%. As a $25 a week rise is not consistent with the bare minimum needed to cover cost of housing, food, basic healthcare and transport, and has little impact on ability to afford energy, we would not support such a low increase.

As shown in Figure 6 and Table 3, the modelling finds that under the $75 and $110 scenarios, single parent households and "other"[21] households, are the main beneficiary of an increase to Newstart. Where there are beneficiaries in higher-income households (quintile 4 and 5) is most likely a result of a non-dependent family member living in the house receiving a Newstart allowance.

[21] This group includes couple or lone parents with non-dependent children or a relative; relatives (brothers or sisters) or non-related group households.

Figure 6. Percentage of households better off with an increase in Newstart allowance by household type

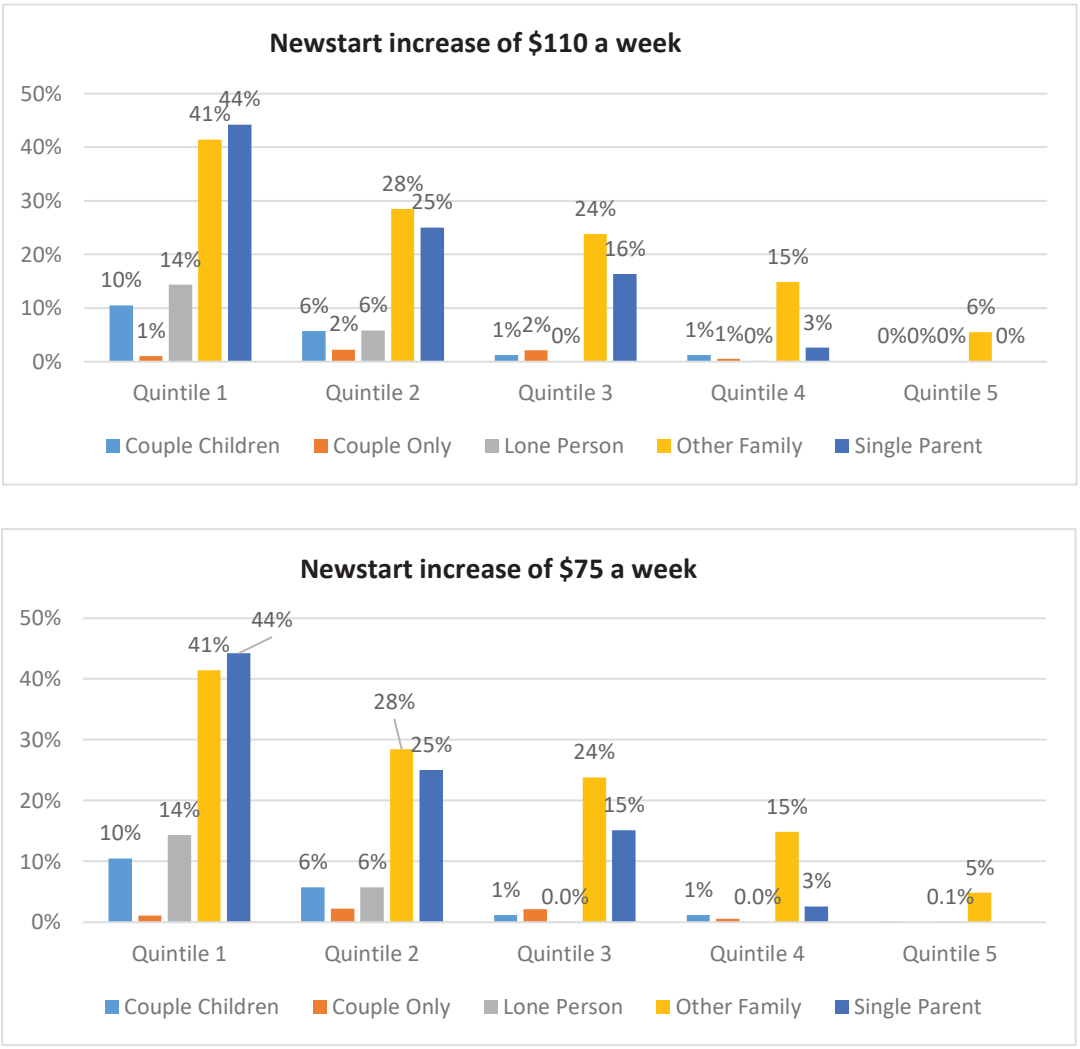


Table 3. Increase in annual income in each quintile by household type as a result of increasing Newstart and related allowances by $75 and $110 a week

	Newstart Increase	Couple Children	Couple Only	Lone Person	Other	Single Parent
Quintile 1	$75	$534	$36	$561	$2,133	$1760
	110	$791	$53	$824	$3171	$2583
Quintile 2	$75	$170	$61	$172	$1,342	$891
	$110	$252	$92	$263	$1995	$1312
Quintile 3	$75	$42	$82	$1	$1,365	$496
	$110	$61	$120	$1	$2030	$744
Quintile 4	$75	$39	$21	$0	$579	$94
	$110	$51	$31	$1	$862	$138
Quintile 5	$75	$2	$0	$2	$175	$0
	110	$4	$0	$3	$266	$0

Renters benefit the most from increasing Newstart (see Table 4). This is not surprising, given that a significant number of Newstart recipients are in the rental market.

Table 4. Average impact of Newstart increase by income per annum

		$75	$110
Tenure Type	Owner	$183	$270
	Mortgage	$174	$261
	Renter	$647	$958

Scenario 4: Better targeted energy concessions

Overview

Concessions play a critical role in making energy bills more affordable for low-income households, with more than 2 million people currently accessing energy concessions (see table 1 in Appendix H). However, there are some major flaws with the existing concessions schemes across Australian jurisdictions:

- lack of awareness of eligibility;
- variation between different states in eligibility criteria and the level of the concession, which creates additional administration costs for retailers, inequity between similar household types, and geographical inequities; and
- lack of equity between energy users – where flat dollar-based concessions used in most jurisdictions favour low-consumption households and disadvantage family households and households in regional areas.

See Appendix H for a more detailed discussion.

To address the last point, many social sector organisations have advocated shifting to percentage-based concessions. Percentage-based concessions provide a proportionate increase in financial assistance in line with households' energy expenditure. They are preferable because they respond to changing energy prices, are simpler to administer, and can reduce the cost to government through investment in energy efficiency (see Appendix H for a more in-depth discussion).

However, while a shift to percentage-based concessions would help some households, lower-usage households would receive lower concessions than they currently do on the dollar-based scheme (see analysis in Appendix H).

In its final report on retail electricity prices, the ACCC recommended a hybrid model, arguing it would better support both high- and low-consumption households. This model includes:[22]

- a dollar amount to offset daily supply charges, which concession households cannot reduce regardless of changes to their consumption pattern; and
- a percentage discount to offset variable usage charges.

The ACCC model also creates winners and losers compared to flat dollar-based or percentage-based schemes.

Given the critical role concessions play in making energy more affordable for low-income households, alternative models that provide greater equity, simplicity and responsiveness to changing energy bills should be considered. ACOSS and BSL sought to model the following three scenarios, to understand the impact different concession models have on improving the capacity of low-income households to pay their energy bills:

[22] ACCC (2018) Restoring electricity affordability and Australia's competitive advantage, https://www.accc.gov.au/system/files/Retail%20Electricity%20Pricing%20Inquiry%E2%80%94Final%20Report%20June%202018_0.pdf.

Scenario 4a. Shift to percentage-based for whole bill.

Scenario 4b. Hybrid – portion dollar-based and portion percentage-based.

Scenario 4c. Current dollar-based or percentage-based used in scenario 4a (see below), whichever provides more savings.

Methodology

Appendix H outlines how we produced the data for each of the three scenarios that were modelled, with Table 5 in Appendix H recording the parameters for each National Electricity Market (NEM) state and territory that was modelled.

We kept the eligibility criteria that currently exist for each state and territory the same. We also did not seek to harmonise the concession rates across all states and territories, and kept them relatively the same based on our best estimates, with the exception of Victoria and South Australia where we increased the concession rate slightly to bring them closer to the other states.

The Australian Capital Territory was not included in this analysis because they pay their concession - which is combined energy, water, gas and sewerage - direct and not through energy retailers, making it hard to model.

Results

The shift away from flat dollar-based concessions to either a percentage-based concession or hybrid concession (portion flat and percentage) creates winners and losers. Low-consumption households are slightly worse off under percentage and hybrid concessions compared to a flat dollar-base, whereas higher-consuming households, such as families, would be better off (see Appendix H).

The clear winners of the shift to either a percentage-based concession (Tables 5) or hybrid concession (Tables 7), are couple parents and single parents. Close to two-thirds of household types see no change in savings.

For couples with no children, lone persons and other household types, there were slightly more winners than losers.

Table 6 and 8 considers the average dollar impact for winners and losers. In the case of shift to full percentage-based concessions the winners gain more than they would with a shift to a hybrid concession, but so to the losers lose more with a shift to full percentage-based concession.

The data also reveals that some high-earning households (quintiles 4 and 5) are accessing concessions, likely because Queensland and Tasmania provide concessions to all senior card holders without means testing.

Table 5. Winners and losers by household type with a shift from a flat dollar-based concession to a percentage-based concession, by income quintile (20% of income)

		Quintile 1 (Lowest 20%)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (Highest 20%)
Couple with Children	Winner	23%	9%	4%	2%	5%
	Loser	6%	3%	2%	0%	0%
	No Change	71%	88%	94%	98%	95%
Couple Only	Winner	20%	17%	11%	5%	2%
	Loser	19%	16%	4%	0%	2%
	No Change	61%	67%	85%	94%	96%
Lone Person	Winner	16%	16%	8%	3%	2%

	Loser	17%	20%	7%	6%	1%
	No Change	67%	64%	85%	91%	97%
Other	Winner	37%	34%	33%	17%	7%
	Loser	9%	13%	14%	4%	3%
	No Change	53%	52%	52%	80%	90%
Single Parent	Winner	32%	11%	8%	4%	0%
	Loser	4%	13%	6%	1%	0%
	No Change	64%	76%	85%	95%	0%

Table 6. Average dollar impact of shift from flat dollar-based concession to percentage-based concession by state

	NSW	Vic	QLD	SA	Tas
Winners	$167	$115	$162	$163	$211
Losers	-$121	$0	-$131	-$88	$-141

Table 7. Winners and losers by household type with a shift from flat dollar-based concession to hybrid concession

		Quintile 1 (Lowest 20%)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (Highest 20%)
Couple with Children	Winner	25%	9%	5%	2%	5%
	Loser	5%	3%	1%	0%	0%
	No Change	70%	88%	94%	98%	95%
Couple Only	Winner	22%	19%	11%	5%	2%
	Loser	18%	14%	4%	0%	1%
	No Change	60%	67%	85%	94%	96%
Lone Person	Winner	18%	19%	9%	3%	2%
	Loser	15%	18%	6%	6%	1%
	No Change	67%	63%	85%	91%	97%
Other	Winner	39%	35%	35%	17%	8%
	Loser	5%	12%	13%	3%	2%
	No Change	56%	52%	52%	80%	90%
Single Parent	Winner	32%	12%	9%	4%	0%
	Loser	4%	11%	6%	1%	0%
	No Change	64%	76%	86%	95%	0%

Table 8. Average dollar impact of shift from flat dollar-based concession to hybrid concession by state

	NSW	Vic	QLD	SA	Tas
Winners	$106	$129	$103	$136	$152
Losers	-$72	-$43	-$83	-$44	$-71

If we examine the impact of shifting to either a percentage-based or hybrid concession by income source, the results are mixed. For households reliant on Newstart and related allowances as their main source of income, twice as many were better off than worse off, with around half experiencing no change (Table 9). For households reliant on the age or disability pension, there was a fairly even match between winners and losers. Consumption levels and household type (related to consumption level) are the deciding factors.

Table 9. Winners and losers by income source with a shift from flat dollar-based concession to either a percentage-based or hybrid concession scheme.

		Winner	Loser	No change
Allowance	Percentage-based	33%	15%	52%
	Hybrid	35%	14%	51%
Pensions	Percentage-based	27%	22%	51%
	Hybrid	29%	20%	51%
Other Gov payment	Percentage-based	21%	9%	69%
	Hybrid	22%	9%	69%
Wages & Salaries	Percentage-based	7%	2%	90%
	Hybrid	8%	2%	90%
Other	Percentage-based	8%	8%	84%
	Hybrid	8%	7%	84%

Most energy concessions are paid through state government and the budget impact of the different scenarios varies by state (Table 10). It should be noted that the modelling included a slight increase in the amount of concession for Victoria and South Australia to bring them closer to the other states, which will account for most of the observed increase in their state budgets, especially for South Australia. See Appendix H for details.

Table 10. State budget impacts of modelled changes to energy concessions

	Current concession budget 2017/2018	Additional budget Scenario 1 – Percentage-based concession	Additional budget Scenario 2 – Hybrid (dollar and percentage)	Additional budget Scenario 3 – either dollar or percentage (whichever provides more savings)
NSW	$239m	$18m	$16.8m	$61.7
Vic[23]	$216m	$60.6m	$69.2m	Not modelled
QLD	$181m	$-4.3m	$0.9m	$36.3
SA[24]	$20.9m	$11.5m	$15.5m	$14.9
TAS	$43.5m	$3.6m	$6.0m	$10.6m

Also not surprising was that scenario 4c, by design, produces no losers as households could access either a flat dollar-based or percentage-based concession, whichever provides more savings (Table 11). However, there is a significant burden on state budgets as shown in Table 10 above.

Table 11. Winners and losers by household type with a shift to flat dollar-based concession or percentage-based concession (whichever provides more savings)

		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Couple with Children	Winner	16%	7%	3%	1%	4%
	No Change	84%	93%	97%	99%	96%
Couple only	Winner	11%	8%	6%	4%	1%
	No Change	89%	92%	94%	96%	99%
Lone Person	Winner	7%	7%	4%	1%	2%
	No Change	93%	93%	96%	99%	98%
Other	Winner	23%	21%	20%	12%	6%
	No Change	77%	79%	80%	88%	94%
Single Parent	Winner	17%	12%	13%	10%	0%
	No Change	83%	88%	87%	90%	100%

[23] The modelling included an increase to Victorian concessions to bring them closer to other states, and set a percentage-based concession at 17.5% (households to receive the full 17.5%).
[24] The modelling included an increase to South Australian concessions to bring them closer to other states, and set a percentage-based concession at 15%.

DISCUSSION AND RECOMMENDATIONS

Modelled affordability measures

Investment in energy efficiency

Our analysis finds that investment in energy efficiency provides the largest reduction in energy bills for low-income households, compared to the other policy measures analysed.

Average savings across dwellings ranged from $289 per annum for apartments up to $1,139 per annum for houses, depending on climate zone.

A $5,000 investment in energy efficiency measures by way of mandatory energy efficiency standards was beneficial to low-income households, especially single parents, many of whom rent, but was not as beneficial as targeted investment of $5,000 to low-income households. This is because there are many low-income households that own their own home, like aged pensioners. However, the advantage of implementing mandatory energy efficiency standards is that the initial $2,000 to $5,000 upfront costs would be primarily borne by landlords, as opposed to government budgets. Mandating energy efficiency also overcomes the split incentive that may still exists even if a targeted investment schemes was available.

There is a strong case to be made for a multi-pronged approach that includes mandated energy efficiency standards for rental properties and targeted investment for homeowners and other low-income housing.

The co-benefits of energy efficiency, such as improved health and well-being, reduced demand on the energy grid and a reduction in carbon emissions, were not modelled here, but they are well known and strengthen the case for greater investment in energy efficiency.

ACOSS and BSL recommend:

Recommendation 1. States and territories should mandate minimum energy efficiency performance standards for rental properties, as part of a broader set of healthy and habitable rental housing standards. .

- If necessary, federal or state governments should consider the provision of incentives to landlords to upgrade rental properties, including potential tax mechanisms. Priority should be given to upgrade low-cost rental properties.
- Governments should implement safeguards to avoid any adverse effects on housing affordability, including measures to avoid significant rent increases or unnecessary removal of properties from the low-cost rental market following upgrades.

Recommendation 2. Federal, state and local governments should work cooperatively with energy retailers to co-fund ongoing programs to provide access to energy efficiency and solar photovoltaic technology for low-income households.

Recommendation 3. Federal and state governments should develop and implement programs to improve the energy efficiency and solar access of all social housing, community and other “affordable” housing.

Recommendation 4. Federal and state governments should invest in energy efficiency and clean energy for remote Aboriginal and Torres Strait Islander communities.

Recommendation 5. COAG should agree to improve minimum performance standards for residential buildings to a 7-star Nationwide House Energy Rating Scheme (NatHERS) rating, and:

- extend the National Construction Code to include minimum performance standards for fixed appliances (a whole-of-building approach);
- enable renewable energy to contribute towards the energy usage budget, but not replace energy efficiency measures; and
- federal and state governments provide additional funding and assistance to ensure all new social and affordable housing complies with minimum performance standards.

Regulated retail price

Competitive retail electricity markets have not and will not meet the "essential service" needs of those people on low incomes or experiencing disadvantage who struggle to engage in an opaque and confusing energy market. Competition has driven up costs across the board, market offers remain confusing, some people are benefiting at the expense of others, and innovation is minimal. Ultimately, for a homogenous essential service, the goal should be to offer a fair and equitable price, not to increase competition for competition's sake.

The implementation of a regulated retail price could benefit 37-60% households, including low-income households, by an average of around $261 to $381 per annum. Given this, ACOSS and BSL recommend the following:

Recommendation 6. Governments agree to implement a regulated retail price, which guarantees a fair price for those consumers who want it. The regulated retail price should reflect fair retail margins and be available to all consumers. The fair regulated retail price should:

- be determined using a bottom-up approach to identify a fair and efficient price is in each network;
- apply to flat-rate, controlled-load tariffs, dual peak/off peak tariff. Innovation and further competition can occur around tariffs such as other time of use, demand tariffs, and solar energy tariffs;
- be a default offer and opt in for active market participants; and
- serve as a reference price for bill comparison.

Increase Newstart and related allowances

The modelling found that increasing Newstart and related allowances by $75 or more a week had a positive impact on reducing the energy expenditure as a percentage of income for low-income earners, and was particularly beneficial to single-parent families.

As a start, ACOSS and BSL recommend the following:

Recommendation 7. Increase the single rates of Newstart, Youth Allowance and related payments by at least $75 per week.

Recommendation 8. Index Newstart, Youth Allowance and related payments to wages as well as the CPI to ensure they maintain pace with community living standards.

Recommendation 9. Increase Commonwealth Rent Assistance by 30% or $20 per week for a single person on Newstart.

These measures should be complemented by increases to family payments for households with children on low incomes, as outlined in ACOSS, Budget Priorities Statement 2018–19.

Better targeted concessions

Energy concessions are critical to helping low-income households afford their energy bills. However, the current flat dollar-based system is inequitable and is not responsive to energy bill changes. ACOSS and BSL

modelled the shift from flat-dollar based concessions to full or partially percentage-based concessions because of the multiple benefits such a shift can provide low-income households and governments, including:

- proportional assistance to households with different energy usage, improving equality;
- additional assistance to help customers cope with large seasonal bills;
- a reduced need for a comprehensive "building-block" approach;
- removing the need for an escalation mechanism as the concession automatically adjusts to changes in prices;
- equitable assistance to customers on different pricing and tariff structures in deregulated retail price markets;
- the potential for reduced costs to government through targeted energy-efficiency programs; and
- administrative simplicity for retailers.

This report found a shift to full or partial percentage-based concession provides better support for low-income couple and single-parent families with children who typically have higher energy use, but currently get less concession support than other household types. Percentage-based concessions will also benefit other household types, such as people in regional areas and people with health issues who tend to use or pay more for their energy. However, some lower-consuming households would receive a lower concession than what they currently get under a flat rate.

Given that some households would receive less financial support in a shift to percentage-based concessions, we also modelled a scenario in which households could access either a flat dollar-based concession or a percentage-based concession – whichever is highest. The choice-based concession results in higher-consuming households receiving more support and lower-consuming households not losing their current level of support. However, in most cases the choice-based concession is very expensive to government budgets.

ACOSS and BSL believe governments would be better off shifting to full or part percentage-based concessions and investing in targeted energy efficiency programs to offset any reduction in concession some lower-consumption households may face.

Investing in energy efficiency will particularly benefit households that are presently low consumers of energy because, typically, they have reduced their energy use, often to the detriment of health and well-being, to control energy bills. The investment in energy efficiency will provide long-term ongoing benefits to low-income households that will improve health and well-being, as well as reducing energy stress. Investment in energy efficiency will also save government budgets in the long term under a shift to full or partial percentage-based concessions. ACOSS and BSL therefore recommend:

Recommendation 10. State and territory governments should replace the current flat dollar-based concession scheme with full or partial percentage-based concession schemes.

Recommendation 11. Energy concessions should be means tested.

Recommendation 12. Governments and retailers should implement strategies to improve awareness and uptake of energy concession eligibility:

- When applying for and/or on confirmation of receipt of a pension concession card, healthcare card or DVA gold card, **governments** should inform recipients that they are eligible for energy rebates and provide instructions on where to find out more.
- When **retailers** sign up a customer to a new or renewed plan they should ask whether the customer is a recipient of a pension card, healthcare card, or DVA card and apply the concessions.

Recommendation 13. COAG Energy Ministers agree to review concessions to provide harmonisation across states and territories. Harmonisation should aim to reduce costs and improve choice, ensure energy concessions are targeted towards those most in need of assistance, and improve the value of concessions

in lagging states. The framework should set best practice benchmarks across jurisdictions, and allow flexibility for jurisdictions with distinct needs.

Other affordability measures

In addition to the four policies that were modelled in this report, ACOSS and BSL have consistently advocated for other measures that will assist in reducing energy stress for low-income households, including:

Recommendation 14. COAG Energy Council should request an energy market rule change to restrict conditional discounts, such as pay-on-time discounts, to ensure they reflect the true costs of late payment of bills.

Recommendation 15. Provide a mechanism to offer demand response to the market that can provide benefits to low-income households and avoid potential detriment.

Recommendations 16. Shift cost of solar schemes away from consumers' electricity bills to government budget.

Recommendation 17. COAG Energy Ministers request AEMC to consult on the introduction of pricing reform to ensure non-solar households are not paying too much for network costs. We note there may be benefits from moving to cost-reflective pricing, but there could be negative impacts for some households. Transitional government assistance would be critical.

Recommendation 18. Remedy past over-investment in networks, through a write-down of the regulated asset base in Queensland and Tasmania, and rebates on network charges in New South Wales.

Supporting a rapid transition to clean energy

People on low incomes or experiencing disadvantage are more vulnerable to climate change impacts and a poorly managed transition to a clean economy because they have less choice and control to manage cost, and are therefore less able to cope, adapt and recover. The rapid transition to clean energy will make an important contribution to reducing carbon emissions and limiting global warming.

Our first report showed that with the right settings, an emissions reduction mechanism could drive rapid emissions reductions in the electricity sector and put downward pressure on energy prices.

The distributional analysis undertaken of the price changes as a result of the emissions reduction scheme in Appendix C shows that while energy expenditure as a proportion of income decreases across the board, low-income households are still spending disproportionately more of their income on energy.

The results of this report show that further energy savings can be achieved that will reduce energy bills and improve capacity to pay for low-income households, and ultimately reduce their energy expenditure as a proportion of their income.

Implementing the recommendations in this report will reduce potential impacts to low-income households from the transition to clean energy, and indeed, facilitate a faster transition, which is desirable. The design of an emissions reduction mechanism will also be important in ensuring an equitable transition.

ACOSS and BSL reconfirm our commitment to a rapid transition to clean energy and reiterate our previous recommendations:

Recommendation 19. The Australian Government should urgently implement policies to reduce emissions across our economy, in particular the emissions-intensive electricity sector. Whether the policies are economy-wide or sector-specific is less important, so long as the policies are credible, stable, low cost, and equitable with protections for vulnerable groups.

Recommendation 20. The Australian Government should set emissions reductions targets in line with our fair share of achieving the Paris Agreement goal to limit global warming to well below 2 degrees and pursue

1.5 degrees. We note the electricity's sector can and should reduce its emissions faster than other sectors. A 2030 emissions reduction target of 45% reduction below 2005 levels should be seen as an absolute minimum and should preferably be higher. Implementing energy affordability measures outlined here for example would make a 65% emission reduction target more achievable.

Also see appendix B for additional recommendations made in our first report.

Affordability benchmark

Finally, a set of metrics is needed to measure energy stress or affordability so that better policy measures can be deployed to address energy affordability and so we can regularly measure, monitor and report on progress.

A range of metrics will be important, as energy stress and affordability look different for different households and must include hidden energy stress.

Recommendation 21 The COAG Energy Council should commission an expert review (similar to the Hills review in the UK) to identify appropriate benchmarks by which energy affordability can be measured over time, including a clear definition of energy stress as the level under which no person should fall in terms of being able to access energy supply. Multiple metrics will be needed. Once identified, COAG should adopt the benchmarks and report on progress over time, including the number of people lifted out of energy stress and the extent to which energy policy and market reforms deliver on a guarantee to energy affordability.

APPENDIX A – GLOSSARY

ABS – Australian Bureau of Statistics

ACOSS – Australian Council of Social Service

Allowances (source of income) – Newstart, Parenting Payment Partnered, Austudy/Abstudy, Youth Allowance, Sickness Allowance

ANU – Australian National University

BSL – Brotherhood of St Laurence

Business (source of income) – self-employed

COAG – Council of Australian Governments

Couple only (household type) – two persons in a registered or de facto marriage, who usually live in the same household

Couple with children (household type) – couple with at least one dependent child. May also include non-dependent children, other relatives and unrelated individuals

HES – Household Expenditure Survey, conducted by the Australian Bureau of Statistics (ABS)

Lone person (household type) – a household consisting of one person living alone

Other (household type) – one couple with their non-dependent children only; one couple, with or without non-dependent children, plus other relatives; one couple, with or without non-dependent children or other relatives, plus unrelated individuals; a lone parent with his/her non-dependent children, with or without other relatives and unrelated individuals; two or more related individuals where the relationship is not a couple relationship or a parent-child relationship (e.g. two brothers); or group household (a household consisting of two or more unrelated persons where all persons are aged 15 years and over). There are no reported couple relationships, parent-child relationships or other blood relationships in these households

Other gov (source of income) – Carer Allowance, Family Tax Benefit B (FTB), Other Pensions and Allowances, Utility Allowance, Pension Supplement, Overseas Allowances and Benefits

Other (source of income) – income received as a result of ownership of financial assets (interest, dividends), and of non-financial assets (rent, royalties) and other current receipts from sources such as superannuation, child support, workers' compensation and scholarships

Pensions (source of income) – Age Pension, Carer Payment, Disability Support Pension, Parenting Payment Single, Service/Department of Veteran Affairs pensions, Wife Pension

Percentile – on a scale of 100 that indicates the per cent of a distribution

Quintile – any of five equal groups into which a population can be divided according to the distribution of values of a particular variable

W&S – wages and salaries

APPENDIX B – SUMMARY AND RECOMMENDATIONS REPORT 1 - TACKLING CLIMATE CHANGE AND ENERGY AFFORDABILITY FOR LOW-INCOME HOUSEHOLDS

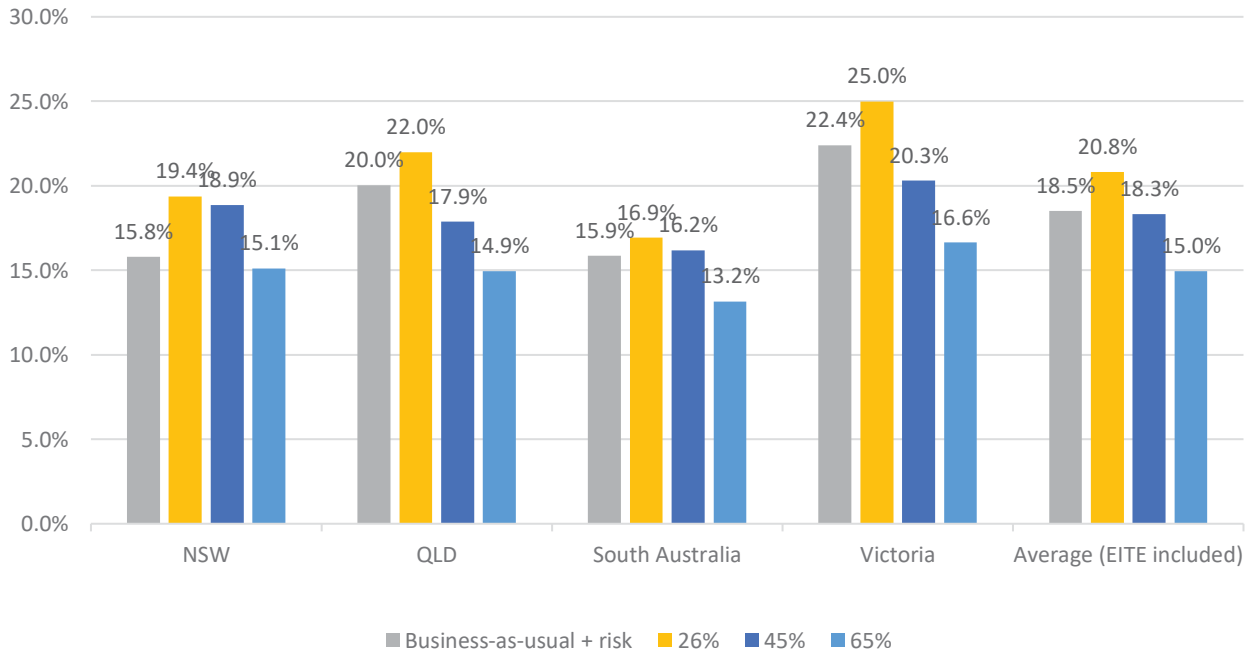
Our first report, *Tackling Climate Change and Energy Affordability for Low-income Households*, sought to look at the impacts of emissions reduction mechanism on energy affordability for low-income households.

It concluded that we cannot rein in energy prices unless we address the issues across the whole energy supply chain, including investment in clean generation.

The modelling found that, with the right settings, an emissions reduction mechanism could drive rapid emissions reductions in the electricity sector and put downward pressure on energy prices. Under all emissions reduction scenarios (low-26%, medium-45% and high-65% reduction by 2030), residential retail prices reduce from current levels (see Figure 1).

The modelling also showed that higher emissions reduction targets for the energy sector (45–65% by 2030) provides more "bang for your buck". For example, if you compare the business-as-usual (BAU) scenario with the 45% scenario, the average savings in 2030 across the four states modelled is roughly the same (18.5% savings v 18.3% savings), but the emissions reductions double (32MT to 66Mt). Under a 65% scenario, the emissions reduction is almost tripled (32 to 89MT) and there are still significant savings of 15% on the electricity retail price.

Figure 1. Percentage savings in residential retail electricity price in 2030 across a range of emissions reduction scenarios



Our first report argued that higher targets are desirable and could be achievable coupled with energy affordability reforms.

However, issues of equity need to be better dealt with. For example, the modelling in our first report found that excluding EITEs from the previously proposed National Energy Guarantee would shift costs to other consumers, with the cost shift increasing as emissions reduction targets increase.

If vulnerable people – such as low-income households, displaced workers and their communities, and affected industries such as EITEs – are unduly disadvantaged by emissions reduction mechanisms or the transition to clean energy, public policy can and should ensure that they are provided with equitable additional support.

The report made the following recommendations:

Recommendation 1. The Australian Government should urgently implement policies to reduce emissions across our economy, in particular the emissions-intensive electricity sector. Whether the policies are economy-wide or sector-specific is less important, so long as the policies are credible, stable, low cost, and equitable with protections for vulnerable groups.

Recommendation 2. The Australian Government should set a 2030 emissions reduction target that is at least a 45% reduction below 2005 levels, noting higher targets coupled with energy affordability reforms are achievable and desirable.

Recommendation 3. The Australian Government should ensure the emissions reduction target-setting process is at least consistent with the Paris Agreement by:

- including a no-backsliding provision;
- including an ability to modify the emissions reduction target outside set review periods, to take into account changes to international commitments, climate change science, technology changes and community expectations; and
- giving the relevant federal minister discretion to change the target in consultation with the public.

Recommendation 4. In developing an economy-wide or sector-specific emissions reduction mechanism(s), the federal government undertakes a review of the impact of low and high emissions reductions on affected groups, such as low-income households, workers and communities, and EITE industries, and appropriate equity measures to address those impacts should be implemented.

Recommendation 5. Further, the federal government should include in target-setting legislation, a requirement that before new targets are issued or amended the minister must issue a report that:

- estimates the expected impacts of the new or amended targets on low-income households, workers in vulnerable industries and trade-exposed industries;
- considers the adequacy, equity and effectiveness of assistance measures to address those impacts; and
- has been prepared after consulting widely with the community and industry, and considers independent advice.

APPENDIX C – DISTRIBUTIONAL ANALSYIS OF EMISSIONS REDUCTIONS MECHANISIM

Our first report, *Tackling Climate Change and Energy Affordability for Low-income Households*, looked at the impacts of an emissions reduction mechanism on energy affordability with low-income households in mind.

It found that, with the right settings (including keeping EITEs in the scheme), an emissions reduction mechanism like the National Energy Guarantee could drive rapid emissions reductions in the electricity sector and put downward pressure on energy prices.

Under all scenarios modelled – business-as-usual (BAU), 26% emissions reduction target, 45% emissions reduction target and 65% emissions reduction target – residential retail prices reduce from current levels by 2030. The extent of price savings varied by the four states modelled (New South Wales, Victoria, Queensland and South Australia). When averaged across the four states, the modelling showed reductions in retail price across all scenarios:

- under the BAU+risk[25] scenario, an average saving of 18.5%[26]
- under the 26% scenario, an average saving of 20.8%
- under the 45% scenario, an average saving of 18.3%
- under the 65% scenario, an average saving of 15.0%

In our second report, *Energy Stressed in Australia*, we looked at the impact of current electricity prices on different household types, including by income quintile and income source.

The report found the lowest-income households (quintile 1) spend on average 6.4% of their income on energy, well above the national average of 2.4%, and the highest-income households (quintile 5), who spend on average 1.5%.

Our hypothesis was that even if retail prices start to decline under an emissions reduction scheme, low-income households would still pay disproportionately more of their income on energy than other households.

ACOSS and BSL commissioned Associate Professor Ben Phillips, from the ANU Centre for Social Research and Methods, to take the changes in retail price data from our first report, produced by Frontier Economics, and apply it to the unit records in PolicyMod based on updated HES data. The the change in energy expenditure as a percentage of income for three of the emissions reduction scenarios – business-as-usual (BAU), 26% emissions reduction target, 45% emissions reduction target, were calculated.

The graphs below show the change in energy (electricity and gas) expenditure as a percentage of income by different emissions reduction scenarios and by income quintile (figure 1) and income source (figure 2).

The results confirm our hypothesis and strengthens the case for additional focus on energy affordability measures that **reduce the size of household bills and improve people's capacity to pay**, if we are to reduce the disproportionate amount low-income households spend on energy.

[25] A 3% Weighted Average Cost of Capital risk premium was added to BAU for new generation capital from 2029 onwards

[26] The business-as-usual scenario includes the remainder of the Renewable Energy Target (RET)

Figure 1. Energy (electricity and gas) expenditure as a percentage of income by different emissions reduction scenarios and by income quintile

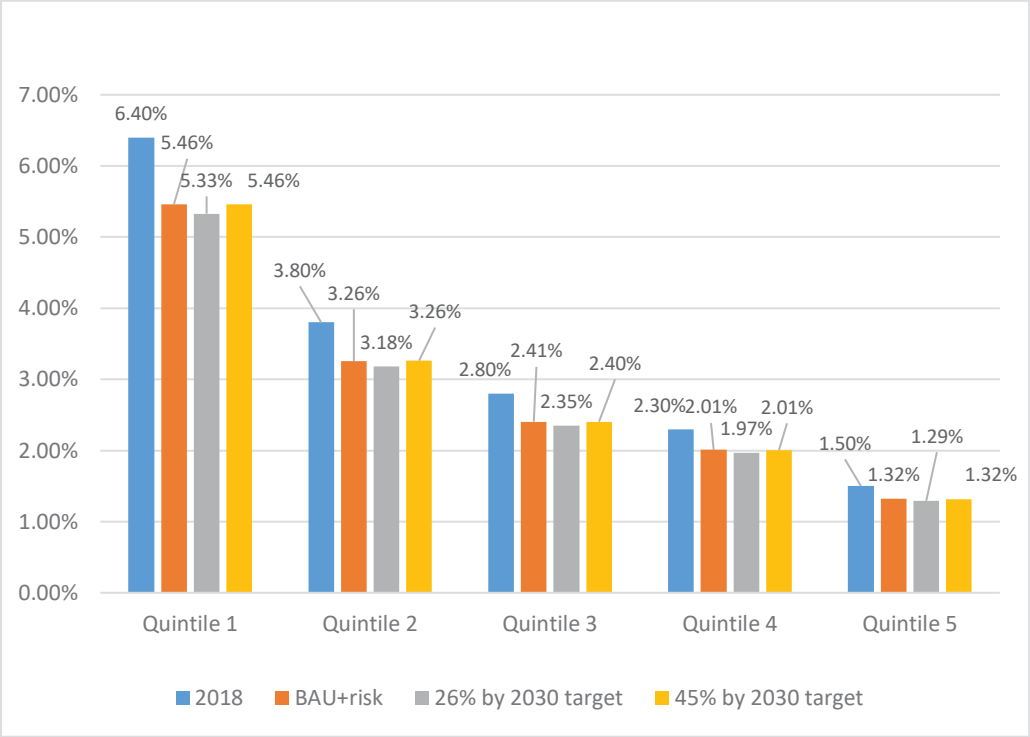
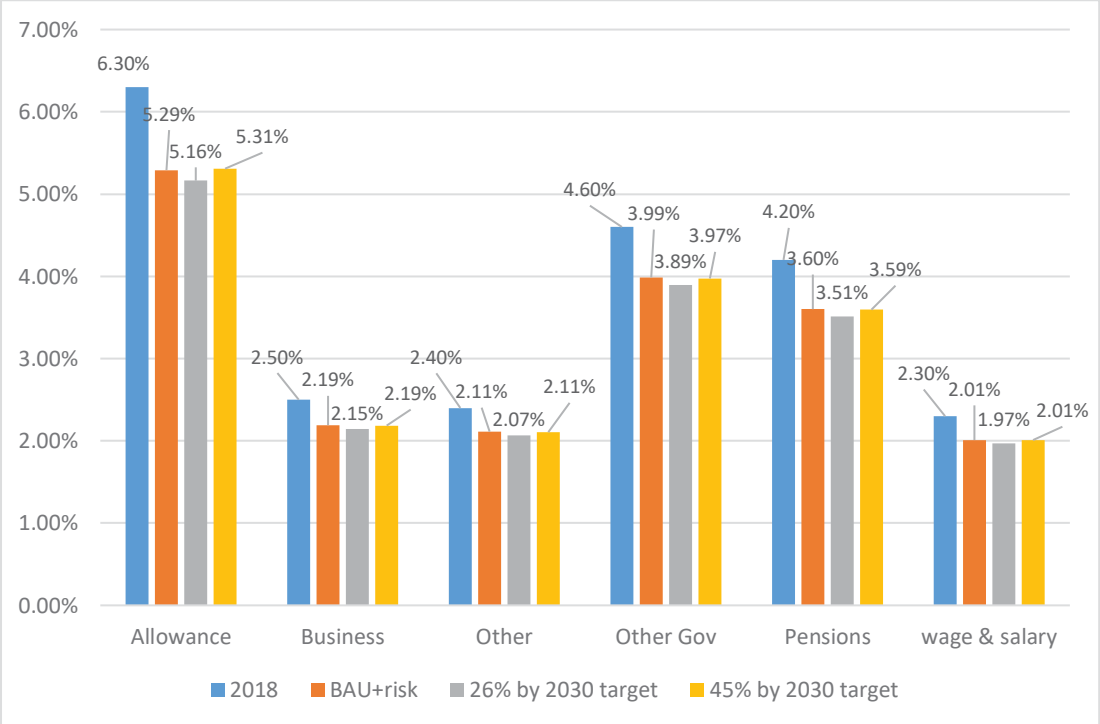


Figure 2. Energy (electricity and gas) expenditure as a percentage of income by different emissions reduction scenarios and by income source



APPENDIX D – HOUSEHOLD CHARACTERISTICS

	Income Quintile (Equivalised Disposable Income)					
	1	2	3	4	5	Total
Household Type						
Couple Children	107,607	404,532	588,867	660,953	665,973	2,427,933
Couple Only	628,533	481,338	389,793	523,659	637,990	2,661,313
Lone Person	937,036	523,644	330,718	328,929	268,910	2,389,237
Other	187,732	330,845	435,045	346,932	357,642	1,658,197
Single Parent	207,752	220,195	208,668	93,858	22,028	752,501
Main Source of Income						
Allowance	224,587	35,311	2,881			262,780
Business	35,264	115,752	67,304	75,499	73,539	367,358
Neg/Zero	26,241	.	.	.	.	26,241
Other	263,180	130,090	214,095	165,914	263,829	1,037,109
Other Government	126,188	53,985	23,863	5,386	.	209,422
Pensions	1,139,474	887,352	155,778	14,226	6,781	2,203,612
Wage & Salary	253,725	738,066	1,489,170	1,693,306	1,608,393	5,782,661
State						
NSW	667,161	562,087	585,579	631,443	627,497	3,073,767
VIC	540,191	496,395	493,052	454,733	471,025	2,455,395
QLD	388,649	429,979	432,334	395,525	375,698	2,022,186
SA	182,194	177,610	149,992	130,866	107,400	748,062
WA	198,895	206,202	205,162	228,106	274,315	1,112,679
TAS	63,115	57,732	48,509	40,944	14,866	225,165
NT	9,750	9,977	12,887	26,008	31,120	89,742
ACT	18,707	20,575	25,577	46,706	50,622	162,186
Total	2,068,660	1,960,556	1,953,092	1,954,331	1,952,542	9,889,181

APPENDIX E – HOME ENERGY EFFICIENCY

Background

The energy performance of Australia's residential buildings is low by world standards.[27] Roughly 95% of homes were built before adequate minimum energy efficiency standards were introduced for residential buildings in 2005.

The poor energy performance of our homes, combined with significant increases in energy costs over the past decade, mean that many are now living in homes that are damp, too cold in winter and too hot in summer.

The Lancet medical journal reported that each year more than 6% of deaths in Australia are due to the effects of cold living environments, while a further 1% are heat related.[28] Heat-related deaths are likely to increase as global warming intensifies and the number, duration and intensity of heatwaves increase. A study of the mortality rate from the 2009 Melbourne heatwave found the mortality rate could have been reduced by 90% if all houses were upgraded to a minimum 5.4 star energy rating.[29]

People on low incomes are particularly vulnerable as they are more likely to live in inefficient homes and have less efficient appliances.[30]

[27] The 2018 ACEEE International Energy Efficiency Scorecard ranks Australia 18th among the world's 25 largest energy users, a fall from its 16th position in the 2016 ranking

[28] *Mortality Risk Attributable to High and Low Ambient Temperature: A Multicountry Observational Study,* www.thelancet.com/journals/lancet/article/PIIS0140–6736(14)62114–0/fulltext. By way of comparison, cold-related deaths in Sweden were 3.9% of deaths.

[29] Alam, M., Sanjayan, J., Zou, P., Stewart, M. and Wilson, J. (2016) "Modelling the Correlation between Building Energy Ratings and Heat-related Mortality and Morbidity". *Sustainable Cities and Society*, 22. 10.1016/j.scs.2016.01.006.

[30] ACOSS (2013) *Energy Efficiency and People on Low Incomes*, http://www.acoss.org.au/images/uploads/ACOSS_ENERGY_EFFICIENCY_PAPER_FINAL.pdf

Rental properties are of particular concern. For example, in the Australian Capital Territory (ACT), 43% of rental properties are 0 star rated.[31] A report by QCOSS *Choice and Control*,[32] found that while approximately 80% of Queensland owner-occupiers have insulation, only around 40% of renters do. Similarly, approximately 40% of owner-occupiers have solar power, while only 4% of renters do.

Thirty-nine per cent of people on low incomes live in rental properties, and they are twice as likely to be renting as those in the highest income quintile. Lone parents are more likely to be renting than couples, as are people on Newstart and newly arrived migrants. Most (74%) low-income renters rent from a private landlord (DSE 2009)[33] and private renters are significantly more likely to enter energy hardship programs than owner-occupiers.[34]

Investment in energy efficiency can provide significant ongoing energy savings. For example, research by Environment Victoria[35] found that raising an existing home from a 2-star to 5-star can result in a 54% reduction in energy or up to $600 in savings a year. St George Community Housing, with support from the CEFC and New South Wales Government, have invested in building new community houses and retrofitting older ones to incorporate energy efficiency and solar PV. Residents are saving up to $570 each year per property.[36]

However, there are persistent barriers that prevent people on low incomes from investing in energy efficiency as a way of reducing costs. These barriers include:

- lack of access to capital for high-value energy efficiency upgrades;
- the inability of tenants to improve the energy efficiency of rental properties, and lack of requirements or incentives for landlords to invest in energy efficiency; and
- information barriers – such as literacy and language, confusion about product and programs and where to find reliable information, and poor knowledge of the most effective ways to save energy.

And while there are some energy efficiency programs being run by state and territory governments, the Clean Energy Finance Corporation and community groups, major problems remain:

- With some notable exceptions, many programs run for short and uncertain periods of time. This increases their transaction costs and reduces certainty for industry.
- Many of the programs are not of a sufficient scale to address the problems they face.

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[31] https://www.allhomes.com.au/news/canberra-renters-in-worst-properties-in-the-market-according-to-new-report-20180413-h0ypdm/.
[32] Queensland Council of Social Service (QCOSS) (2017) *Choice and Control? The Experiences of Renters in the Energy Market*, https://www.qcoss.org.au/choice-and-control-experiences-renters-energy-market.
[33] DSE 2009: Housing condition/energy performance of rental properties in Victoria. Department of Sustainability and Environment July 2009
[34] IPART 2010: Independent Pricing and Regulatory Tribunal of New South Wales (IPART) (2010) Residential Energy and Water Use in Sydney, the Blue Mountains and Illawarra: Results from the 2010 Household Survey, Sydney, IPART.
[35] *One Million Homes Roundtable Summary Report*, Environment Victoria, May, 2013, http://environmentvictoria.org.au/wp-content/uploads/2016/06/OneMillionHomes_RoundableSummaryReport.pdf.
[36] http://www.sgch.com.au/reducing-energy-poverty-in-community-housing/.

  - They often invest in only small ticket items and not where large-scale savings can be made, such as hot water and insulation.
  - They are not systematic, and therefore only reaching a small proportion in need.
- Only some tailored programs include rooftop solar PV.

Investment in energy efficiency for households can provide multiple significant benefits to people, governments, retailers and the broader community. Benefits include lower energy bills, improved health and well-being, improved resilience of the electricity system, and reduced emissions.

Scenario methodology

ACOSS and BSL sought to model the following three scenarios, to understand the impact targeted energy efficiency models would have on improving energy affordability for low-income households:

Scenario 1a. Grant of $2,000 for houses and apartments, targeted at people on low incomes.

Scenario 1b. Grant of $5,000 for houses and $2,000 for apartments, targeted at people on low incomes.

Scenario 1c. Energy efficiency standard for rental properties, targeted at 75% of rental properties, equivalent to $5,000 for houses and $2,000 for apartments.

The federal Department of the Environment and Energy provided ACOSS and BSL with Information about the costs and savings from different energy efficiency technologies when applied to rental properties and low-income households, assuming given characteristics.

It should be noted that provision of the data does not constitute an endorsement by the Department of the Environment and Energy or the Commonwealth Government of these policies or recommendations made in this report.

The Department of the Environment and Energy provided costs and saving analysis for:

- air-conditioning
- hot water
- LED
- solar power
- clothes dryers
- gap sealing.

For the final analysis only air-conditioning, hot water and LED were considered. The cost and savings for solar are included below for comparison to the energy efficiency only data.

The costs and savings of the energy efficiency technology took into consideration the following:

- house or apartment
- state
- metro / rural
- gas connection / electricity only.

For apartments, heating and cooling options are considered, and are considered to have electricity connections only.

For houses, air-conditioning, hot water and LED are considered. Options for gas and electric technologies are put forward.

The estimates were adjusted for climate zones:

- Zones 1 and 2 are combined into 2 – and cover hot climates including Darwin and Queensland
- Zones 3 and 4 are combined into 4 – covering New South Wales and parts of regional South Australia and Western Australia
- Zone 5 covers Adelaide city and Perth city
- Zone 6 is Victoria (city and regional)
- Zones 7 and 8 are combined into Zone 7 – covering cold climate regions such as the ACT and Tasmania.

For estimates of costs, a single electricity price of 25.7c/kWh is used. For gas, a single gas price of 2.5c/MJ is applied. These price figures were then adjusted by state costs.

Scenario 1a – Grant of $2,000 for houses and apartments, targeted at people on low incomes

Criteria

- $2,000 could be delivered either through a grant or other finance model.
- Applies to houses and apartments.
- Targeted at low-income households:
    - Concession card holders
    - Annual household income of $53,728 for families and $28,912 for singles
- Applies to 75% of houses and apartments (estimated percentage of houses built before 2003 when 3-star energy efficiency standards were introduced).
- Costs and savings based on:
    - Space heating/cooling for houses – Table 1.
    - Space heating/cooling for apartment – Table 2.

Table 1. Houses with $2,000 upgrades to air-conditioning and LED lights

State	Location	NCC Climate Zone	4–5 Star, 3.5kW air-conditioner		LED Lights		Total annual savings
			Cost	Annual Energy Saved	Cost	Annual Energy Saved	
ACT	RURAL	7	$780–$1,300	$246	$310.50	$197.85	$443.85
ACT	RURAL	7	$780–$1,300	$246	$310.50	$197.85	$443.85
ACT	METRO	7	$780–$1,300	$246	$310.50	$197.85	$443.85
ACT	METRO	7	$780–$1,300	$246	$310.50	$197.85	$443.85
TAS	RURAL	7	$780–$1,300	$246	$310.50	$197.85	$443.85
TAS	RURAL	7	$780–$1,300	$246	$310.50	$197.85	$443.85
TAS	METRO	7	$780–$1,300	$246	$310.50	$197.85	$443.85
TAS	METRO	7	$780–$1,300	$246	$310.50	$197.85	$443.85
NSW	METRO	5	$780–$1,300	$215	$310.50	$197.85	$412.85
NSW	METRO	5	$780–$1,300	$215	$310.50	$197.85	$412.85
NSW	RURAL	4	$780–$1,300	$215	$310.50	$197.85	$412.85
NSW	RURAL	4	$780–$1,300	$215	$310.50	$197.85	$412.85
VIC	METRO	7	$780–$1,300	$246	$310.50	$197.85	$443.85
VIC	METRO	7	$780–$1,300	$246	$310.50	$197.85	$443.85
VIC	RURAL	7	$780–$1,300	$246	$310.50	$197.85	$443.85
VIC	RURAL	7	$780–$1,300	$246	$310.50	$197.85	$443.85
QLD	METRO	2	$780–$1,300	$177	$310.50	$197.85	$374.85
QLD	METRO	2	$780–$1,300	$177	$310.50	$197.85	$374.85
QLD	RURAL	3	$780–$1,300	$177	$310.50	$197.85	$374.85
QLD	RURAL	3	$780–$1,300	$177	$310.50	$197.85	$374.85
SA	METRO	5	$780–$1,300	$172	$310.50	$197.85	$369.85
SA	METRO	5	$780–$1,300	$172	$310.50	$197.85	$369.85
SA	RURAL	4	$780–$1,300	$215	$310.50	$197.85	$412.85
SA	RURAL	4	$780–$1,300	$215	$310.50	$197.85	$412.85

Table 2. Apartments with $2,000 upgrades to air-conditioning

Climate zone	Cost of a more efficient, 4–5 Star, 3.5kW air conditioner	Savings on bills ($/year) 3.5kW	Cost of a more efficient, 4–5 Star, 2kW air conditioner	Savings on bills ($/year) 2kW
Zone 2 – QLD metro and QLD regional	$780–$1,300	$177	$700–$1,000	$136
Zone 4 – NSW metro, NSW regional, SA Regional	$780–$1,300	$215	$700–$1,000	$162
Zone 5 – SA metro	$780–$1,300	$172	$700–$1,000	$128
Zone 7 – Vic metro, Vic regional, Tas metro, Tas regional, ACT metro, ACT regional	$780–$1,300	$246	$700–$1,000	$183

Scenario 1b – Grant of $5,000 for houses and $2,000 for apartments, targeted at people on low incomes

Criteria

- Could be delivered either through a grant or other finance model.
- Applies to houses ($5,000) and apartments ($2,000).
- Targeted at low-income households:
  - Concession card holders.
  - Annual household income of $53,728 for families and $28,912 for singles.
- Applies to 75% of houses and apartments (estimated percentage of houses built before 2003 when 3-star energy efficiency standards were introduced).
- Costs and savings based on:
  - $5,000 for houses (regular tariff households, Table 3, and load tariff households, Table 4):
    - An upgrade to the hot water systems ($2,800).
    - Upgrades to space heating with an energy efficient, 3.5kW reverse cycle air-conditioner for common areas of house and apartments ($2,000).
    - Replacement of all lighting with LED bulbs ($200).
  - $2,000 for apartment space heating/cooling, Table 2.

Table 3. Houses with $5,000 upgrades to hot water (on regular tariff), air-conditioning and LED bulbs

State	Location	NCC Climate Zone	Hot water			4–5 Star, 3.5kW air conditioner		LED Lights		Total annual savings
			GAS / ELECTRIC	Additional Upfront Cost ($) to replace old model with a more efficient model	Annual Energy Saved (state prices)	Cost	Annual Energy Saved	Cost	Annual Energy Saved	
ACT	RURAL	7	GAS	$864	$223	$780–$1,300	$246	$310.50	$197.85	$666.85
ACT	RURAL	7	ELECTRIC	$501	$822	$780–$1,300	$246	$310.50	$197.85	$1,265.85
ACT	METRO	7	GAS	$864	$223	$780–$1,300	$246	$310.50	$197.85	$666.85
ACT	METRO	7	ELECTRIC	$501	$822	$780–$1,300	$246	$310.50	$197.85	$1,265.85
TAS	RURAL	7	GAS	$864	$290	$780–$1,300	$246	$310.50	$197.85	$733.85
TAS	RURAL	7	ELECTRIC	$501	$691	$780–$1,300	$246	$310.50	$197.85	$1,134.85
TAS	METRO	7	GAS	$864	$290	$780–$1,300	$246	$310.50	$197.85	$733.85
TAS	METRO	7	ELECTRIC	$501	$691	$780–$1,300	$246	$310.50	$197.85	$1,134.85
NSW	METRO	5	GAS	$864	$272	$780–$1,300	$215	$310.50	$197.85	$684.85
NSW	METRO	5	ELECTRIC	$501	$874	$780–$1,300	$215	$310.50	$197.85	$1,286.85
NSW	RURAL	4	GAS	$864	$272	$780–$1,300	$215	$310.50	$197.85	$684.85
NSW	RURAL	4	ELECTRIC	$501	$791	$780–$1,300	$215	$310.50	$197.85	$1,203.85
VIC	METRO	7	GAS	$864	$175	$780–$1,300	$246	$310.50	$197.85	$618.85
VIC	METRO	7	ELECTRIC	$501	$936	$780–$1,300	$246	$310.50	$197.85	$1,379.85
VIC	RURAL	7	GAS	$864	$175	$780–$1,300	$246	$310.50	$197.85	$618.85
VIC	RURAL	7	ELECTRIC	$501	$936	$780–$1,300	$246	$310.50	$197.85	$1,379.85
QLD	METRO	2	GAS	$864	$496	$780–$1,300	$177	$310.50	$197.85	$870.85
QLD	METRO	2	ELECTRIC	$501	$633	$780–$1,300	$177	$310.50	$197.85	$1,007.85
QLD	RURAL	3	GAS	$864	$519	$780–$1,300	$177	$310.50	$197.85	$893.85
QLD	RURAL	3	ELECTRIC	$501	$736	$780–$1,300	$177	$310.50	$197.85	$1,110.85
SA	METRO	5	GAS	$864	$350	$780–$1,300	$172	$310.50	$197.85	$719.85
SA	METRO	5	ELECTRIC	$501	$1,064	$780–$1,300	$172	$310.50	$197.85	$1,433.85

SA	RURAL	4	GAS	$864	$349	$780–$1,300	$215	$310.50	$197.85	$761.85
SA	RURAL	4	ELECTRIC	$501	$963	$780–$1,300	$215	$310.50	$197.85	$1,375.85

Table 4. Houses with $5,000 upgrade to hot water (on load tariff), air-conditioning and LED bulbs

State	Location	NCC Climate Zone	Hot water			4–5 Star, 3.5kW air conditioner		LED		Total savings
			GAS / ELECTRIC	**Additional Upfront Cost ($) to replace old model with a more efficiency model**	**Annual Energy Saved (state prices) – load tariff for electricity**	**Cost**	**Annual Energy Saved (state prices)**	**Cost**		
ACT	RURAL	7	GAS	$864	$223	$780–$1,300	$246	$310.50	$197.85	$666.85
ACT	RURAL	7	ELECTRIC	$501	$129	$780–$1,300	$246	$310.50	$197.85	$572.85
ACT	METRO	7	GAS	$864	$223	$780–$1,300	$246	$310.50	$197.85	$666.85
ACT	METRO	7	ELECTRIC	$501	$129	$780–$1,300	$246	$310.50	$197.85	$572.85
TAS	RURAL	7	GAS	$864	$290	$780–$1,300	$246	$310.50	$197.85	$733.85
TAS	RURAL	7	ELECTRIC	$501	$164	$780–$1,300	$246	$310.50	$197.85	$607.85
TAS	METRO	7	GAS	$864	$290	$780–$1,300	$246	$310.50	$197.85	$733.85
TAS	METRO	7	ELECTRIC	$501	$164	$780–$1,300	$246	$310.50	$197.85	$607.85
NSW	METRO	5	GAS	$864	$272	$780–$1,300	$215	$310.50	$197.85	$684.85
NSW	METRO	5	ELECTRIC	$501	$254	$780–$1,300	$215	$310.50	$197.85	$666.85
NSW	RURAL	4	GAS	$864	$272	$780–$1,300	$215	$310.50	$197.85	$684.85
NSW	RURAL	4	ELECTRIC	$501	$73	$780–$1,300	$215	$310.50	$197.85	$485.85
VIC	METRO	7	GAS	$864	$175	$780–$1,300	$246	$310.50	$197.85	$618.85
VIC	METRO	7	ELECTRIC	$501	$272	$780–$1,300	$246	$310.50	$197.85	$715.85
VIC	RURAL	7	GAS	$864	$175	$780–$1,300	$246	$310.50	$197.85	$618.85
VIC	RURAL	7	ELECTRIC	$501	$178	$780–$1,300	$246	$310.50	$197.85	$621.85
QLD	METRO	2	GAS	$864	$496	$780–$1,300	$177	$310.50	$197.85	$870.85

QLD	METRO	2	ELECTRIC	$501	$184	$780–$1,300	$177	$310.50	$197.85	$558.85
QLD	RURAL	3	GAS	$864	$519	$780–$1,300	$177	$310.50	$197.85	$893.85
QLD	RURAL	3	ELECTRIC	$501	$214	$780–$1,300	$177	$310.50	$197.85	$588.85
SA	METRO	5	GAS	$864	$350	$780–$1,300	$172	$310.50	$197.85	$719.85
SA	METRO	5	ELECTRIC	$501	$309	$780–$1,300	$172	$310.50	$197.85	$678.85
SA	RURAL	4	GAS	$864	$349	$780–$1,300	$215	$310.50	$197.85	$761.85
SA	RURAL	4	ELECTRIC	$501	$280	$780–$1,300	$215	$310.50	$197.85	$692.85

While we didn't model solar photovoltaics, for simplicity of modelling, we note the costs and savings on energy bills of installing rooftop solar (see Table 5) are similar to savings in Table 3 (mix of energy efficiency measures for households on regular tariff).

Table 5. House $5,000 installation of solar PV

		kW Installed Capacity	Cost	Total Saving	Payback (years)
ACT	METRO	4	$3,780.00	$1,730.38	2.18
TAS	RURAL	4	$5,600.00	$934.70	5.99
TAS	METRO	4	$5,600.00	$900.90	6.22
NSW	METRO	4	$4,250.00	$993.33	4.28
NSW	RURAL	4	$4,250.00	$1,025.98	4.14
VIC	METRO	4	$4,450.00	$1,293.84	3.44
VIC	RURAL	4	$4,450.00	$1,097.20	4.06
QLD	METRO	4	$4,750.00	$1,024.53	4.64
QLD	RURAL	4	$4,750.00	$1,139.12	4.17
SA	METRO	4	$4,280.00	$1,749.64	2.45
SA	RURAL	4	$4,280.00	$1,474.94	2.90

Scenario 1c – Energy efficiency standard, targeted at 75% of rental properties, equivalent to $5,000 for houses and $2,000 for apartments

Criteria

- Delivered as an energy efficiency standard for rental properties.
- Applies to all houses ($5,000) and apartments ($2,000).
- Applies to 75% of all rental properties (estimated percentage of houses built before 2003 when 3-star energy efficiency standards were introduced).
    - $5,000 for houses (regular tariff household, Table 3 and load tariff households, Table 4):

- An upgrade to the hot water systems ($2,800).
- Upgrades to space heating with an energy efficient, 3.5kW reverse cycle air-conditioner for common areas of house and apartments ($2,000).
- Replacement of all lighting with LED bulbs ($200).

o $2,000 for apartment space heating/cooling, Table 2.

APPENDIX F – REGULATING A FAIR RETAIL PRICE

Background

Retail competition is not delivering benefits to people

Evidence from the ACCC,[37] AEMC,[38] AER[39] and St Vincent de Paul[40] suggests that competitive retail energy markets are not currently delivering the expected benefits to customers and have not held up the promise of lower and more efficient prices for all.

The 2018 annual St Vincent de Paul Tariff-Tracking report finds the price differences can be significant between the worst standing offer and the best market offer, and were up to $2,675 per annum (depending on their network area).[41]

The Tariff-Tracking report also notes there is a large spread between market offers. The difference between the best and the worst offer can be more than $1,000 a year, depending on the state and network area.[42]

Competition was meant to drive efficiency and innovation, however the ACCC in its final report on retail electricity pricing[43] reported that there has been little innovation and costs are increasing as retailers compete to acquire and retain customers because of increased competition.

On innovation, the ACCC noted that "electricity is a homogenous product, with little ability for product differentiation". Submitters to the ACCC review of retail electricity prices noted that, to date:

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[37] Op cit.
[38] AEMC (2018) *2018 Retail Energy Competition Review*, https://www.datocms-assets.com/5684/1528864055–2018-retail-energy-competition-reviewfinal15junepublished.pdf.
[39] AER (2015) *Annual Report of the Performance of the Retail Energy Market*, https://www.aer.gov.au/system/files/AER%20Annual%20Report%20on%20the%20Performance%20of%20the%20Retail%20Energy%20Market%20201415_0.PDF.
[40] St Vincent de Paul Society and Alviss Consulting, October, 2018 Tariff-Tracker.
[41] Victorian Energy Prices July 2018, An Update Report on the Victorian Tariff-Tracking Project, https://www.vinnies.org.au/icms_docs/291687_Victorian.pdf.
[42] Taken from various state Tariff-Tracking Project reports in 2018, https://www.vinnies.org.au/page/Our_Impact/Incomes_Support_Cost_of_Living/Energy/.
[43] Op cit.

- the marketing of retailers' homogenous product offerings is largely focused on pay-on-time discounts as a selling point
- differences in prices or price structures are not innovative
- the basic structure of retail electricity pricing has not changed for some time
- there are few examples of retailers innovating in ways to reduce their customers' usage.

The ACCC further noted that while there has been some positive innovation (apps to help customers monitor usage and bills, new technologies with associated tailored plans, alternative pricing structures), this has had limited impact on retail price offerings as most consumers appear to "simply prefer a low price".[44] This is not surprising given the homogeneity of electricity and its essential nature. The problem now is that not all customers are getting a fair price for an essential service.

The ACCC argued:

> *Retailers have made pricing structures confusing and have developed a practice of discounting which is opaque and not comparable across the market. Standing offers are priced excessively to facilitate this practice, leaving inactive customers paying far more than they need to for electricity. Pay on time discounts, which have emerged as a response to attempts to constrain late payment fees, are excessive and punitive for those customers who fail to pay bills on time.*[45]

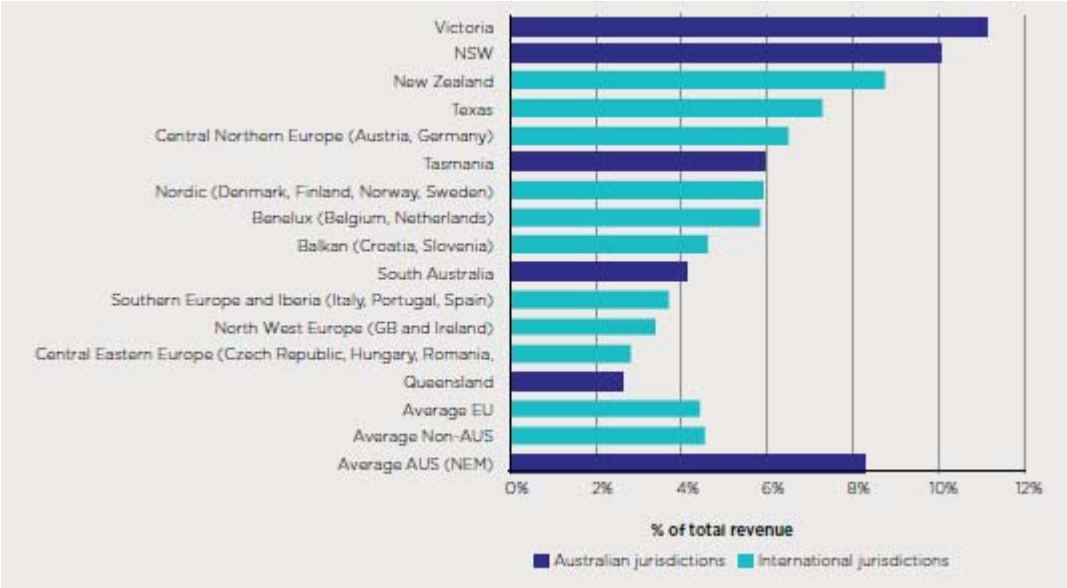
For households to get the better deals in the market, they need to regularly engage with the retail electricity or gas market to ensure they are receiving a competitively priced supply. However, most households are found to be disengaged from the energy market and are paying more than necessary. The AEMC's 2017 Retail Energy Competition Review found around 50 per cent of all customers had not switched electricity retailer or plan in the last five years.[46] These households are likely to be paying significantly more than customers who actively pursue a better offer.

While there may be evidence that some low-income households actively engage in the energy market to try to find the best deals, a significant proportion of low-income households do not access the same low-cost offers, and are being further penalised as a result of their vulnerability, whether it be through lack of access to the internet, language and literacy skills, time, trust, and understanding of the complicated practices of electricity retailers. Retailers are profiting from disengaged households.

Further, the ACCC found Australian electricity prices, gross margins and net margins are among the highest in the world, and that retail margins vary significantly by state. The highest margins in the NEM were in Victoria (above 11%), which is considered to be the most mature of the competitive markets, and margins in Victoria have been increasing in recent years. New South Wales also had relatively high retail margins (around 10%), while South Australia and Queensland have the lowest margins (see Figure 1). It's clear that in some jurisdictions customers are not receiving efficient pricing.

[44] Op cit.
[45] Op cit.
[46] AEMC (2017) Retail Energy Competition Review, https://www.aemc.gov.au/sites/default/files/content/006ad951–7c42–4058–9724–51fe114cabb6/2017-AEMC-Retail-Energy-Competition-Review-FINAL.pdf.

Figure 1. Gross retail margins, 2016–17, c/kWh, Australian states and overseas



Regulated retail price

To address the problem of excessively high retail offers in Victoria, an Independent Review into the Electricity and Gas Retail Markets in Victoria (Thwaites Review) recommended the introduction of a Basic Service Offer (BSO).[47] The Thwaites Review proposed the BSO would be determined by the regulator and would be based on the efficient cost to run a retail business. It would include an allowance for a maximum retail profit, but would not include CARC or headroom. The Thwaites Review also suggests that retailers would still be able to compete around the BSO offer, as retailers would be free to innovate and offer higher or lower prices.

In their electricity retail price report, the ACCC raised concerns that a BSO could reduce innovation (despite limited innovation occurring to date) and the exclusion of CARC would drive some retailers to exit the market, leading to fewer options for consumers (despite increased competition not driving down retail prices, and increasing costs to compete). The ACCC recommended instead a default offer price that the Australian Energy Regulator (AER) would set to replace the current high inflated standing offer (which retailers set). The default offer would include a reasonable retail margin and include costs of CARC.

At the time of writing this report, at the request of the federal government, the AER is consulting on the development of a Default Market Offer (DMO), along the lines of the ACCC's recommendation for a default offer price. Rather than determine the DMO based on a bottom-up approach to determine an efficient and fair

[47] https://www.energy.vic.gov.au/__data/assets/pdf_file/0026/79172/FINAL-Report-2.pdf.

price based on costs of business, the AER proposes to take the median standing and market offer prices in each network, which means those markets where retail margins are higher than other markets will remain so.

Scenario methodology

To understand the impact that a regulated retail price could have on improving the affordability of energy bills for low-income households, ACOSS and BSL worked with an industry expert to develop a retail tariff model to estimate:

- a Regulated Retail Price (RRP) that represents an efficient and fair price of providing a retail service, which includes costs of retail, a fair retail margin and provision for customer retention and acquisition; and
- a Basic Service Offer (BSO) more in line with the recommendations of the Thwaites Review, which also aims to identify and establish an efficient and fair price of providing a retail service, which includes costs of retail and a fair retail margin, but excludes customer retention and acquisition costs.

Retail tariff model assumptions

The retail tariff model calculates the generally accepted cost components that retailers face for 2018/19 in the following way:

- Wholesale energy costs are calculated by applying the premium of wholesale energy costs over wholesale spot prices observed in the AEMC's most recent price trends reports to a forecast of wholesale spot prices for 2018/19 that is based on ASXEnergy swap prices for 2018/19.
- Costs of complying with the Large-scale Renewable Energy Target (LRET) and Small-scale Renewable Energy Scheme (SRES) are based on retailers' percentage obligations for 2018/19 and observed prices for Large-scale Generation Certificates (LGCs) and Small-scale Technology Certificates (STCs).
- Network tariffs are based on published network use of system (NUOS) tariffs for each distribution area in the NEM.
- Network losses are based on published loss factors.
- Market fees, ancillary services costs and costs of complying with any relevant jurisdictional schemes are based on the AEMC's most recent prices trends reports.
- Retail operating costs, customer acquisition costs and the retail margin are based on recent regulatory allowances.
    - The allowance for retail operating costs is $128/customer/year. This allowance for retail operating costs is from Independent Pricing and Regulatory Tribunal (IPART's) 2013 review of regulated retail prices for 2013 to 2016, adjusting for inflation to 2018/19.
    - The allowance for customer acquisition costs is $51/customer/annum, which reflects the recovery of acquisition costs over a number of years for which customers are assumed to remain with a retailer. This allowance for customer acquisition costs is the bottom-up estimates from IPART's 2013 review of regulated retail prices for 2013 to 2016, adjusting for inflation to 2018/19.

- The allowance for the retail margin is 5.7%. This retail margin is from IPART's 2013 review of regulated retail prices for 2013 to 2016; it reflects a regulated allowance rather than an estimate of the retail margin that retailers are actually earning (as reported by the ACCC[48]).

Total annual retail bills for each of the two estimates of regulated tariffs are based on reported annual average consumption for residential customers in the relevant distribution area. The estimates of annual average consumption for residential customers are sourced from the AEMC's most recent retail price trends report.

The two regulated retail tariffs are calculated as follows:

- Regulated Retail Price (RRP) – includes the generally accepted costs that retailers face in supplying electricity to small retail customers, which include wholesale electricity costs, network costs, costs of complying with green schemes and energy efficiency schemes, market fees and ancillary services, retail operating costs, customer acquisition costs and a retail margin of 5.7% of total costs.
- Basic Service Offer (BSO) – includes all of the same costs to retailers as the RRP, except that it does not include an allowance for customer acquisition costs, and the dollar amount of the retail margin reduces because the retail margin of 5.7% is not applied to an allowance for customer acquisition costs. The BSO was therefore calculated to be $53.90 less than the RRP.

Scenarios used to model the impact of regulated price on households

Given that there was little difference – $53.90 per annum – between the RRP and the BSO, we chose to focus only on the RRP to understand the impact on households, in order to give ourselves more design options to model, as follows.

However, we felt it was still informative to report on both the RRP and BSO against existing tariffs.

Scenario 2a. All households take up the regulated retail price unless they are on a cheaper price already.

Scenario 2b. 100% of low-income households (concession households and working families earning $53,728 for couples and $28,912 for singles) take up the regulated retail price, unless they are on a cheaper price already.

Scenario 2c. 30% of households take up the regulated retail price across all households.

Comparing regulated retail tariffs against existing tariffs

The RRP and BSO were estimated for each of the retailers that operate in a distribution area in the NEM. The regulated retail tariff scenarios were considered against three other tariffs:

- a standing offer tariff;

[48] ACCC numbers of retail margins.

- a market offer tariff that includes guaranteed discounts; and
- a market offer tariff that includes conditional discounts.

Information on the three tariffs for each of the key retailers in each distribution area[49] was sourced from St Vincent de Paul's Tariff-Tracking project.[50] The 2018 data for New South Wales was not available at time of the analysis was done and 2017 figures were used.

Total annual retail bills for these tariffs are based on the same reported annual average consumption for residential customers used to report total annual bills for the regulated tariffs. Note that this annual average consumption is different from the annual average consumption used in St Vincent de Paul's Tariff-Tracking project, but the spreadsheets released as part of the Tariff-Tracking project allow for this adjustment.

Results – Comparison of regulated retail price to current market and standing offers

Figures 2 to 13 chart the electricity retail market offers and standing offers for FY18/19 in comparison with the Regulated Retail Price and estimated BSO, for each of the NEM networks. Comparisons were only made for jurisdictions where retail competition exists in the NEM.

The two estimates of the regulated prices are below standard offers and, in most cases, the market offers with guaranteed discounts, but they are more in line with market offers with conditional discounts.

In Victoria, we see that the two estimates of the regulated price are often even below a number of market offers with conditional discounts. This is consistent with the observation that retailers have been earning higher margins in Victoria recently.

[49] Note that the New South Wales 2018 tariff-tracker data was not available at the time of developing the regulated retail tariff model, and 2017 data was used.
[50] https://www.vinnies.org.au/page/Our_Impact/Incomes_Support_Cost_of_Living/Energy/.

Figure 2. FY 18/19 electricity retail market offers and standing offers in comparison with an estimated regulated price and estimated basic service offer for the Australian Capital Territory

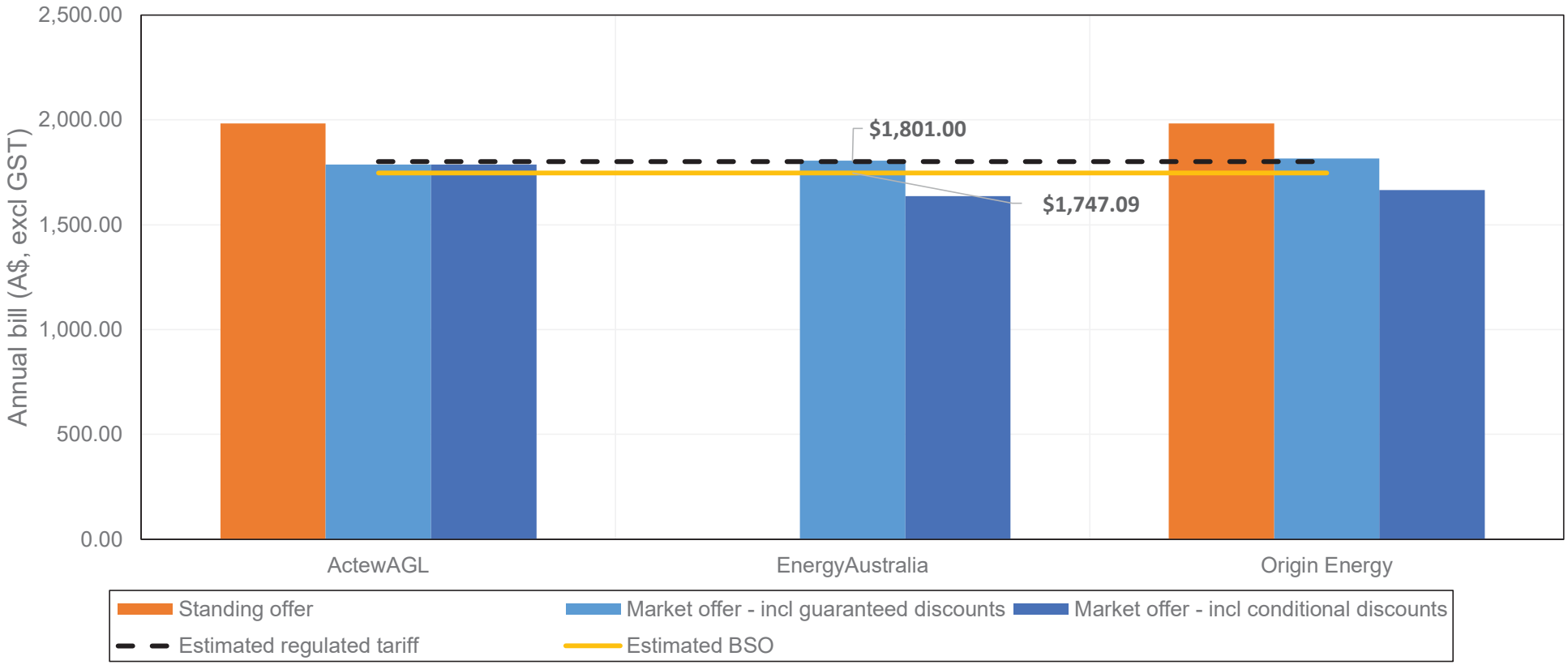


Figure 3. FY 18/19 electricity retail market offers and standing offers in comparison with an estimated regulated price and estimated basic service offer for Tasmania

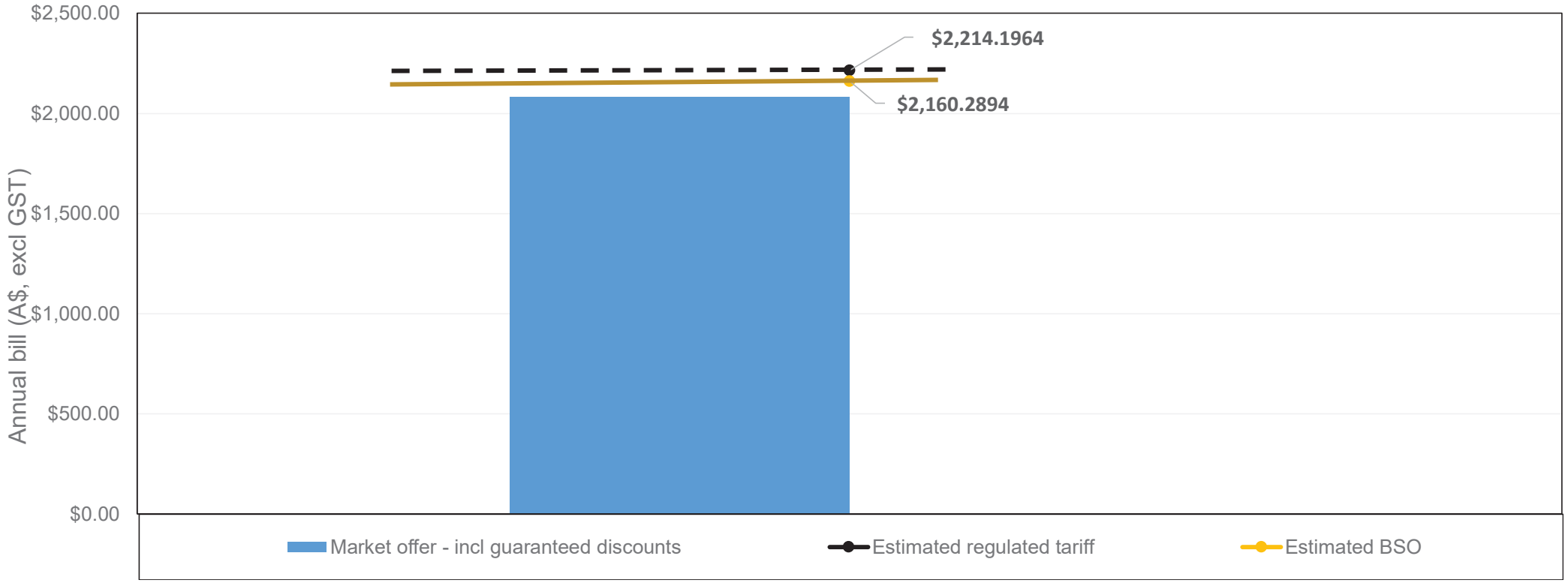


Figure 4. FY 18/19 electricity retail market offers and standing offers in comparison with an estimated regulated price and estimated basic service offer for South Australia

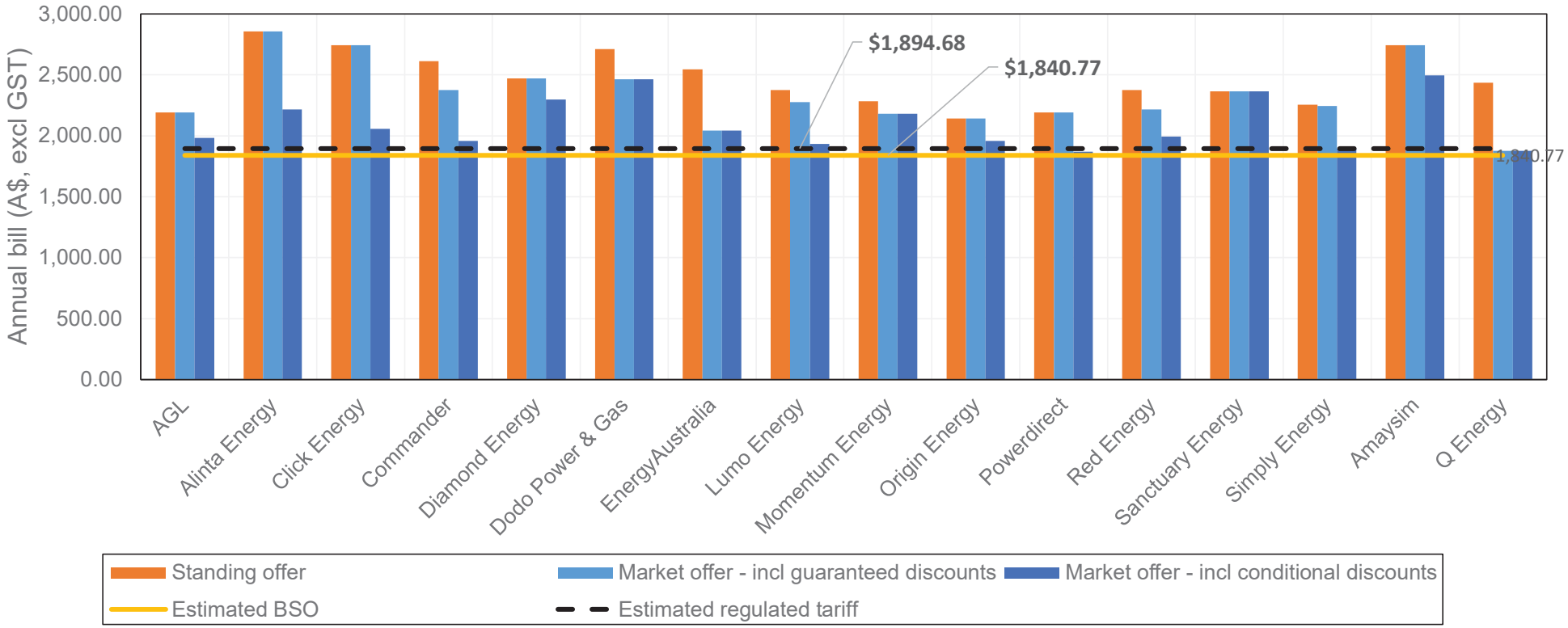


Figure 5. FY 18/19 electricity retail market offers and standing offers in comparison with an estimated regulated price and estimated basic service offer for south-east Queensland

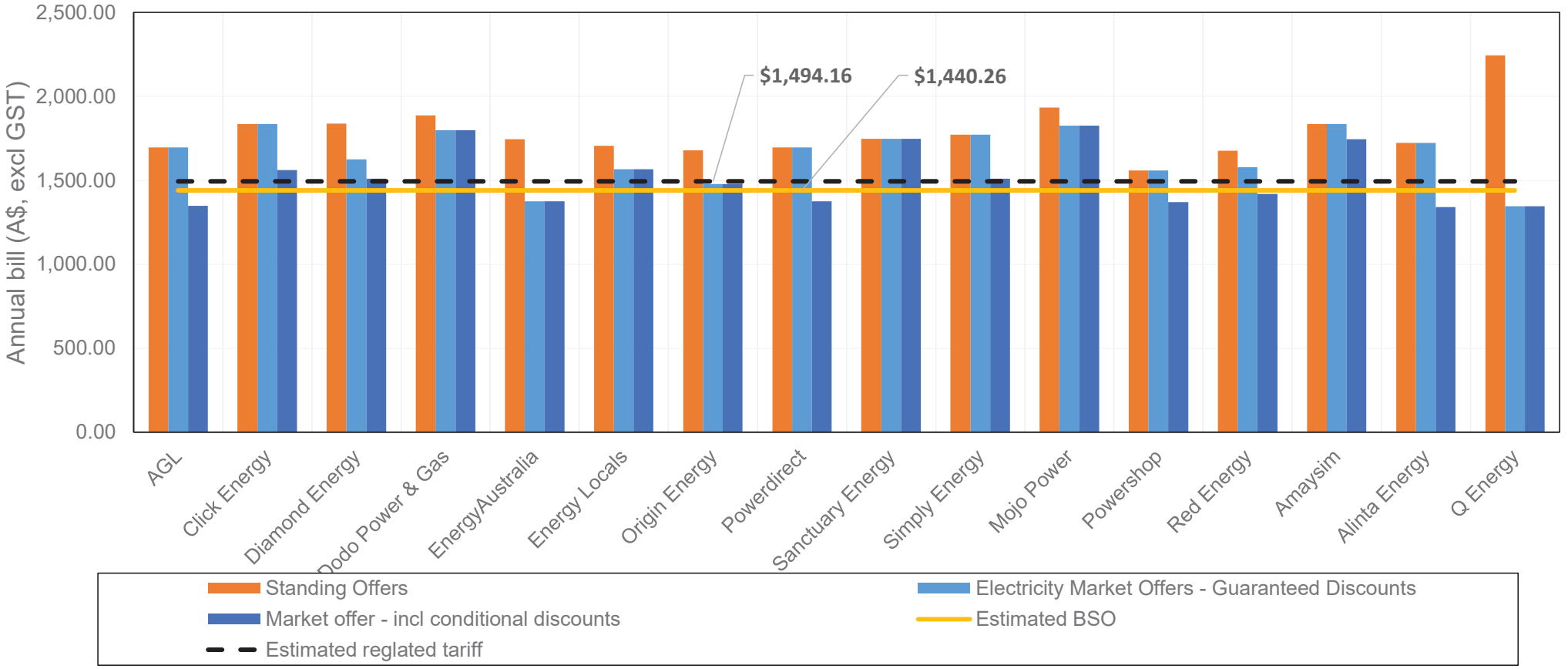


Figure 6. FY 18/19 electricity retail market offers and standing offers in comparison with an estimated regulated price and estimated basic service offer for New South Wales – Ausnet Network

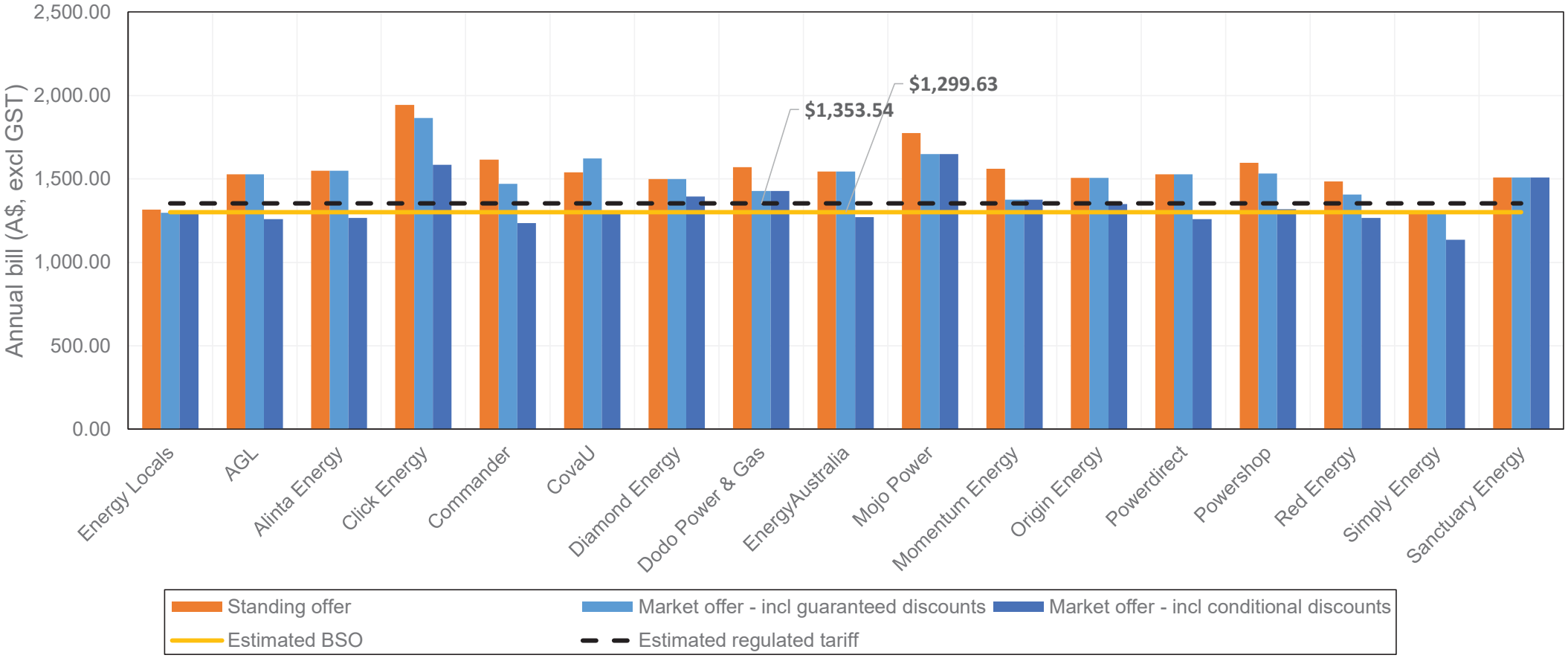


Figure 7. FY 18/19 electricity retail market offers and standing offers in comparison with an estimated regulated price and estimated basic service offer for New South Wales – Endeavour Network

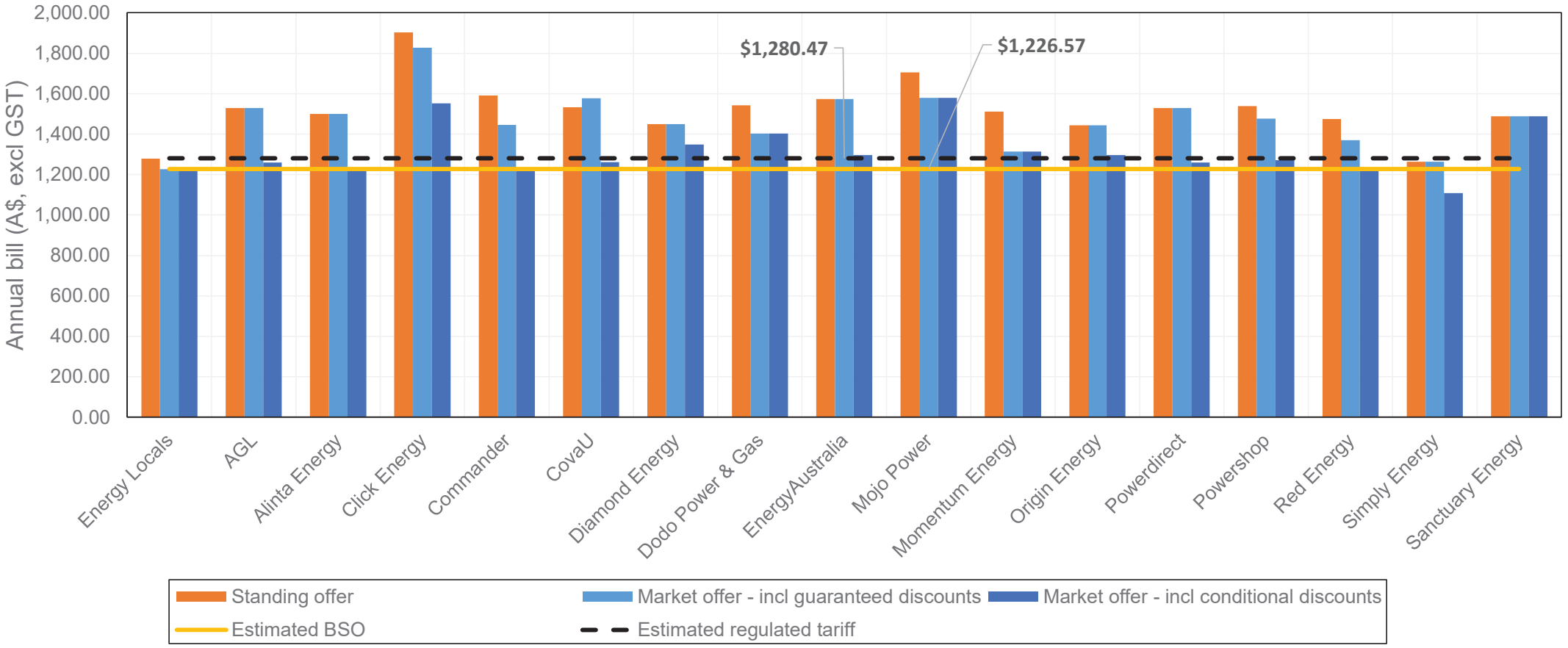


Figure 8. FY 18/19 electricity retail market offers and standing offers in comparison with an estimated regulated price and estimated basic service offer for New South Wales – Essential Network (regional)

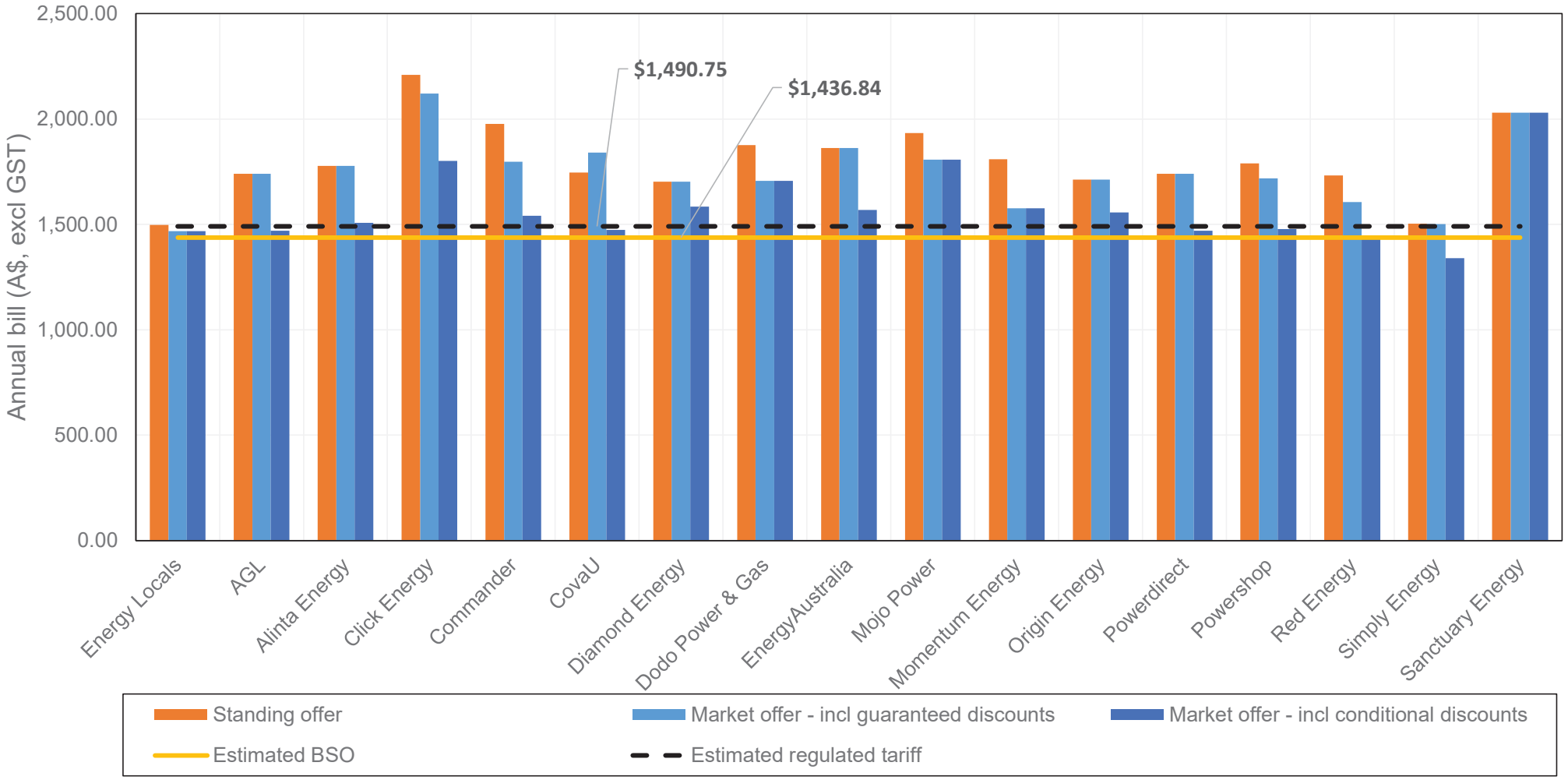


Figure 9. FY 18/19 electricity retail market offers and standing offers in comparison with an estimated regulated price and estimated basic service offer for Victoria – Citipower Network (metro)

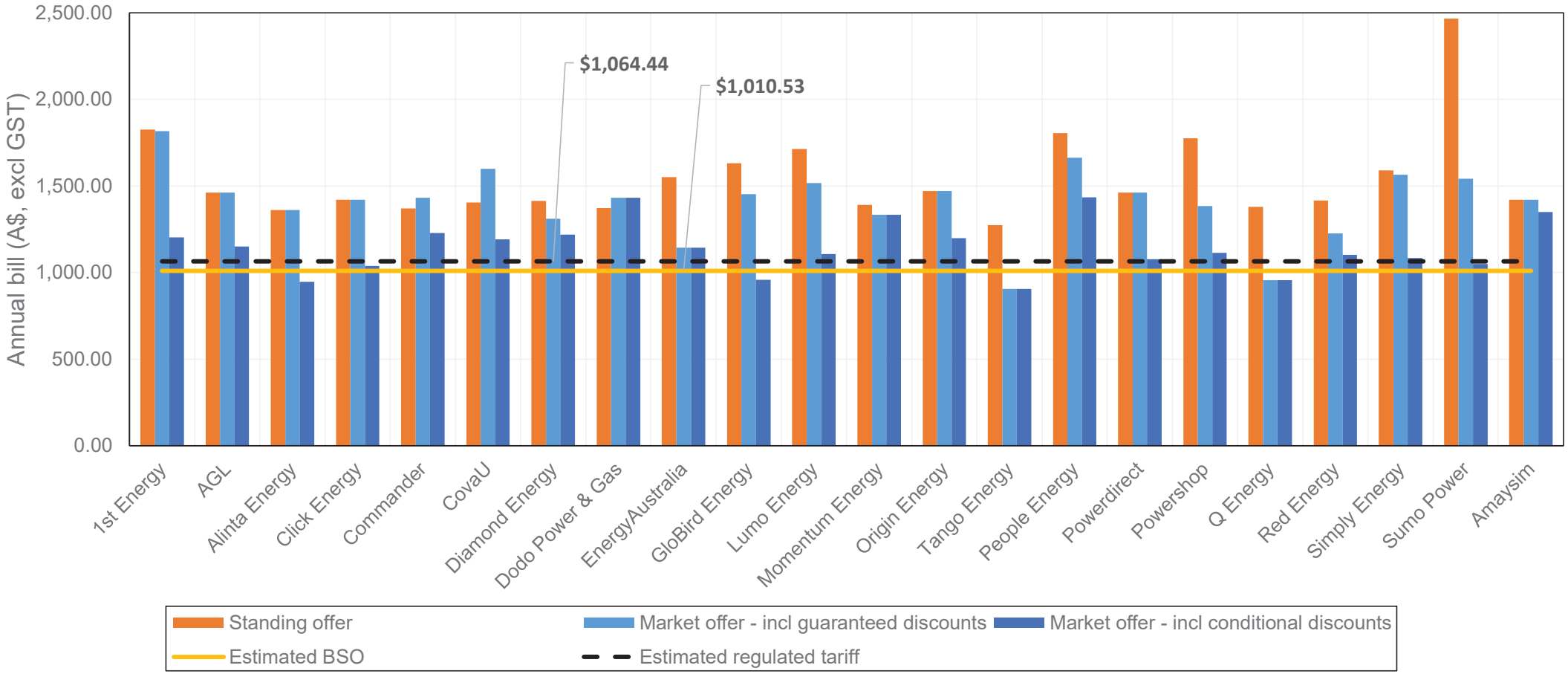


Figure 10. FY 18/19 electricity retail market offers and standing offers in comparison with an estimated regulated price and estimated basic service offer for Victoria – Jemena Network (metro)

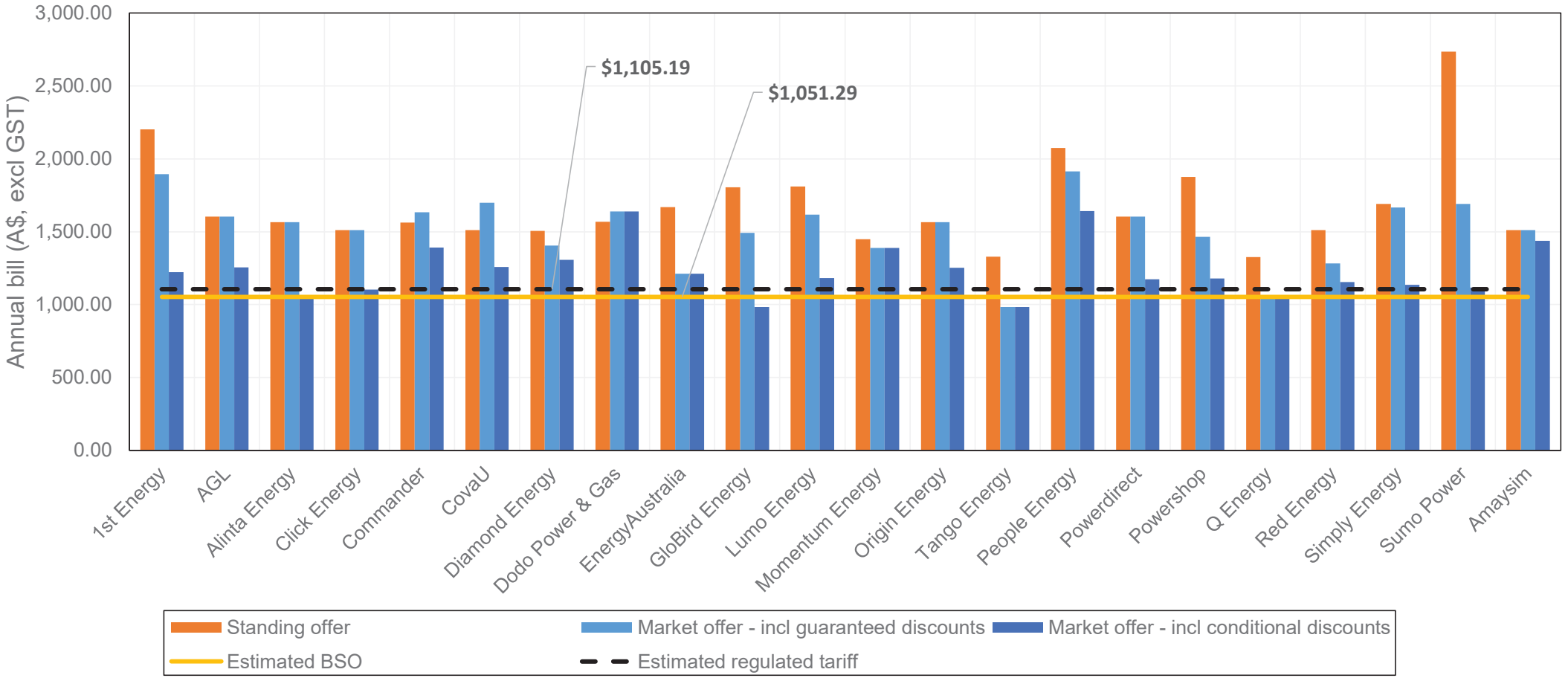


Figure 11. FY 18/19 electricity retail market offers and standing offers in comparison with an estimated regulated price and estimated basic service offer for Victoria – United Network (metro)

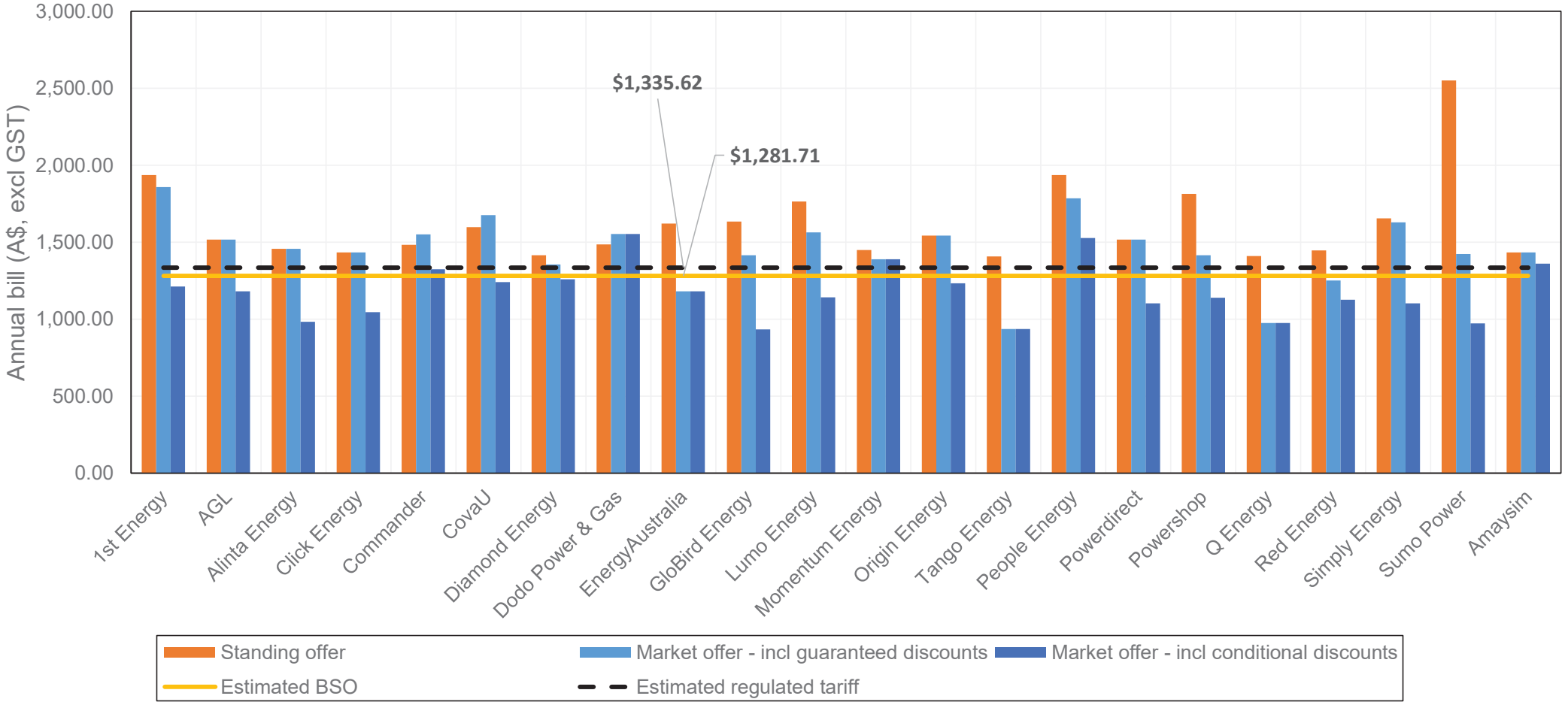


Figure 12. FY 18/19 electricity retail market offers and standing offers in comparison with an estimated regulated price and estimated basic service offer for Victoria – Powercor Network (regional)

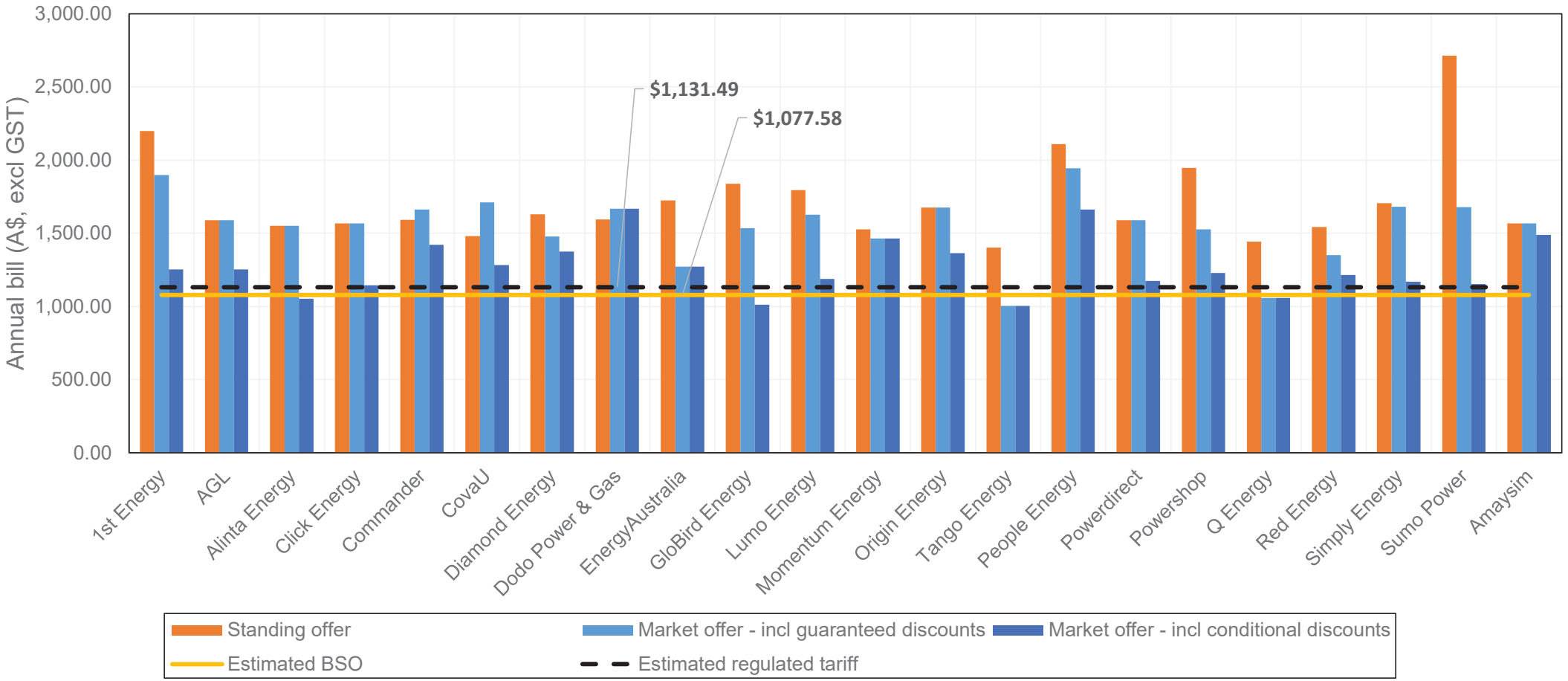
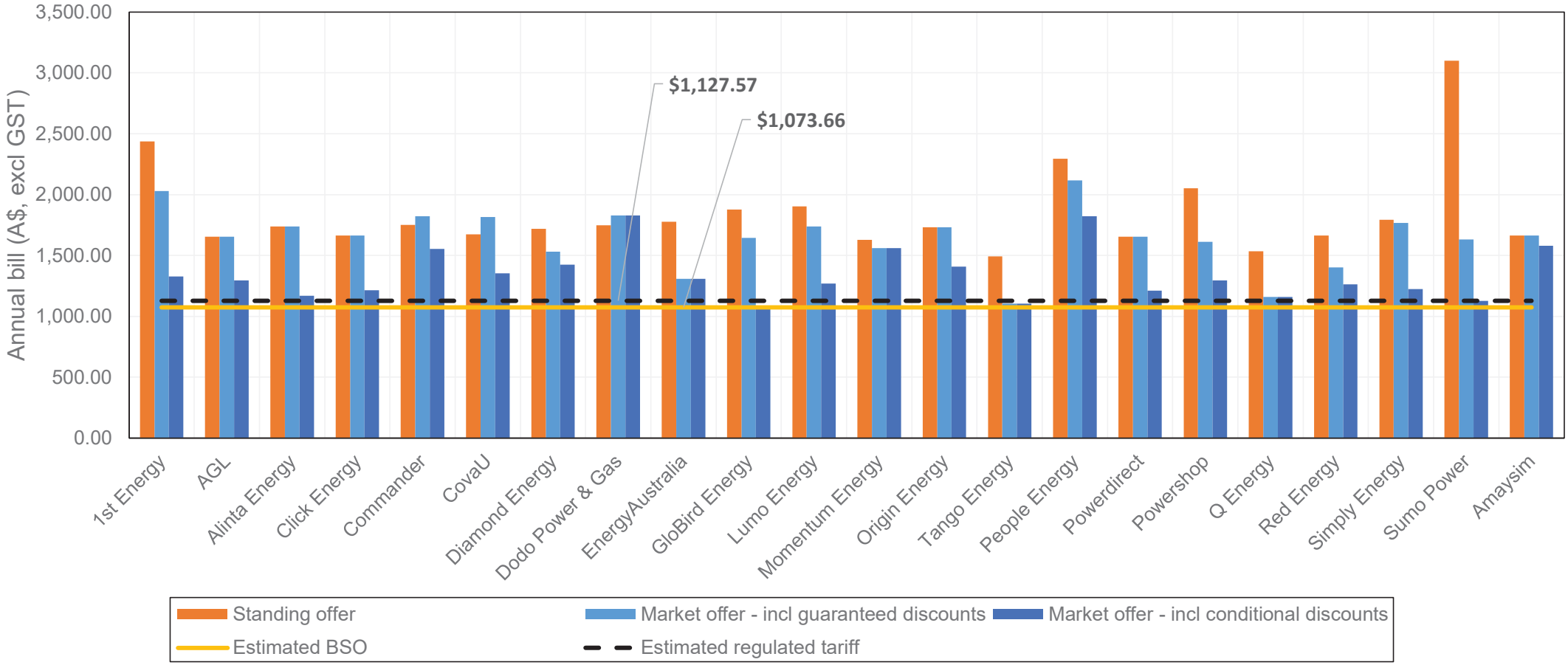


Figure 13. FY 18/19 electricity retail market offers and standing offers in comparison with an estimated regulated price and estimated basic service offer for Victoria – Ausnet Network (regional)



APPENDIX G – RAISING NEWSTART TO REDUCE ENERGY STRESS

Newstart and Youth Allowance have not increased in real terms in 24 years (Figure 1). As a result, over 800,000 people struggle on $39 a day, while the cost of essentials such as energy has drastically increased.

With only one job available for every eight people looking for paid work or more hours,[51] more than 70% of people receiving Newstart end up being unemployed for 12 months or more. More older people are being forced to rely on Newstart when they are made redundant from work and struggle to find new employment. And one in four people on Newstart has a partial capacity to work because of illness or disability. The Household Expenditure Survey (HES) data found the proportion of renters and single parents on Newstart has risen significantly since 2008.

The ACOSS and BSL report, *Energy Stressed in Australia*, found that households dependent on Newstart and related allowances are hit hardest by high energy bills. On average, these households spend 6.3% of their income on energy, up from 5.2% ten years prior, with one in four of these households spending more than 9.7% of their incomes on energy (Figure 2[52]), compared to 7.7% in 2008.

When housing costs were also included, one in four households was found to be spending more than 59% of their income on energy and housing. Of great concern is the marked change from 2008. In 2008, half of Newstart households spent between 8% and 52% of their income on energy and housing combined; by 2018, half of these households were spending a much higher minimum of 32.4% and up to 59.4% (see Figure 3).

Figure 1. Newstart versus pensions and wages ($2017)

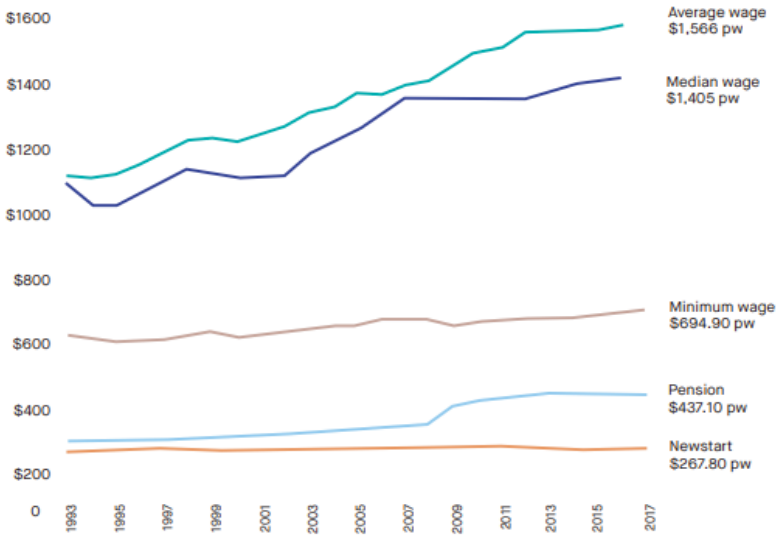
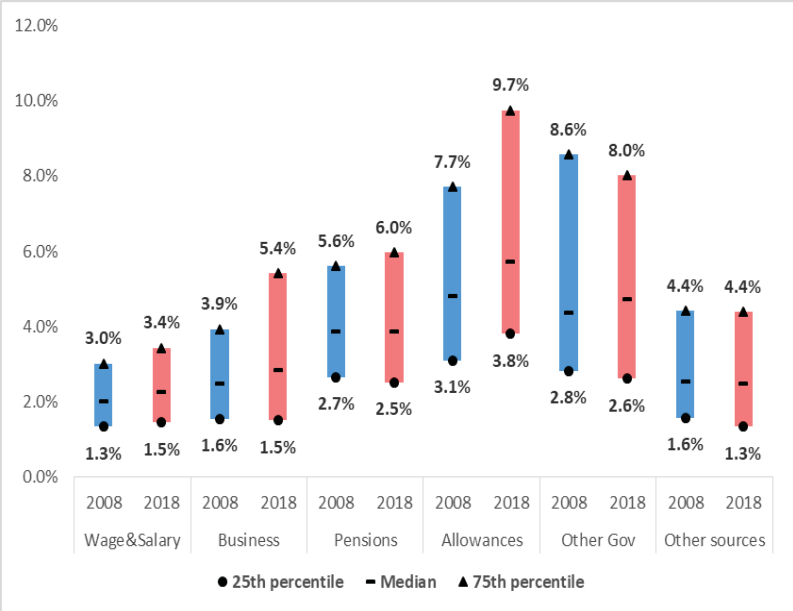


Figure 2. Percentile distribution for electricity and gas expenditure as a percentage of income by main disposable income



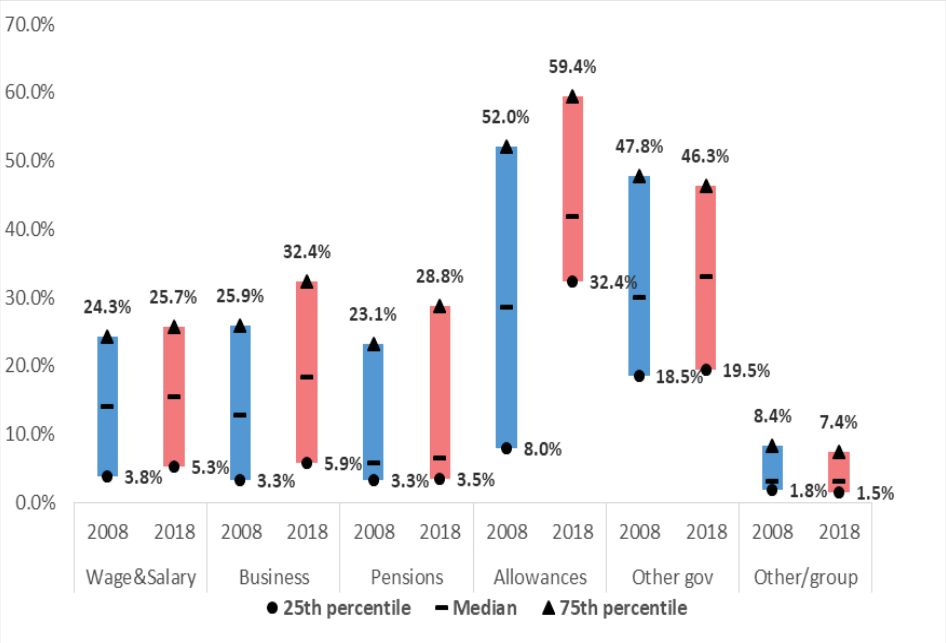
[51] ABS 2018.

[52] Figure 2 shows the percentage of energy expenditure for the middle range of different income groups. Within each group, the top of the column is the 75th percentile, the dash is the middle, and the bottom of the graph is the 25th percentile.

While low-income households were found to pay more of their income on energy, they typically used less energy. The figures cited here take into account energy concessions received. Clearly, lack of capacity to pay is a key factor in energy affordability for Newstart households.

Research by the University of New South Wales (UNSW) found that a single unemployed person needs $434 per week to cover the cost of the basics. Newstart is just $278 per week, the pension is $437.10. The UNSW researchers also estimated that an additional $96 per week would be the bare minimum to cover cost of housing, food, basic healthcare and transport.[53]

Figure 3. Percentile distribution for energy and housing expenditure as a percentage of income by main disposable income



[53] Saunders,P, and Bedford, M. (2017) New Minimum Income for Healthy Living Budget Standards for Low-Paid and Unemployed Australians http://unsworks.unsw.edu.au/fapi/datastream/unsworks:46140/binc76de784-a739-416b-9361-6ebb285882ea?view=true

APPENDIX H – ENERGY CONCESSIONS

Background

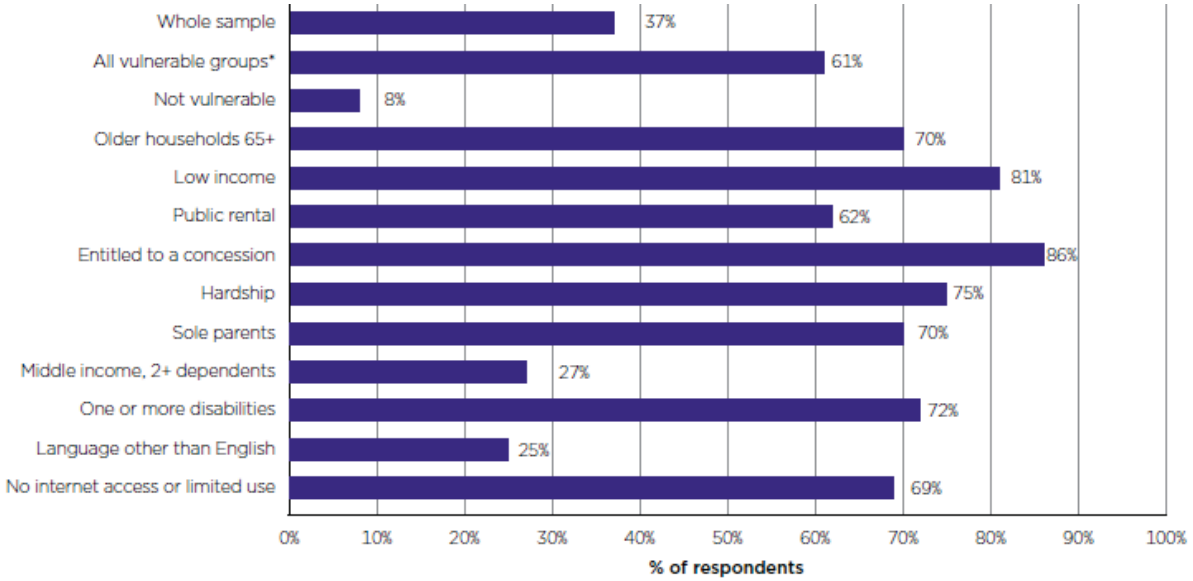
More than 2 million people in Australia access energy concessions (see table 1). They provide an important buffer against high energy bills. The 2018 ACCC report on retail electricity prices found that electricity concessions had a positive impact on bills for all target groups (see Figure 1), cutting 3.6–6.5 c/kWh from the average effective unit charges for each group.[54]

Table 1 Concession Household Count in Base Model by family type

Household Type	*Concession Households*	*%*
Couple Children	161,401	5.4%
Couple Only	517,712	17.8%
Lone Person	584,686	24.5%
Other	579,282	14.0%
Single Parent	197,918	20.0%
Total	**2,040,999**	**15.2%**

*** Our typical take-up rate for concessions was around 60% and WA and NT not modelled as concession households but are included in our total household number here**

Figure 1. Concession customers by target group



Source: ACCC analysis based on Colmar Brunton survey data and retailer data.

Note: The figure for all vulnerable groups excludes survey respondents with an unknown or annual income over $100 000 per annum.

However, there are repeated and persistent criticisms with the existing concessions schemes across Australian jurisdictions.

[54] ACCC (2018) Restoring Electricity Affordability and Australia's Competitive Advantage, https://www.accc.gov.au/system/files/Retail%20Electricity%20Pricing%20Inquiry%E2%80%94Final%20Report%20June%202018_0.pdf.

Knowledge of eligibility

Quantitative and qualitative research has shown that some customers who are eligible for energy concessions are not aware of them and are missing out. For example, the Colmar Brunton survey undertaken for the ACCC, found approximately 14% of respondents who were eligible to receive an energy concession did not receive a concession from their electricity retailer.[55] Both governments and retailers have a role to play in improving the awareness and uptake of energy concession eligibility.

Variation between jurisdictions

Energy concessions vary from jurisdiction to jurisdiction in their amount, coverage and eligibility. This variability has many implications, including:

- High administration costs – There are administrative costs to retailers having to negotiate the differences in the various schemes. These costs ultimately end up on people's bills. This can also reduce customers' choice of retailers, as often it is the smaller retailers without sophisticated systems and large compliance teams who are most affected, restricting their ability to compete.
- Inequity between household types – All states and territories provide energy concessions to pensioner concessions cards, healthcare cards[56], and DVA gold cards. Some states also extend eligibility to other vulnerable groups, such as asylum seekers (Queensland) and those with ImmiCards (Tasmania). And some states extend their energy concessions to those in less need, such as all people over the age of 65 who are not eligible for a pension concession card (Queensland and Tasmania).
- Inequity between states – Concession holders in some states and territories are significantly better off than others. For example, according to ACCC retail price report, concession holders in South Australia only receive approximately 14% discount on their annual bill compared to south-east Queensland where a concession holder receives approximately 21% discount.[57]

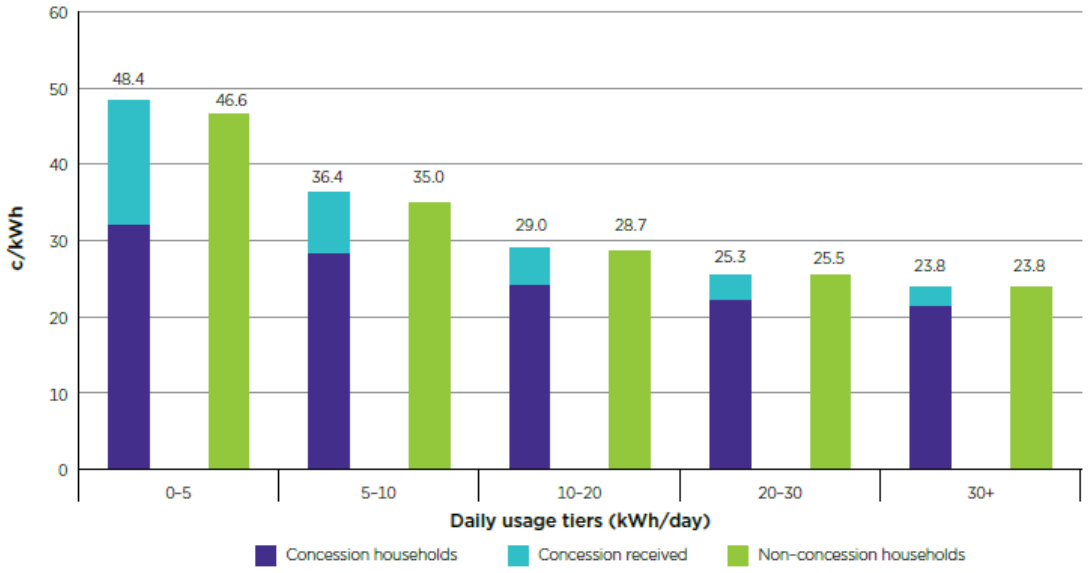
ACOSS and BSL, along with others,[58] most recently the ACCC,[59] have consistently called for a COAG review of concessions to provide harmonisation across states and territories. Harmonisation should aim to reduce costs and improve choice, ensure energy concessions are targeted at those in need of assistance, and improve the value of concessions in lagging states. The framework should set best practice benchmarks across jurisdictions, and allow flexibility for jurisdictions with distinct needs.

Inequity between high and low energy users

One of the biggest issues with the majority of existing concessions schemes is their lack of equity between energy users. Dollar or flat-base concessions used in all states and territories except Victoria, favour low-consumption households, as shown in Figure 2 below.

Figure 2. Average unit charge (c/kWh) with and without concessions for residential users by daily usage

[55] Ibid.
[56] Newstart Allowance, Partner Allowance, parenting payment, partnered, Sickness Allowance, Special Benefit, Widow Allowance, Youth Allowance, Careers Allowance, Carers Payment, Austudy, Abstudy, and Youth Allowance.
[57] Op cit.
[58] National Energy Affordability Roundtable Report to the Standing Council on Energy and Resources (SCER) May 2013 https://www.ewon.com.au/content/Document/SCER%20Report_National%20Energy%20Affordability%20Roundtable.pdf
[59] Ibid.



Source: ACCC analysis of Colmar Brunton survey data and retailer data.

Those affected by this include family households and households in regional areas who typically face higher dollar-per-kWh costs. AGL research has indicated that family households are particularly affected, despite experiencing the highest levels of energy hardship.[60] Dollar concessions also struggle to keep pace with increases in energy prices.

Better targeted and more equitable concessions

Numerous community sector organisations, including ACOSS,[61] St Vincent de Paul,[62] and SACOSS,[63] have recommended a shift to percentage-based concessions. A percentage-based concession scheme has multiple benefits over a flat-based scheme, including:[64]

- proportional assistance to households with different energy usage, improving equality;
- additional assistance to help customers cope with large seasonal bills;
- a reduced need for a comprehensive "building-block" approach;
- removing the need for an escalation mechanism as the concession automatically adjusts to changes in prices;
- equitable assistance to customers on different pricing and tariff structures in deregulated retail price markets;
- the potential for reduced costs to government through targeted energy-efficiency programs; and
- administrative simplicity for retailers.

However, a shift to percentage-based concessions would result in lower-usage households receiving less concession than what they currently do on the dollar-based scheme, which benefits low-usages households most (see, for example, the differences in savings on bills in Table 2 and Table 3 below).

In its final report on retail electricity prices, the ACCC recommended a hybrid model:[65]

- a dollar amount to offset daily supply charges, which concession households cannot reduce regardless of changes to their consumption pattern

[60] Simhauser, P. and Neslon, T. (2012) *The Energy Market Death Spiral: Rethinking Customer Hardship*, AGL.
[61] https://www.acoss.org.au/images/uploads/Concessions_paper_2014_FINAL.pdf
[62] https://www.vinnies.org.au/icms_docs/169080_The_Relative_Value_of_Energy_Concessions_2009–2012_Part_2.pdf.
[63] https://www.sacoss.org.au/sites/default/files/Cost%20of%20Living%20Policies_FINAL.pdf
[64] https://www.qcoss.org.au/sites/default/files/Energising%20Concessions%20Report%20-%20May%202014%20-%20FINAL%20FOR%20WEB_0.pdf.
[65] Ibid.

- a percentage discount to offset variable usage charges.

The ACCC argued the hybrid model would better support both high- and low-consumption households, incentivising households to reduce consumption where possible but not requiring them to ration electricity in order to meet costs. The ACCC did not, however, recommend a formula.

Analysis by ACOSS and BSL in Table 4 below, indicates high-usage households would be better off under the ACCC hybrid model than under a dollar-based concession, but not as well off as under a percentage-based model. Whereas low-usage households would be better off with the ACCC hybrid compared to a percentage-based model, but not as well off as they are under a dollar-based model.

What's clear is that concessions play a critical role in making energy bills more affordable to low-income households, but the current dollar-based concession scheme applied in most states has major flaws, and disadvantages family households and households in regional areas. Alternative models need to be considered that provides greater equity, simplicity and responsiveness to changing energy bills.

Scenario methodology

ACOSS and BSL sought to model the following three scenarios, to understand the impact different concession models have on improving low-income households' capacity to pay their energy bills:

Scenario 4a. Shift to percentage-based for whole bill.

Scenario 4b. Portion dollar-based and portion percentage-based.

Scenario 4c. Current dollar-based or percentage-based used in scenario 4a (see below), whichever is higher.

Using the St Vincent de Paul Tariff-Tracker[66] data for each state, we calculated a representative tariff based on market offers with guaranteed discounts (this was essentially the average of all the market offers with guaranteed discounts). We then calculated annual bills for customers with a range of different annual consumptions, based on this annual tariff.

A sample of this data, using south-east Queensland data, can be found in Table 1.

This data formed the basis of producing the data for each of the three scenarios that were modelled.

Table 1. No concessions – annual consumption and annual bills for south-east Queensland 2018, based on data from the St Vincent de Paul Tariff-Tracker

Annual consumption (kWh)	Annual bill (excl GST)
5,240 (QLD average)	$1,653.62
2,000	$882.11
3,000	$1,120.23
4,000	$1,358.35
5,000	$1,596.47
6,000	$1,834.59
7,000	$2,072.71
8,000	$2,310.83
9,000	$2,548.95
10,000	$2,787.07

[66] https://www.vinnies.org.au/page/Our_Impact/Incomes_Support_Cost_of_Living/Energy/.

Scenario 4a. Shift to percentage-based for whole bill

ACOSS and BSL estimated the percentage to be used for each state and territory by taking the annual electricity bill for an average consumption household for that state or territory, as identified in the St Vincent de Paul Tariff-Tracker (see, for example, the first row in Table 1), and then calculating the percentage of the bill the state or territory flat rate concession came to (see, for example, the first row in Table 2).

We cross checked our estimations with the findings outlined in Figure 15.9 of the ACCC final report on electricity retail pricing,[67] where we found reasonable alignment with data that was available (the ACCC report did not have data for Tasmania and the Australian Capital Territory).

The percentage calculated for electricity was then applied to gas concessions, as is the case in Victoria.

As shown in Table 3, shifting to percentage-based concessions means that households with higher energy consumption, such as families with children or families with a family member with a medical condition, receive larger savings on their bill than what they do under a flat rate. However, low-energy users receive smaller savings on their bill.

Table 2. Concessions – QLD government fixed electricity concession, applied to annual consumption and annual bills for south-east Queensland 2018

Concession amount ($/annum, excl GST)	**$340.85**		
Annual consumption (kWh)	**Annual bill (excl GST)**	**Discount relative to no concession**	**Savings on bill**
5,240	1312.765941	-20.6%	$340.85
2,000	$541.26	-38.6%	$340.85
3,000	$779.38	-30.4%	$340.85
4,000	$1,017.50	-25.1%	$340.85
5,000	$1,255.62	-21.4%	$340.85
6,000	$1,493.74	-18.6%	$340.85
7,000	$1,731.86	-16.4%	$340.85
8,000	$1,969.98	-14.8%	$340.85
9,000	$2,208.10	-13.4%	$340.85
10,000	$2,446.22	-12.2%	$340.85

Table 3. Concession – percentage amount, total bill, applied to annual consumption and annual bills for south-east Queensland 2018

Concession discount (% off total bill)	**21.0%**		
Annual consumption (kWh)	**Annual bill (excl GST)**	**Discount relative to no concession**	**Savings on bill**
5,240	$1,306.36	-21.0%	$347.26
2,000	$696.86	-21.0%	$185.24

[67] https://www.accc.gov.au/system/files/Retail%20Electricity%20Pricing%20Inquiry%E2%80%94Final%20Report%20June%202018_0.pdf.

3,000	$884.98	-21.0%	$235.25
4,000	$1,073.09	-21.0%	$285.25
5,000	$1,261.21	-21.0%	$335.26
6,000	$1,449.32	-21.0%	$385.26
7,000	$1,637.44	-21.0%	$435.27
8,000	$1,825.55	-21.0%	$485.27
9,000	$2,013.67	-21.0%	$535.28
10,000	$2,201.78	-21.0%	$585.28

Scenario 4b. Hybrid concession – portion flat rate and portion percentage-based

In its final report, *Restoring Electricity Affordability and Australia's Competitive Advantage*, the ACCC recommended energy concessions should be a hybrid of a flat dollar amount to offset daily supply charges (which concession households cannot reduce regardless of changes to their consumption pattern), and a percentage discount to offset variable usage charges. The ACCC argued a hybrid concession model would support both high- and low-consumption households, incentivising households to reduce consumption where possible but not requiring them to ration electricity in order to meet costs. The ACCC did not, however, recommend a formula.

ACOSS and BSL estimated the fixed and percentage rate for each state and territory (see Table 4 for an example) by drawing on the calculations made for each state and territory under scenario 1 (see, for example, Tables 1, 2 and 3 above), and varying the potential flat dollar amount and the potential percentage amount until (a) we achieved roughly the same savings for the "average annual consumption household" achieved under the flat concession model (Table 2) and percentage concession model (Table 3) and (b) low-consumption households were better off than under the percentage-only concession model (but not as well off as they are under fixed), and high-income households were better off than under a flat dollar concession model (but not as well off as under a percentage model), and (c) the impact on government budget was roughly the same as the other two scenarios.

Table 4. Concessions ACCC proposal portion flat rate and portion percentage, applied to annual consumption and annual bills for south-east Queensland 2018

Supply charge concession amount ($/annum, excl GST)	**$180.00**		
Concession discount (% off usage)	**13.5%**		

Annual consumption (kWh)	**Annual bill (excl GST)**	**Discount relative to no concession**	**Savings on bill**
5,240	$1,305.17	-21.1%	$348.45
2,000	$637.81	-27.7%	$244.29
3,000	$843.79	-24.7%	$276.44
4,000	$1,049.76	-22.7%	$308.58
5,000	$1,255.74	-21.3%	$340.73
6,000	$1,461.71	-20.3%	$372.88
7,000	$1,667.68	-19.5%	$405.02
8,000	$1,873.66	-18.9%	$437.17
9,000	$2,079.63	-17.6%	$447.89
10,000	$2,285.61	-17.1%	$477.65

Scenario 4c. Current flat rate or percentage used in scenario 4a, whichever is higher

As Table 2 shows, a flat-rate energy concession means larger consuming households do not receive as much financial support as low-consumption households, but low-consuming households will lose financial support under a percentage (Table 3) or hybrid (Table 4) concessions model. ACOSS and BSL sought to model a scenario where a government would offer a flat concession rate or a percentage concession rate (whichever is higher), which would mean no one is worse off. However, we note this would have a significant impact on state and territory budgets.

Calculating the final scenarios for each NEM state and territory

Table 5

	Current	Eligibility	Scenario 4a. Shift to percentage-based for whole bill	Scenario 4b. Portion flat rate and portion percentage-based	Scenario 4c. Current flat rate or percentage used in scenario 4a, whichever is higher
Victoria	• 17.5% for electricity (Does not apply to the first $171.60 of the annual bill); • 17.5% for gas in winter from 1 May to 31 October (But does not apply to first $62.40).	• pensioner concessions cards • healthcare card • DVA gold card	17.5% (apply to whole bill)	$180 and 12.5% on the rest[68]	Not applicable (Vic doesn't have a flat rate)
News South Wales	• **Electricity** $285 a year • **Gas** $110 a year gas	• pensioner concessions cards • healthcare card • DVA gold card	20%	$180 and 12.5% on the rest[69]	Current flat rate (electricity and gas combined $395) or 20%, whichever is the most
South Australia	**Flat rate $217.90** for both electricity and gas[70]	• pensioner concessions cards • low-income healthcare card seniors health care card • DVA gold card • Totally or Permanently Incapacitated Extreme Disability adjustment	15%[71]	$160 and 10% on the rest[72]	Current flat rate ($217.90) or 15%, whichever is the most

[68] This works out to be approximately 50% of supply charge and 12.5% off variable.
[69] This works out to be approximately 50% of supply charge and 12.5% off variable.
[70] South Australia also has a "cost of living concession", which goes towards electricity, gas, rates and water, that wasn't included in this modelling.
[71] A 15% concession is slightly higher than South Australia's current concession rate.
[72] This works out to be approximately 50% of supply charge and 10% of variable.

		• War Widow, or receive a Centrelink allowance (Newstart, youth, sickness etc.)			
Queensland	• Electricity flat rate $340.85 a year • Gas flat rate $71.30 a year gas .	• pensioner concessions cards • DVA gold card, DHS health card, • Qld Seniors card (everyone over 65), • Asylum seeker status (extended in 1 January 2017) QLD seniors card: 65 years or older and working less than 35 hours a week in paid employment *OR* 60–64 years, working less than 35 hours a week in paid employment and the holder of one of the below: • Commonwealth Pensioner Concession Card • Commonwealth Health Care Card • Commonwealth Seniors Health Card • Department of Veterans' Affairs Gold White or Orange card	21%	$180 and 13.5% on the rest[73]	Current flat rate ($412.15 for electricity and gas combined) or 21%, whichever is the most
Tasmania	**Flat rate $493.50 (**currently 135.208 cents per day)	• DHS or DVA pensioner concession card • DHS healthcard • ImmiCard (bridging Visa E) • Tasmanian concession card The Tasmanian Seniors Card is available to Tasmanian residents who are: • 60 years and over, and	23.7%	$240 and 16% on the rest[74]	Current flat rate ($493.50) or 23.7% whichever is the most

[73] This works out to be approximately 50% of supply charge and 12.5% of variable.
[74] Essentially 75% of supply charge and 18% off variable.

		• working no more than 20 hours a week in paid employment.			
Australian Capital Territory (did not model)	The ACT has a combined electricity, water, sewerage concessions amount of $654 a year. That is paid directly to eligible households. The winter period covers from 1 June to 31 October and a daily concession amount of $3.12039 is applied during this period. The summer period covers 1 November to 31 May and a daily concession amount of $0.83292 is applied during this period.	• Pension concession card; • healthcare card; • Veterans Affairs card	Did not model	Did not model	Did not model
National (did not	Utilities allowance $157.20 a quarter for single households and $78.60 for couples	• Disability Support Pension and are under 21 years of age with no dependent children • Partner Allowance • Widow Allowance	Did not model	Did not model	Did not model