



SACOSS Submission to South Australia's Green Paper on the Energy Transition

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Introduction

The South Australian Council of Social Service (SACOSS) is the peak non-government representative body for health and community services in South Australia, and has a vision of *Justice, Opportunity, and Shared Wealth for all South Australians*. SACOSS does not accept poverty, inequity or injustice. Our purpose is to influence public policy in a way that promotes fair and just access to the goods and services required to live a decent life. We undertake policy and advocacy work in areas that specifically affect disadvantaged and low-income consumers in South Australia.

As a regular part of our work, SACOSS engages with multiple agencies associated with South Australia's energy system to advocate for fair outcomes for consumers. We therefore welcome the opportunity to respond to the Government of South Australia's Green Paper on the Energy Transition ("Green Paper").

South Australia needs a fast, fair and inclusive energy transition. We note that the Green Paper predominantly focuses on economic opportunities for the state and for existing and emerging industry. This is a missed opportunity to articulate a clear vision for South Australia, which puts people at the centre, and equitably shares the benefits. As such, equity considerations will be at the core of this submission and in all policy areas considered below.

South Australia's energy transition provides an opportunity to address some of the drivers and legacies of inequality, and to lift our collective standard of living and wellbeing. A poorly managed energy transition risks deepening inequality and leaving behind South Australians. While the Green Paper notes that low-income South Australians and tenants are locked out of the benefits of renewables and are most at risk of illness or death during heatwaves, social equity is generally considered an afterthought. An ambitious plan for South Australia's energy future should fully recognise the root causes and legacies of inequality and the disproportionate impacts of energy poverty along lines of disadvantage.

SACOSS strongly recommends that social outcomes, equity and inclusion are placed at the forefront of policy development and energy transition planning for South Australia. We encourage the South Australian Government to test their policy proposals against 'ourPower', the energy equity framework co-developed by the Australian Council of Social Service (ACOSS) and the Total Environment Centre (TEC).¹

ourPower was developed as a tool to assist decision making about the energy transition that impact people, energy users and communities. The shared vision is for an inclusive, sustainable, zero emissions energy system that actively improves outcomes for all people, communities and the environment. This vision recognises that energy is an essential service and that everyone has the right to access clean, affordable and dependable energy.

Drawing on the ourPower principles, SACOSS believes that South Australia's energy transition should aspire to:

- **Be equitable and just**, including better (re)distributing the benefits of new technologies
- **Be people focused**, including greater opportunities for community ownership and benefit

¹ ourPower (2022) <https://ourpower.org.au/wp-content/uploads/2022/02/ourPower-Booklet.pdf>

- **Deliver clean and healthy energy**, reducing the health burden and taking advantage of the opportunity to lift the collective standard of living and wellbeing

SACOSS encourages the South Australian Government to develop an ambitious and aspirational vision for our energy transition which brings everyone along, not just those who stand to benefit from an economic agenda.

In examining responses to the Green Paper, and developing policy as part of the White Paper process, the government should be interrogating whether:

- Future risks involved in the transition are identified early and sufficient action is taken to manage the risks to people and community, especially for those who are least able to manage risks.
- Public spending is being targeted to achieve economic and environmental benefits **and** to reduce/redress inequality. Public policy related costs should be met through progressive means like government budgets and not regressively via energy bills.
- Costs and benefits of initiatives are transparent, so that people, decision-makers and advocates can respond appropriately. Cross-subsidies are transparent and justifiable.

Summary of SACOSS' Recommendations

A vision for South Australia's Energy Transition Recommendations:

- Prioritise equity and just outcomes as part of the energy transition, ensuring that marginalised, vulnerable, and low-income households do not get left behind or pay disproportionately more for the energy transition
- Reduce the cost of energy for consumers through the transition, and ensure South Australia's energy system is accessible and affordable for all
- Ensure that the future energy system established through the energy transition prioritises consumer benefit and cost savings, and removes the ability for energy companies to receive disproportionate benefits/supernormal profits
- Meaningfully engage with consumers throughout the transition, and create a strategy to effectively communicate to households the changes they'll be expected to make and how they'll be supported to make those changes
- Improve data collection and availability to ensure transparency around the transition, and to track the consumer-side of the energy transition
 - This should include metrics on affordable access to energy solutions, savings passed on to consumers, costs passed on to consumers, and changes in consumer energy bills
- Establish "one-stop shops" and trusted information hubs for consumers to facilitate their participating in the energy transition
- Enshrine strong and adaptable consumer protections in the energy system that keep pace with the energy transition and associated technology transformation

Energy Efficiency and Electrification Recommendations:

- Introduce minimum energy efficiency standards and mandatory disclosure of energy efficiency ratings for rental properties
- Introduce minimum energy efficiency standards for appliances and other technologies offered to consumers
- Prioritise energy efficiency measures, particularly targeting disadvantaged and low-income households, as part of the energy transition
- Develop a strategy and timeline for rapid energy efficiency retrofitting and the electrification of South Australian households that includes funding support to address barriers to electrification and retrofit
 - This must include appropriate financing mechanisms to ensure that households, particularly those on low incomes, are not paying disproportionately for or bearing other costs associated with household electrification and energy efficiency retrofits

Current and future role of Rooftop Solar PV Recommendations:

Changing the narrative

- The South Australian Government support changing the narrative on rooftop solar PV customer benefits – focussing on reduced grid energy consumption as the primary benefit.

Remove Green Scheme costs from bills

- The South Australian Government remove the cost of government environmental schemes from household energy bills.

Ensure all customers benefit from lower wholesale spot prices

- The South Australian Government commit to an ongoing review of the operation of the National Electricity Market, to ensure lower wholesale costs are reflected in energy bills, and all customers benefit from record levels of solar PV generation, not just those who can afford the technology.

Equitable distribution of network costs

- The South Australian Government support the introduction and expansion of solar customer export tariffs to redress some of the inequities in network cost recovery.
- The South Australian Government develop jurisdictional reporting requirements and undertake modelling to shed light on the scale of the current and future inequitable distribution of network costs.
- The South Australian Government consider all alternatives for equitable energy billing, in the face of an energy market that is demonstrably failing to deliver for South Australian households.

Smart Meters and Time-of-Use Tariffs

- The South Australian Government repeal or amend Regulation 6A of the *National Energy Retail Law (Local Provisions) Regulations*, to ensure South Australian smart meter energy consumers can retain the choice of a flat rate tariff, in line with Recommendation 14 of the ACCC's 2018 *Retail Electricity Pricing Inquiry Report*.
- The South Australian Government establish strengthened customer impact principles and a transition period following the installation of smart meters, together with a compulsory 'data sampling period', in line with Recommendation 14 of the ACCC's 2018 *Retail Electricity Pricing Inquiry Report*.
- The South Australian Government monitor and report on the distributional impacts of mandatory TOU standing and market offers to determine the impacts on energy affordability and consumer vulnerability, with additional targeted assistance provided to those affected, in line with Recommendation 14 of the ACCC's 2018 *Retail Electricity Pricing Inquiry Report*.
- The South Australian Government prohibit remote disconnection for non-payment of smart meter customers in South Australia and provide for a jurisdictional scheme requiring the introduction of the 'knock to stay connected' program as BAU for retailers and distributors.

Access to rooftop solar in remote communities

- The South Australian Government implement the suggested regulatory and policy reforms required to remove barriers to participating in rooftop solar in remote South Australian communities, as recommended in the Australian National University's submission to the Green Paper.
- To inform a thorough policy review of remote energy supply, we are calling for the South Australian Government to have close regard to the mandatory prepayment data for RAES Aboriginal Communities collected and (yet to be) published by the Essential Service Commission of South Australia, as well as direct feedback from community members on the lived experience of mandatory prepay and energy security impacts over the preceding 12 months.

- The South Australian Government consult with remote Aboriginal Community members on the benefits of rooftop solar, and work in conjunction with Community members and the First Nations Clean Energy Network to develop a remote rooftop solar strategy.

Rooftop solar and renters

- The South Australian Government coordinate the development of a dedicated working group with representatives from government, industry, academia and community to assess existing interstate and international ‘solar for renters’ models, with a view to developing a best practice program for implementation in South Australia. This should be done in conjunction with the introduction of mandatory minimum energy efficiency standards for existing housing.

The Role of Natural Gas and Hydrogen Gas Recommendations:

- The South Australian Government develops on a long-term policy roadmap for the gas transition, with clear milestones and targets. This needs to consider a number of issues, including:
 - How to facilitate an orderly and fair transition, particularly for those likely to left on the network (e.g. renters, low-income households)
 - Who should pay for the gas transition, and how can costs be allocated fairly
 - Contingencies for dealing with network costs with fewer customers which minimises unnecessary costs and potential for stranded assets
 - How to support the workforce through the transition away from fossil gas.
- The South Australian Government fund independent and trusted energy information and support services to assist households in making the right choice for their needs and circumstances
- The South Australian Government sets specific dates and targets for the elimination of emissions from fossil gas, including dates for a moratorium on new residential gas connections as a prudent, no-regrets option
- The South Australian Government should rule out or limit investment into blue hydrogen and focus on scaling green hydrogen for hard-to-abate industrial uses rather than for residential uses.
- The South Australian Government should consider credible scenarios and exit strategies for the gas network should fully renewable gas prove to be not to be feasible. This could be part of the gas transition roadmap

Health and Equity Recommendations

- Greater priority and consideration should be given to principles of equity and fairness in South Australia’s energy policy and energy transition planning
- The energy transition should account for, and measure, associated health outcomes that result from the energy transition – particularly those associated with energy affordability changes and energy efficiency upgrades
- Access to affordable, clean energy should be recognised as a social and commercial determinant of health, and that this is reflected in government policy moving forward

Education and Information Recommendations:

- The South Australian Government fund, or co-fund with the Federal Government, increased energy awareness and information campaigns and a comprehensive energy advisory service, as well as financial counselling and energy audit services to be included in the next State Budget.
- Given the 100% by 2030 smart meter roll-out target, the South Australian Government immediately action Recommendation 14 of the ACCC's 2018 *Retail Electricity Pricing Inquiry Report* that:

Governments should appropriately fund communication campaigns around the benefits of cost-reflective pricing and smart meters to build community acceptance and awareness of individual and community wide benefits, as well as customer awareness of their rights.
- The South Australian Government develop a financial support scheme to assist households with the costs of the smart meter roll-out, funded in the next State Budget.
- The South Australian Government fund an information and awareness campaign on the new consumer protections for off-grid energy customers contained in ESCOSA's *Small Scale Electricity Networks Code* and *Prepayment Meter System Code*.

Energy Concession Reform Recommendations:

- The South Australian Government introduce a usage-based energy concession.
- The South Australian Government urgently review and update the Emergency Electricity Payment Scheme, having regard to the Victorian Government's Utility Relief Grants Scheme.

A Vision for South Australia's Energy Transition

There is a consensus that access to reliable and affordable energy is a basic human right and is needed to secure other human rights such as housing, education, and healthcare². Access to energy is critical to the health, wellbeing, social inclusion, and economic participation of all people. This fundamental principle must be at the heart of our State's energy transition.

A well-planned and executed energy transition is an opportunity to lift our State's collective standard of living and wellbeing. It is SACOSS' view that this must be actively prioritised throughout South Australia's energy transition.

The energy system and the energy transition must be managed in a way that is just, fair and inclusive, to ensure no one is left behind. This includes people who are socially and financially disadvantaged, and workers and communities impacted by the evolution of the energy system. The costs and benefits of the transition must be equitably shared, recognising that governments will play a role in supporting access to clean, affordable, dependable energy and just and fair outcomes. Regulation must go beyond economic efficiency and integrate social and environmental impacts and outcomes. The benefits of an energy transition cannot be realised in an environment in which energy companies continue to make supernormal profits³ while consumer debt and hardship grows⁴, particularly as there is already evidence that the benefits and costs of transitioning to a net zero energy system are not being distributed fairly. Existing energy infrastructures contribute to patterns of social inequity, vulnerability, and risk; these existing structures must not be left entrenched as part of our energy transition⁵.

Research from ACOSS, the Brotherhood of St Laurence, and the Climate Institute has identified five key policy priorities that would ensure low-income and disadvantaged households are supported during the energy transition⁶. These policy priorities are:

- Delivering cheaper clean energy
- Informing and enabling consumers to engage in the electricity market
- Improving household efficiency and productivity
- Improving capacity to pay bills
- Providing stronger consumer protection

Energy must be affordable and accessible for all

As electricity is an essential service, it is critical that the most disadvantaged members of our society can access affordable energy. It is vital that we retain an affordable grid with low-cost large-scale green energy given that not all can access distributive energy. Without this, the benefits of distributive energy cannot be shared equitably. The affordability of energy for all is a significant priority for Australian consumers, as confirmed by Energy Consumers Australia's most recent consumer sentiment survey:

² Löfqvist (2018) [*Is there a universal human right to electricity?*](#)

³ IEEFA (2023) [*No relief from electricity network supernormal profits*](#)

⁴ SACOSS (2023) [*SA power users face shocking electricity price surge*](#)

⁵ Marcotullio, Sperling and Sarzynski (2023) [*Urban energy and climate: prospects for a sustainable transition*](#)

⁶ ACOSS, BSL and TCI (2017), [*Empowering disadvantaged households to access affordable, clean energy*](#)

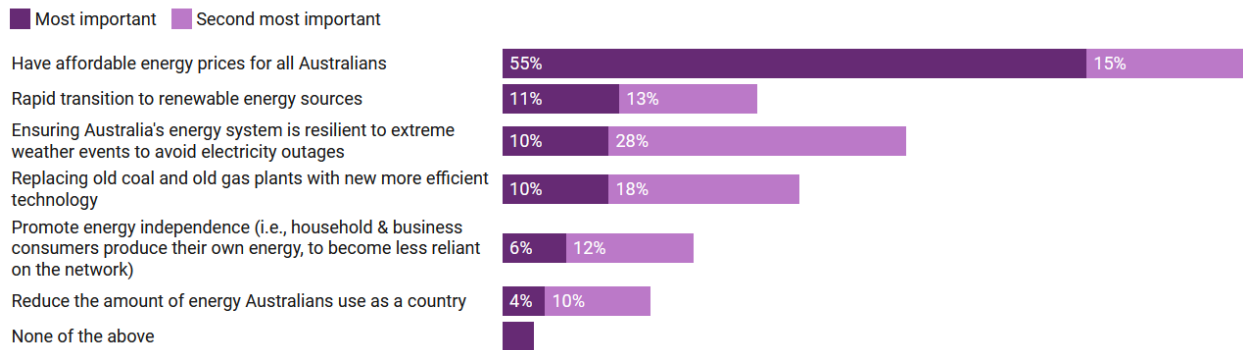
Challenges ahead

Q. There are a number of potential challenges ahead for the Australian energy system.

For instance, the way Australians use energy is changing, the availability of renewable energy is increasing, and existing generators are getting old and starting to fail and/or becoming inefficient.

Which of the following do you think are the two most important issues?

Q. From the issues you just selected, which issue do you think is the MOST important to consider?



Base: All households (n=2,120)

[Our methodology](#)

Chart: Energy Consumers Australia • Source: [Jun'23 Sentiment Survey](#) • [Get the data](#) • Created with [Datawrapper](#)

Figure 1: Consumer priorities related to future challenges in energy system⁷

Without explicitly prioritising an affordable and accessible energy grid into the future, the energy transition will not be successful. Households “want it to work” but emphasise the need for an affordable and equitable system that ensures access for all and particularly the most vulnerable⁸. The present energy system is failing to deliver affordable outcomes for consumers. Changing this must be a priority of an equitable energy transition.

Current energy affordability crisis in South Australia

South Australia is currently facing an energy affordability crisis, and the outlook for 2023-24 does not hold much promise of relief for struggling South Australian energy consumers. The AER's *Annual Retail Markets Report for 2022-23* is yet to be published, but the AER's *Annual Retail Markets Performance Report 2021-22*, provides a picture of the experience of South Australian energy consumers to 30 June 2022, and we know that prices have continued to rise in the following 12 months. The Default Market Offer 2023-24 increased by 24%⁹ on 2022-23 levels, and retailers have advised households of tariff increases of up to 55% to apply from 1 July 2023.¹⁰

⁷ ECA (2023) [Consumer Sentiment Survey](#)

⁸ Temby and Ransan-Cooper (2021) [‘We want it to work’: understanding household experiences with new energy technologies in Australia](#)

⁹ AER, [Default Market Offer prices 2023-24: Final Determination](#), p.6

¹⁰ See for example Alinta's Time of Use peak rate increase from 37.3c/kWh to 57.0 c/kWh to apply from 1 July 2023.

The AER's 2021-22 Report shows that, as at 30 June 2022:¹¹

- South Australia had the highest electricity price per unit in the National Electricity Market (NEM), with wholesale costs typically higher in South Australia, and network costs above the NEM average.¹²
- the median market offer in SA was the same as the standing offer (DMO) of around 45 cents per kWh, the highest in the Nation. In 2020-21, the median market offer in SA was around 36 cents per kWh, where the standing offer was around 42 cents per kWh.¹³ This represents a 25% increase in the median market offer in SA over the 12 months to 30 June 2022, and we know prices have continued to increase exponentially since that time.
- In terms of affordability (calculated on the basis of the AER's Pricing and Affordability methodology), SA has the second most unaffordable energy behind Tasmania, this is despite SA having amongst the lowest average household electricity usage in the Nation (4,526 kWh), compared to Tasmania, which has a much higher average annual electricity usage of 8,393 kWh.
- Electricity in SA in 2021-22 was more unaffordable than the previous year, with low-income consumers spending 5% of their disposable income on electricity, compared to around 2% for average income consumers.
- Importantly, it is estimated that hardship households in SA use 73% more energy than the average SA households (7,830 kWh average annual hardship household usage, compared to 4,526 kWh for average households). Which means energy is more unaffordable for hardship households in SA, at around 8% of disposable income.¹⁴
- Retail Performance data from Q3 2022-23 shows increasing numbers of customers repaying energy debt, and high debt levels across all indicators, clearly demonstrating an energy affordability crisis in South Australia:
 - the number of customers repaying energy debt has increased from 22,331 in Q1 2022-23 to 27,561 in Q3 2022-23 (an increase of 23.4% in 6 months). This is slightly above the 22.4% increase in the number of customers repaying energy debt seen Nationally from Q1 2022-23 to Q3 2022-23 (increasing from 154,300 to 188,969).
 - South Australia has the largest average residential energy debt in the NEM. The average debt of residential customers in SA is now \$1,227, \$228 above the National average. This represents an increase of \$183 in the average amount of residential energy debt in SA from 2018/19 (pre-pandemic) levels.
 - Average debt on entry into hardship programs in Q3 2022-23 was \$1,727 (highest after Tasmania), and \$471 above the national average of \$1,256. However, the average debt

¹¹ Australian Energy Regulator, [Annual Retail Markets Report 2021-22](#), November 2022, p.31-45

¹² Australian Energy Regulator, [Annual Retail Markets Report 2021-22](#), November 2022, p. 35

¹³ Australian Energy Regulator, [Annual retail markets report 2020-21](#), November 2021, p. 33

¹⁴ Australian Energy Regulator, [Annual Retail Markets Report 2021-22](#), November 2022, p. 129

on entry to hardship programs in SA has reduced by \$610 from \$2,337 in the 12 months since Q3 2021-22, which may point to retailers being more proactive in providing hardship supports in this state.

- Average debt of hardship customers has increased significantly from pre-pandemic levels - in Q3 2022-23 the average debt of a SA hardship customer was \$2,535 – the highest in the Nation (overtaking Tasmania), up \$672 from \$1,863 in 2018-19, and \$664 above the national average of \$1,871. Average debt of hardship customers has increased by 7.2% in 12 months since Q3 2021-22 up from \$2,364 to \$2,535.

Energy debt in South Australia is increasing because people can no longer afford to pay for their ongoing energy usage, and with projected increases in energy costs of around 50% over the next couple of years, governments must ensure their decision-making has energy affordability and equity as a primary consideration.¹⁵

Households need to be supported equitably throughout the energy transition

A key risk for the transition is that the role of households in the energy transition has not been clearly communicated to households. To meet our emissions reductions targets, all households will need to decarbonize their energy use by 2050. To do so, it is an unspoken fact that households will be expected to do a lot of the heavy lifting in our transition to a zero-emission economy and energy system. But this means they will incur upfront costs and disruption to install new appliances and potentially rewire their homes to enable electrification – yet the impact on households has not been front of mind in policy discussions and decisions about the energy transition. Research from Energy Consumers Australia (ECA) and CSIRO has identified three key challenges for decarbonising households¹⁶:

- Households aren't aware of their role in achieving carbon emission reduction targets through decarbonizing their homes and lack the support and incentives to do so
- Each household faces a different decarbonization journey, and some households face more costs and other barriers than others
- Without some intervention, some households risk being left behind and the energy divide will deepen.

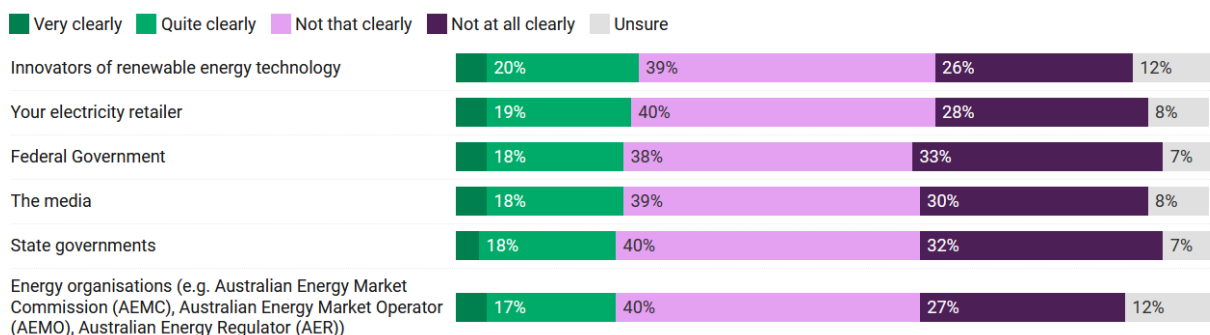
To date, industry and policy makers have primarily focused on ensuring that the supply side of the energy market is ready for the transition, but commensurate effort has not been put into preparing consumers (the demand side). We are particularly concerned that research indicates consumers who are under financial pressure – and therefore a group most at risk of being left behind during the energy transition – are least likely to consider that the impacts of the transition have been clearly communicated to them.

¹⁵ Secretary to the Treasury Speech, 8 November 2022 <https://treasury.gov.au/speech/opening-statement-economics-legislation-committee-4>

¹⁶ ECA and CSIRO (2023) [*Stepping Up: A Smoother Pathway to Decarbonising Homes*](#)

Communication of the transition

Q. How clearly do you think the following groups have been communicating how the transition to renewable energy will affect households like yours?



Base: All households (n=2,120)

[Our methodology](#)

Chart: Energy Consumers Australia • Source: [Jun'23 Sentiment Survey](#) • [Get the data](#) • Created with [Datawrapper](#)

Figure 2: Consumer reflections on communication of energy transition¹⁷

A lack of consumer confidence in the benefits of the transition is also an identified barrier that puts the effectiveness of energy transitions at risk. The confidence of energy consumers is necessary to drive action and investment in new energy technologies, programs, and approaches – and it is needed to align government policy, corporate sustainability, and personal actions to deliver on a net-zero energy system. Without clearly communicating (and demonstrating) the benefits of an energy transition, the full scale and necessary ambition of the energy transition are unlikely to be fully realised¹⁸.

An energy transition must be accompanied by strong consumer protections as well, particularly in the face of rapidly evolving technologies and energy distribution systems. Protections for consumers must include¹⁹:

- Creating pricing and financing models that reflect the intrinsic cost structure of energy-efficient solutions (i.e. upfront investment requirements, which without intervention are a barrier to lower-income households, followed by steady cost savings over time).
- Ensuring product and other standards of practice keep pace with rapid change in the market.
- Ensuring that consumers have access to simple ways to learn how to use and interact with new or unfamiliar technologies.
- Reducing the gap between current consumer digital literacy and the levels required to effectively operate and benefit from new systems.
- Providing access to robust redress systems.

¹⁷ ECA (2023) [Sentiment Survey](#)

¹⁸ EY (2023) [Why wavering consumer confidence could stall the energy transition](#)

¹⁹ CI (2022) [Consumer protection and empowerment for a clean energy future](#)

It is essential that consumer experience is fully represented and properly considered in the energy transition. The protection and empowerment of households that rely on the energy system must be embedded in the design, regulation, and operation of the new emerging energy system as part of the energy transition.

An evidence-based transition, now and into the future

SACOSS is greatly concerned about the devastating impacts of the increasing costs of electricity on low-income households and people experiencing disadvantage or in vulnerable circumstances in South Australia. We know low-income households are disproportionately affected by increasing energy costs,²⁰ and are less able to reduce these costs through accessing roof-top solar or other technologies. We also know households in vulnerable circumstances risk being further disadvantaged as we progress through the energy transition. To ensure a just transition, it is vital the impacts of energy policy on these households is central to all decision-making. The importance of data and modelling to provide visibility of customer impacts and inform policy during the energy transformation cannot be overstated. Governments, market bodies, stakeholders, policy and decision-makers must have access to reliable, current and relevant data to ensure an equitable transition.

We are currently lacking a strong idea and consistent measurement of energy stress in South Australia. A future energy strategy for our state needs to address this and grow our collective understanding of the experience of households facing energy stress and energy poverty. We should be looking to institutional arrangements to address energy stress, using the Energy Poverty Observatory and Energy Poverty Advisory Hub in Europe as examples²¹.

Recommendations:

- **Prioritise equity and just outcomes as part of the energy transition, ensuring that marginalised, vulnerable, and low-income households do not get left behind or pay disproportionately more for the energy transition**
- **Reduce the cost of energy for consumers through the transition, and ensure South Australia's energy system is accessible and affordable for all**
- **Ensure that the future energy system established through the energy transition prioritises consumer benefit and cost savings, and removes the ability for energy companies to receive disproportionate benefits/supernormal profits**
- **Meaningfully engage with consumers throughout the transition, and create a strategy to effectively communicate to households the changes they'll be expected to make and how they'll be supported to make those changes**
- **Improve data collection and availability to ensure transparency around the transition, and to track the consumer-side of the energy transition**
 - **This should include metrics on affordable access to energy solutions, savings passed on to consumers, costs passed on to consumers, and changes in consumer energy bills**
- **Establish "one-stop shops" and trusted information hubs for consumers to facilitate their participating in the energy transition**

²⁰ See: Australian Energy Regulator, [Annual Retail Markets Report 2021-22](#), November 2022, p. 52 which shows low-income households spend double the percentage of income on energy as average income households

²¹ BSL (2023), [Enabling electrification: addressing the barriers to moving off gas faced by lower-income households](#)

- Enshrine strong and adaptable consumer protections in the energy system that keep pace with the energy transition and associated technology transformation

The current and future role of rooftop solar PV

As noted in the Green Paper, rooftop solar PV is now the largest generator of electricity in South Australia when aggregated, with rooftop solar PV accounting for almost 14% of electricity generated in the state in 2020-21. More than one in three households have rooftop solar PV systems in South Australia (more than 357,000 systems); one of the highest per-capita levels of rooftop solar in the world.²² AEMO's 2022 Integrated System Plan's (ISP) step change scenario forecasts continued growth of rooftop solar in South Australia, with installed capacity nearly doubling by 2030.

Figure A17. South Australian customer energy resources forecasts

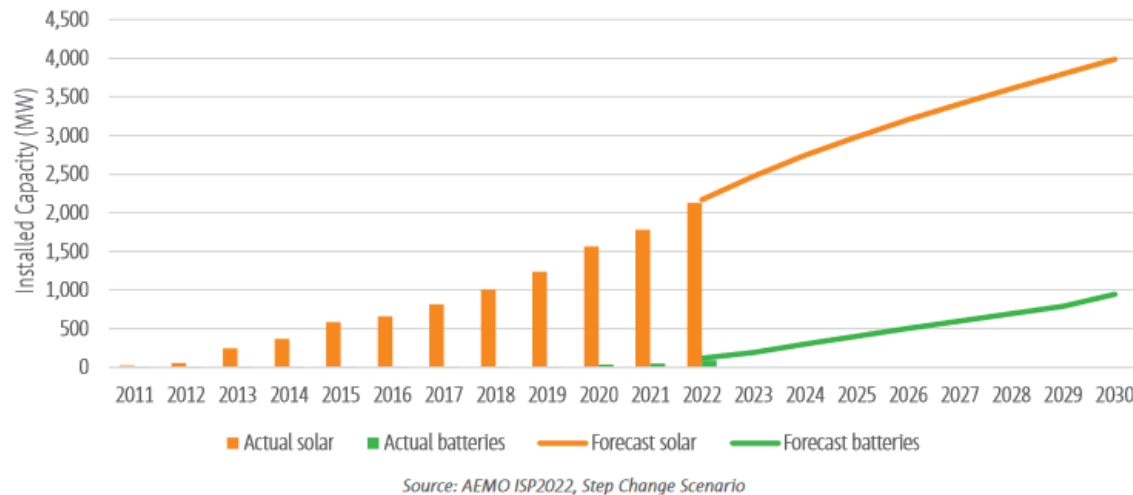


Figure 3: South Australian Customer Energy Resources Forecasts. Source: AEMO ISP 2022²³

SACOSS remains concerned about low-income households, renters and those who face barriers to installing rooftop solar being left behind, disproportionately shouldering the costs of the network, and unable to reduce energy grid consumption or benefit from lower wholesale spot prices. Ensuring non-solar customers can share in the benefits of rooftop solar generation and costs are equitably distributed throughout the transition is of primary importance to SACOSS. We support schemes and policies to better enable households, particularly renters, to overcome the split incentives to access the direct benefits of rooftop solar, but we are very mindful of the households who will never be able to install solar, and refer the government to our submissions on the importance of energy efficiency programs and mandatory energy efficiency standards for existing housing as a primary consideration.

²² Government of South Australia, [South Australia's Green Paper on the Energy Transition](#), June 2023, p. 32

²³ AEMO, [2022 Integrated System Plan](#), June 2022.

Changing the narrative

The greatest benefits for rooftop solar owners are realised through reduced grid energy consumption costs. St Vincent de Paul's Tariff Tracking project found the average annual bill (as at July 2023) was \$1,185 less for South Australian solar households with 3 kW systems installed, compared to non-solar households – that's a saving of 40% on the average annual market offer of \$2,925.²⁴ SACOSS considers more needs to be done to educate solar customers on the financial benefits of reduced grid consumption, as opposed to the traditional incentive of feed-in-tariffs. Many solar customers continue to view the financial returns from feed-in-tariffs as an incentive for installing rooftop solar PV. However, given the reduction in wholesale spot prices and consequent reduction in retail feed-in-tariffs, as well as the proposed introduction of export tariffs, SACOSS considers the narrative around benefits to solar customers needs to change. We therefore strongly support the government's acknowledgement in the Green Paper that 'the biggest savings to households have always been from using their own solar rather than drawing energy from the grid'.²⁵

Recommendation:

- **The South Australian Government support changing the narrative on rooftop solar PV customer benefits - shifting the focus from feed-in-tariffs, to reduced grid energy consumption as the primary benefit.**

Removal of environmental scheme costs from all customers' bills

Given the exponential growth in solar PV and the current energy affordability crisis, SACOSS considers South Australian energy consumers should no longer be required to fund government environmental schemes through their energy bills. We know energy bills are regressive, with low-income households paying double the percentage of their income on energy as average income households, so any additional costs disproportionately impact low-income households. In 2021, the AEMC forecast the average South Australian household would pay \$143 per annum for environmental policies. Currently, all South Australian energy consumers pay around \$60-\$70 per annum in their energy bills to subsidise the 44-cent feed-in-tariff that only benefits around 87,000 customers.²⁶ This particular scheme is drawing to a close in 2028, and SACOSS is calling on the South Australian Government to remove all green scheme costs from energy customer's bills.

Recommendation:

- **The South Australian Government remove the cost of government environmental schemes from household energy bills.**

Consumers are not benefitting from lower wholesale spot prices

Of greatest concern to SACOSS is the inequity of the distribution of benefits of increased rooftop solar penetration, particularly for those who face barriers to accessing solar, including low-income households, renters, people living in apartments or in inadequate housing. We know the benefits of

²⁴ St Vincent de Paul, [South Australian Energy Prices July 2023 - An Update report on the South Australian Tariff-Tracking Project](#), p. 6

²⁵ Government of South Australia, [South Australia's Green Paper on the Energy Transition](#), June 2023, p. 18

²⁶ AEMC, [Residential Electricity Price Trends Report](#) 2021, trends in SA supply chain components table predicts \$71 cost per consumer, and \$143 cost per consumer for 2023-24, p. 15

lower wholesale spot prices due to surplus generation during the day are not flowing through to all consumers. Over the last few years, spot market electricity costs in South Australia have fallen to amongst the lowest in the National Electricity Market (NEM), but South Australian electricity consumers continue to pay the highest price per unit of electricity in the nation, as shown in the graph below.

Figure 2.3 Residential electricity median market and standing offer prices



Note: Offer data as at September 2022. Based on single rate offers for residential customers and average consumption in each electricity distribution network for 2021–22.

Source: AER analysis using offer data from Energy Made Easy and Victorian Energy Compare. Consumption based on Economic Benchmarking RIN responses.

Figure 4: Residential Electricity median market and standing offer prices. Source: AER, 2021-22 Annual Retail Markets Performance Report.²⁷

The South Australian Productivity Commission's *Inquiry into South Australia's Renewable Energy competitiveness* found that:²⁸

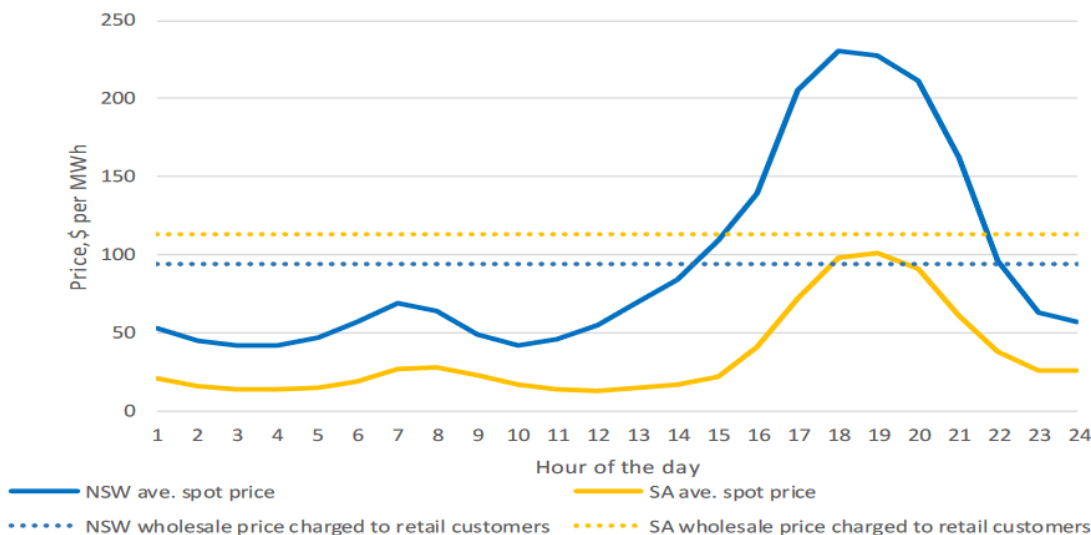
The illiquid and highly concentrated market for 'on-demand' electricity in South Australia means that it is expensive to hedge spot market prices, creating a much larger wedge between the (generally low) spot market prices and the wholesale price passed through to electricity consumers. For example, in 2020-21 demand-weighted spot prices averaged \$55.4/MWh in South Australia, 24 per cent cheaper than the average spot price in New South Wales. However, the wholesale price passed through to South Australian consumers averaged more than twice this at \$113.1/MWh and was significantly higher than the wholesale price in New South Wales (\$94.1/MWh).

²⁷ Australian Energy Regulator, [Annual Retail Markets Report 2021-22](#), November 2022, p. 35

²⁸ South Australian Productivity Commission, [Inquiry into South Australia's renewable energy competitiveness: Final Report](#), 10 August 2022 (published 9 November 2022), p. 7

The difference in wholesale spot prices paid by retailers in South Australia, and the wholesale prices passed through to South Australian consumers is clearly illustrated in the graph, below:

Figure 2.4: Average spot electricity prices by hour of the day and wholesale price charged to consumer – SA and NSW (2020-21)



Source: AEMC Residential Electricity Price Trends Report (2021)

Figure 5: Average spot electricity prices by hour of the day and wholesale price charged to consumer SA and NSW. Source: AEMC, 2021 Price Trends Report.²⁹

The AER's recent Default Market Offer Determination for 2023-24 saw an increase of 68% in the wholesale cost component for South Australian energy consumers on a standing offer.³⁰ Clearly the benefits of increased renewable generation and low wholesale spot prices are not flowing through to all consumers in lower retail wholesale costs. Whilst we welcome the government's direction for ESCOSA to undertake an Inquiry into Retail Electricity Prices³¹ and look forward to the release of ESCOSA's Report, we are calling for the South Australian Government to commit to an ongoing focus on the operation of the National Electricity Market, to ensure lower wholesale costs are reflected in in energy bills, and all customers benefit from record levels of solar PV generation, not just those who can afford the technology. This ongoing government focus and review of retailer's practices in the NEM is particularly important given the record profits being recorded by energy retail companies in NEM regions.³²

Recommendation:

- **The South Australian Government commit to an ongoing review of the operation of the National Electricity Market, to ensure lower wholesale costs are reflected in in energy bills,**

²⁹ South Australian Productivity Commission, [Inquiry into South Australia's renewable energy competitiveness: Final Report](#), 10 August 2022 (published 9 November 2022), p. 46

³⁰ AER, [Default Market Offer Prices 2023-24: Final Determination](#), p.27

³¹ ESCOSA, [Essential Services Commission Act 2002, Inquiry Under Part 7 Terms of Reference – Retail Energy Prices](#)

³² Australian Financial Review, [Origin's core profit surges 83.5%, forecasts better results](#), 17 August 2023

and all customers benefit from record levels of solar PV generation, not just those who can afford the technology.

Equitable distribution of network costs

With the electrification of households and vehicles, forecast increases in household electricity demand, higher penetration of roof-top solar, increased investment in transmission and distribution network infrastructure, ensuring the equitable distribution of costs is of vital importance now and into the future. We know households on low-incomes, renters and people experiencing disadvantage face significant barriers to accessing technologies to reduce their grid consumption, leading to an unfair distribution of network costs.

SACOSS strongly supports the introduction and expansion of solar customer export tariffs to redress some of the inequities in network cost recovery. SA Power Networks is proposing an export tariff to recover capital costs of increasing export capacity (benefitting only solar customers) to be recovered from solar customers who export above set levels at certain times for the 2025-30 period. This is a welcome move but will only relate to less than 1% of network costs overall.³³ SACOSS considers a broader analysis and modelling of the recovery of network costs, including both distribution and transmission is required to properly understand the household impacts and implications for ensuring an equitable transition – the question of who benefits and who pays should be central to government policy and decision-making.

SACOSS is calling for more detailed data to shed light on scale of the current and future inequitable distribution of network costs. In times of such transformational change, industry, policy makers, governments and households need distributional grid consumption data (solar versus non-solar grid consumption) to identify who is benefiting and who is paying, and how we can all redress the imbalance to ensure more equitable outcomes. We are calling for the South Australian Government to support the AER increasing monitoring and reporting requirements for retailers and networks, and failing this, support the development of jurisdictional reporting requirements.

SACOSS considers it is worth referring to an example of an alternative method of billing for electricity, based on income, not consumption, which is being introduced in California.³⁴ SACOSS is urging the South Australian Government to consider all alternatives for equitable energy billing, in the face of an energy market that is demonstrably failing to deliver for South Australian households.

Recommendations:

- **The South Australian Government support the introduction and expansion of solar customer export tariffs to redress some of the inequities in network cost recovery.**
- **The South Australian Government develop jurisdictional reporting requirements and undertake modelling to shed light on scale of the current and future inequitable distribution of network costs.**

³³ SAPN, [Draft Regulatory Proposal 2025-30, Enabling Clean Energy](#), p. 65

³⁴ [Joint Testimony of Southern California Edison Company, Pacific Gas and Electric Company, and San Diego Gas & Electric Company \(the Joint IOUs\) Describing Income-Graduated Fixed Charge Proposals](#), 7 April 2023, see also the Guardian, [California income based electricity fees](#), 7 June 2023

- **The South Australian Government consider all alternatives for equitable energy billing, in the face of an energy market that is demonstrably failing to deliver for South Australian households.**

Smart meters, Time of Use Tariffs and the repeal of Regulation 6A

The Green Paper highlights the system security and voltage issues created by increased rooftop solar generation and the ‘duck curve’ in South Australia.³⁵ Whilst SACOSS supports demand-side responses to mitigate increased network investment to deal with these issues, we take this opportunity to repeat our concerns around the tariff requirements introduced by the South Australian Government in 2020, as part of the Smarter Homes Regulations.³⁶ The purpose of the new Regulation 6A of the *National Energy Retail Law (Local Provisions) Regulations*,³⁷ was to require retailers to offer time-of-use plans for standing offer customers, to incentivise energy use in low demand periods. SACOSS considers there was inadequate consideration of the impacts and risks for customers associated with introducing this requirement, and we are calling for the repeal or amendment of Regulation 6A, to ensure consumers can retain the choice of a flat rate tariff.

Under Regulation 6A, retailers in SA are required to have a standing offer for smart meter customers that includes:

- SAPN’s TOU tariff structure OR
- SAPN’s Demand tariff structure for residential prosumer OR
- A tariff structure determined by the retailer (which could be flat tariff), IF the retailer has a TOU market offer that is approved by the Minister.

SACOSS has not been advised of any ‘generally available market offers’ that have been approved by the Minister.

SACOSS is strongly of the view that mandatory assignment of retail time of use tariffs to smart meter customers risks further compounding consumer vulnerability. AER’s most recent retail market performance reporting for Quarter 3, 2022-23³⁸ shows a marked increase in the number of South Australian customers with smart meters who have now been moved to a time-of-use **retail tariff** (with an underlying distributor-based time of use or flexible tariff). The AER’s Q3 2022-23 data shows:

- In total, **the percentage of smart meter customers** in SA on a **time of use** or flexible tariff, with an underlying distributor-based time of use or flexible network tariff, has increased from **14.4%** in Q3 2020-21, **to 79.9%** in Q3 2022-23. Over the 12 months to Q3 2022-23:
 - the percentage of AGL smart meter customers on a ToU has increased from 53% in Q3 2021-22, to **83.2%** in Q3 2022-23

³⁵ Government of South Australia, [South Australia’s Green Paper on the Energy Transition](#), June 2023, p. 34

³⁶ Government of South Australia, [South Australia’s Green Paper on the Energy Transition](#), June 2023, p.35

³⁷ See: Section 22(1a) of the [National Energy Retail Law 2011](#) (NERL) and Regulation 6A [National Energy Retail Law \(Local Provisions\) Regulations](#)

³⁸ Australian Energy Regulator, [Retail energy market performance update for Quarter 3 2022–23](#), Schedule 2

- the percentage of Origin smart meter customers on a ToU has increased from **58.6%** in Q3 2021-22, **to 99.5%** in Q3 2022-23
- the percentage of Alinta Energy smart meter customers on a ToU has increased from **13.4%** in Q3 2021-22, **to 92.4%** in Q3 2022-23
- Simply Energy has remained steady at 47.6% of customers to 51.1% of customers in Q3 2022-23.

Recent complaints data from the Energy and Water Ombudsman of South Australia shows a marked increase in the number of complaints from energy customers relating to time of use tariffs and notification of change of tariff.³⁹ SACOSS considers there are substantial issues with this wholesale transfer of smart meter customers to ToU tariffs that could, and are likely to, lead to significant consumer detriment, including:

- South Australian smart meter customers are not provided with advanced notification of the change to a ToU tariff (this is due to Rule 46(4C) of the *National Energy Retail Rules* which provides for an exemption to the requirement that the retailer must give at least five days' notice of a variation in tariffs and charges, before applying those charges to the customer).⁴⁰
- South Australian customers are not being provided with information about the peak, solar sponge and shoulder times, which makes it impossible to understand the need to change usage patterns.⁴¹
- There is no explanatory information in the body of the notification of the need to change usage patterns, or the risks of increased energy costs if usage patterns don't change.
- The retail tariffs do not align with the underlying network structure.
- South Australian smart meter customers do not have the option to opt out of these ToU retail tariffs, even if they are unable to shift their usage patterns to between 10am and 3pm in order to take advantage of the lower 'solar sponge' tariffs; 14 hours a day on peak is impossible to avoid.⁴²
- None of the risks associated with tariff reform have been acknowledged, identified, assessed, monitored or properly costed - this would require visibility and analysis of the solar sponge retail tariffs being charged to customers, the length of the 'peak' periods, visibility of customer's energy consumption patterns, visibility and understanding of a customer's family structure / caring responsibilities / health requirements / ability to change usage patterns / access smart appliances / energy efficient housing.

³⁹ EWOSA, [Annual Report 2021-22](#), systemic issues, p.45

⁴⁰ Rule 46(3) and Rule 46 (4) of the [National Energy Retail Rules](#)

⁴¹ SACOSS, [Submission to the AEMC on the Review of Regulatory frameworks for metering services](#), 9 February 2023, p. 14

⁴² Californian's ToU tariff peak period is for five hours between 4pm and 9pm.

To address the equity concerns surrounding ToU rates, researchers have recommended that:⁴³

- *Policies are needed to ensure that demand-side response does not increase hardships for vulnerable groups.*
- *Different vulnerable groups will have different capacities to respond to rates using price signals, so demand-side measures should be carefully targeted rather than ‘one size fits all’.*
- *Potential time-of-use rates should be tested using scientifically rigorous methods before widespread implementation, with separate evaluation of impacts on different groups.*
- *People who are elderly, have disabilities and/or are members of minority groups will likely require particular attention in future pilots and policies.*

The ACCC has also acknowledged the risks to customers of mandatory ToU tariffs, as evidenced by Recommendation 14 of the *Retail Electricity Pricing Inquiry Report* which states (SACOSS’ emphasis):⁴⁴

Retailers should not be obligated to reflect the cost-reflective network tariff structure in their customers’ retail tariffs, but should be free to innovate in the packaging of the network tariff as part of their retail offer.

Given the potential for negative bill shock outcomes from any transition to cost-reflective network tariffs should retailers pass these network tariffs through to customers, governments should legislate to ensure transitional assistance is provided for residential and small business customers. This assistance should focus on maximising the benefits, and reducing the transitional risks, of the move to cost-reflective pricing structures. This includes:

- ***a compulsory ‘data sampling period’ for consumers following installation of a smart meter***
- ***a requirement for retailers to provide a retail offer using a flat rate structure***
- ***additional targeted assistance for vulnerable consumers.***

Notably, the transition to ToU pricing for PG&E customers in California (with peak pricing from 4pm-9pm every day) was accompanied by rate plan comparison pages and bill protection for the first 12 months.⁴⁵ Neither a rate plan comparison,⁴⁶ nor bill protection⁴⁷ have been offered, or provided to South Australian smart meter customers, and SACOSS considers a rate plan comparison is absolutely essential for customers to understand if a ToU would increase or decrease their costs, and bill protection measures should be introduced.

⁴³White, L.V., Sintov, N.D. Policy Brief, 16 December 2019, Varied health and financial impacts of time of-use energy rates across sociodemographic groups raise equity concerns <https://www.nature.com/articles/s41560-019-0515-y>

⁴⁴ ACCC, [Retail Electricity Pricing Inquiry Report](#), June 2018, p. xix

⁴⁵ PG&E, Transition to time-of-use [website](#)

⁴⁶ PG&E [Residential Rate Plan Pricing](#), including a personalised rate comparison.

⁴⁷ PG&E [Bill Protection website](#) with sample energy statement during bill protection period

SACOSS supports the establishment of strengthened customer impact principles and a transition period following the installation of the smart meter during which time a Pricing Pilot Program,⁴⁸ together with a compulsory 'data sampling period' (in line with Recommendation 14 of the REPI Report), including monitoring and evaluation.

Prior to the introduction of an accelerated smart meter roll out, SACOSS is seeking the Government of South Australia work to ensure smart meter customers in South Australia have the choice to opt-in to a ToU retail tariff if it suits their circumstances, or at the very least the ability to opt-out. As noted above, this may involve the repeal or amendment of Regulation 6A of the *National Energy Retail Law (Local Provisions) Regulations 2013*. In line with Recommendation 14 of the REPI Report, SACOSS submits retailers should be required to provide a retail offer using a flat rate.

In addition, SACOSS is calling for the distributional impacts of the mandatory TOU standing offers to be thoroughly monitored and reported on by the South Australian Government to determine the impacts of regulation 6A on energy affordability and consumer vulnerability, with additional targeted assistance provided to those affected. This also aligns with the Recommendation 14 of the REPI Report that there be a compulsory 'data sampling period' following the installation of a smart meter.

SACOSS is concerned about the impacts of the 100% universal roll-out of smart meters by 2030, including the unknown costs to consumers and the consequent introduction of retailers remotely disconnecting customers for inability to pay, removing the distributor from the disconnection process. We are calling for the South Australian Government to prohibit remote disconnection for non-payment of smart meter customers in South Australia, and to provide for a jurisdictional scheme requiring the introduction of the 'knock to stay connected' program⁴⁹ as BAU for retailers and distributors.

Recommendations:

- **The South Australian Government repeal or amend Regulation 6A of the *National Energy Retail Law (Local Provisions) Regulations*, to ensure South Australian smart meter energy consumers can retain the choice of a flat rate tariff, in line with Recommendation 14 of the ACCC's 2018 *Retail Electricity Pricing Inquiry Report*.**
- **The South Australian Government establish strengthened customer impact principles and a transition period following the installation of smart meters, together with a compulsory 'data sampling period', in line with Recommendation 14 of the ACCC's 2018 *Retail Electricity Pricing Inquiry Report*.**
- **The South Australian Government monitor and report on the distributional impacts of mandatory TOU standing and market offers to determine the impacts on energy affordability and consumer vulnerability, with additional targeted assistance provided to those affected, in line with Recommendation 14 of the ACCC's 2018 *Retail Electricity Pricing Inquiry Report*.**

⁴⁸ See [California State-wide Opt-in Time-of-use Pricing Pilot](#)

⁴⁹ The Energy Charter, [Knock to stay connected customer Code](#)

- **The South Australian Government prohibit remote disconnection for non-payment of smart meter customers in South Australia, and provide for a jurisdictional scheme requiring the introduction of the ‘knock to stay connected’ program as BAU for retailers and distributors.**

Access to rooftop solar in regional and remote communities

SACOSS strongly supports the suggested regulatory and policy reforms required to remove barriers to participating in rooftop solar in remote South Australian communities, as contained in the Australian National University’s submission to the Green Paper.

We also repeat our concerns⁵⁰ around the decision of the State Government to introduce mandatory prepayment in RAES Aboriginal communities,⁵¹ and the consequent increased number of disconnections and self-rationing behaviour potentially leading to negative health and social outcomes for residents of those communities. SACOSS considers the South Australian Government’s current policies are leading to increased risk of energy insecurity for remote Aboriginal households, as well as excluding those households from accessing the benefits of rooftop solar. It is of vital importance to prioritise the review of these policies given the heightened impact of climate extremes in remote South Australia, and the need for a consistent and reliable supply of energy in those communities. SACOSS considers current South Australian Government policies on remote area energy supply is widening the gap between off-grid and on-grid customers, undermining the achievement of Outcome 9, Target 9b of the South Australian Government’s *Implementation Plan for Closing the Gap*.⁵² Further, the Central Power House Upgrade referenced in the Green Paper⁵³ will provide supply side benefits for the South Australian Government, but community resident will not see those benefits flow through in terms of improved energy security, or lower tariffs which are set by the Department for Energy and Mining.

To inform the policy review, we are calling for the South Australian Government to have close regard to the mandatory prepayment data for RAES Aboriginal Communities collected and (yet to be) published by the Essential Service Commission of South Australia,⁵⁴ as well as direct feedback from community members about the lived experience of mandatory prepay and energy security impacts over the preceding 12 months. We urge the South Australian Government to consult with community members on the benefits of rooftop solar, and work in conjunction with Community members and the First Nations Clean Energy Network to develop a remote rooftop solar strategy.

Recommendations:

- **The South Australian Government implement the suggested regulatory and policy reforms required to remove barriers to participating in rooftop solar in remote South Australian communities, as recommended in the Australian National University’s submission to the Green Paper.**

⁵⁰ SACOSS, [Submission to the legislative review committee on the Electricity \(General\)\(Payment Condition\) Variation Regulations 2021](#), 12 April 2022 (and attached submissions)

⁵¹ See Regulation 17A of the [Electricity \(General\) Regulations 2021](#), p.18

⁵² South Australian Government, [Implementation Plan for Closing the Gap](#), p.70

⁵³ Government of South Australia, [South Australia’s Green Paper on the Energy Transition](#), June 2023, p.30

⁵⁴ ESCOSA, the [Cowell Electric Licence Amendment Prepayment by Default Final Decision](#) June 2022, p.12

- **To inform a thorough policy review of remote energy supply, we are calling for the South Australian Government to have close regard to the mandatory prepayment data for RAES Aboriginal Communities collected and (yet to be) published by the Essential Service Commission of South Australia, as well as direct feedback from community members on the lived experience of mandatory prepay and energy security impacts over the preceding 12 months.**
- **The South Australian Government to consult with remote Aboriginal Community members on the benefits of rooftop solar, and work in conjunction with Community members and the First Nations Clean Energy Network to develop a remote rooftop solar strategy.**

Rooftop solar and renters

As outlined in the Green paper, rental households currently face significant barriers to accessing the benefits of rooftop solar.⁵⁵ Rental households currently make up 30% of household tenure in South Australia, and that percentage is growing. Overcoming the issue of split incentives, and developing government funded programs or schemes to improve access to the benefits of rooftop solar for rental households (without providing subsidies for landlords), is essential to ensuring an equitable transition. The South Australian Government does not currently have any programs or schemes to support rental households overcoming barriers to accessing solar PV and its benefits.

We support the South Australian Government coordinating the development of a dedicated working group with representatives from government, industry, academia and community to assess existing interstate and international ‘solar for renters’ models, with a view to developing a best practice program for implementation in South Australia. This should be done in conjunction with the introduction of mandatory minimum energy efficiency standards for existing housing. We also support the submission from the ANU to better educate property owners and agents on the benefits of solar.

Recommendation:

- **The South Australian Government coordinate the development of a dedicated working group with representatives from government, industry, academia and community to assess existing interstate and international ‘solar for renters’ models, with a view to developing a best practice program for implementation in South Australia. This should be done in conjunction with the introduction of mandatory minimum energy efficiency standards for existing housing.**

The current and future role of natural gas?

SACOSS’ response focuses on the role of gas in distribution networks and the impacts of a poorly managed transition at the household level. We believe that there is a role for the South Australian Government to support households to better understand the risks, implications, opportunities and challenges of the gas transition. Without a clear and well-communicated roadmap for the future of gas networks, some consumers risk being stranded with escalating network costs, and unusable or expensive gas appliances, exacerbating inequality.

South Australia is in a unique position in terms of decarbonizing residential gas use, as we have a lower penetration of homes connected to gas and are less reliant on it for heating. Approximately 450,000 or

⁵⁵ Government of South Australia, [South Australia’s Green Paper on the Energy Transition](#), June 2023, pp. 88-89

56 per cent of South Australian households are currently connected to the gas network. South Australia has the highest percentage of connected homes with gas hot water (91 per cent of connected homes or approx. 409,500 households). This presents a unique opportunity for accelerating the energy transition via switching from gas to hot water heat pumps, which are more efficient and can be set to heating in the middle of the day to shift demand from peak periods and soak up excess solar. Further, as only 22 per cent of gas connected households in South Australia use gas heating (approx. 99,000 households), our winter gas peak is very low and converting all gas use to electricity would only increase peak electricity demand by 2 per cent.⁵⁶

Jurisdiction	Homes connected to gas ('000)	Percentage of homes connected to gas	Average household gas consumption (GJ pa)	Percentage of connected homes with gas heating	Percentage of connected homes with gas hot water
ACT	153	73%	33	64%	70%
NSW	1,491	43%	20	39%	78%
QLD	211	10%	9	4%	>90%
SA	450	56%	17	22%	91%
TAS	13	5%	30	83%	69%
VIC	2,089	76%	54	78%	90%
WA	757	68%	13	37%	87%

Source: Residential baseline study, ENA

Figure 6: Australian residential gas use by jurisdiction. Source: ENA

The future of gas in residential networks is an equity issue

Acting earlier and decisively will give South Australia the best opportunity to meet our net zero goals and ensure that no one is left behind in the energy transition. In terms of the future role of gas, there has been an evolving body of work examining the risk of gas consumers being stranded on the gas network and bearing the brunt of rising network costs as more people transition away from gas.⁵⁷ Low-income households, renters, those living in apartments, and culturally and linguistically diverse customers in particular are likely to face higher barriers in transitioning away from gas.

As more people shift away from gas and electrify, residential gas demand is likely to decline, increasing costs for the remaining customers on the gas network. If there is a material decline in gas demand and fewer customers to share the fixed network costs, increased network costs are likely to prompt more people to shift away from gas (likely those who can afford it) creating a 'death spiral'. Recent modelling by CSIRO suggests that without changes to how network costs are recovered, the network component of

⁵⁶Grattan Institute (2020) Flame Out: The Future of Natural Gas, <https://grattan.edu.au/wp-content/uploads/2020/11/Flame-out-Grattan-report.pdf>, p. 47

⁵⁷ ACTCOSS (2023) A just gas transition in the ACT, <https://actcoss.org.au/publication/report-a-just-gas-transition-in-the-act/>; Boardroom Energy (2022) Risks to gas consumers of declining demand, https://energyconsumersaustralia.com.au/wp-content/uploads/230109_Report_Risks-to-gas-consumers-of-declining-gas-demand_final.pdf; AER (2021) Regulating gas pipelines under uncertainty – Information paper, <https://www.aer.gov.au/system/files/AER%20Information%20Paper%20-%20Regulating%20gas%20pipelines%20under%20uncertainty%20-%202015%20November%202021.pdf>; IEEFA (2023) 'Renewable gas' campaigns leave Victorian gas distribution networks and consumers at risk, [HYPERLINK "https://ieefa.org/media/3904/download?attachment"](https://ieefa.org/media/3904/download?attachment)

gas bills across the NEM will increase from roughly 30 per cent of the total gas bill in 2030 to almost 70 per cent in 2050.⁵⁸ (See Figure below).

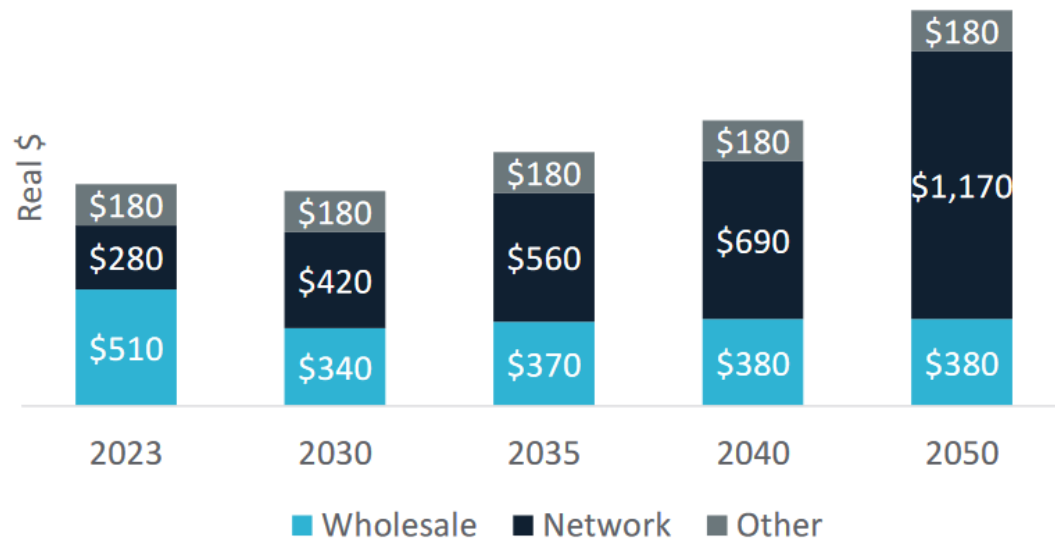


Figure 7: Projected average annual households gas bill in the NEM. Source: CSIRO (2023)

While modelling across such a time scale can be fraught, it does demonstrate the magnitude of the issue facing consumers who are unable to transition away from gas. Mismanaging the future of gas networks will have a significant and disproportionate impact on low-income households and those facing barriers to electrification, locking people into energy poverty. Without a long-term plan and policy leadership from Government, we risk leaving behind those with the least resources to manage the energy transition.

Even the latest report from the APA, Australian Gas Infrastructure Group (AGIG) and Jemena concede that that ‘low-carbon gas’ might only be a viable option for *some* existing gas-using households in a net-zero future, acknowledging that for “new builds, in the central case it would be lower cost to electrify as gas appliance removal and disconnection costs are not applicable.”⁵⁹ This presents another equity dilemma around who should pay for a ‘low-carbon’ gas future and how costs are recovered – between current or future customers; or between gas consumers and investors, particularly if future gas networks are more likely to favour industrial use.⁶⁰

In South Australia, approximately 75 percent of the gas distribution network’s revenue was recovered from residential households in 2021-22. This is despite residential demand being roughly on par with industrial loads, although this could be in part due to some information around certain industrial

⁵⁸ CSIRO (2023) Consumer impacts of the energy transition: modelling report, <https://energyconsumersaustralia.com.au/wp-content/uploads/CSIRO-Technical-Report-Stepping-Up.pdf>, p. 22

⁵⁹ <https://www.apa.com.au/globalassets/media-statements/2023/230814-rogiet-summary-article.pdf>, p. 13, 7

⁶⁰ See Ron-Ben David (2023) Regulatory over-reach in the energy transition. A case study: Gas tariffs for further discussion on this

customers have been marked as commercial in confidence in the performance reporting. Nevertheless, the implication is clear – current and future residential households will bear the risk of the gas transition, unless there is a significant policy shift. Further, the burden of future costs are likely to fall on low-income households and those facing barriers to switching to electricity.

AGN (SA) 2021-22	Demand (GJ)	Customer Number	Revenue (\$, nominal)	Revenue (%)
Residential	7,526,767	454,966	179,693,442	74.6%
Commercial	3,304,917	11,338	31,849,131	13.2%
Industrial	8,550,750	113	29,306,383	12.2%
Total	19,382,434	466,417	240,848,955	100.0%

Figure 8: Australian Gas Networks (SA) Revenue recovery by consumer type, 2021-22. Source: SACOSS analysis of share of revenue recovery from each tariff type based on 2021-22 performance reporting for AGN (SA) ⁶¹

The prudent, no-regrets policy answer would therefore be to minimise unnecessary costs and the risk of stranded assets by limiting new connections. As noted by the Grattan Institute,

“If new connections to the gas network continue to grow – it’s like pouring water into a bucket with a hole. Before they start encouraging homes to get off gas, state governments should do two things.

First, they should set a date by which residential network gas use in their state will end. This may be the same as its net-zero target date. It may have limited exceptions where eliminating gas use look unusually difficult [...] But setting a clear date creates certainty for homeowners, tenants, building managers, and gas network businesses.”⁶²

Although not a current policy, the South Australian Government has not ruled out a moratorium on gas connections for new residential builds, following a recent announcement in Victoria.⁶³ Recent analysis of jurisdictional policies has highlighted that South Australia does not currently have specific targets or goals for the gas network as part of its decarbonisation policies or a clear roadmap to get there.⁶⁴ As noted above, South Australia is a unique jurisdiction and what is appropriate for Victoria and the ACT may not be fully transferrable to our context. However, it is critical to note that Victoria and the ACT have arrived at their respective decisions following considerable public consultation.

⁶¹ Australian Gas Networks (SA) Gas pipeline information - RIN responses (2022), <https://www.aer.gov.au/networks-pipelines/performance-reporting/australian-gas-networks-sa-gas-pipeline-information-rin-responses>

⁶² Grattan (2023) Getting off gas: why, how, and who should pay? <https://grattan.edu.au/wp-content/uploads/2023/06/Getting-off-gas-why-how-and-who-should-pay.pdf>

⁶³ <https://indaily.com.au/news/2023/07/31/premier-eyes-hydrogen-fix-for-home-gas-connections/>

⁶⁴ https://energyconsumersaustralia.com.au/wp-content/uploads/230109_Report_Risks-to-gas-consumers-of-declining-gas-demand_final.pdf

ACT have a head start compared to other jurisdictions, with their latest position paper outlining a phased approach (see table below) which essentially gives the ACT **more than twenty years to plan for an orderly transition away from fossil gas**.⁶⁵ The ACT example demonstrates the advantage of early, decisive action to ensure that the costs of transition to are borne equitably. It is worth noting that the current ACT strategy does not rule out the potential for renewable gases for specific uses where electrification is not a viable option. SACOSS calls on the state government to act swiftly and decisively to enable an orderly and equitable transition away from gas.

Timeframe	Phase	SACOSS Comments
2023	Regulation to prevent new gas connections	
2024	ACT to release first stage of its Integrated Action Plan	
Over the next 10 years	More households and business consumers start to replace their gas appliances with electric when gas appliances stop working	Pragmatically, it will be more likely that people replace gas appliances when they break. Here, unbiased, trustworthy information is essential for people to make the right decisions for their circumstances
Within 15 years	Consumers start abolishing gas connections once final gas appliances are replaced	
2035 – 2040	As more consumers transition away from gas, prices will be higher for those left on the gas network	
2040 – 2045	Remaining consumers who are still connected to the gas network will need to transition to electricity unless zero emissions alternatives are available	It is worth noting that the 2040 timeline aligns with the gas networks' stretch target for a fully decarbonised gas network
2045	ACT reaches net zero emissions	

The Net Zero Australia project suggests that a decision on the future of gas distribution needs to be made by 2030, with a clear and well-communicated roadmap so that consumers are not at risk of being stranded with unusable or expensive gas appliances.⁶⁶ Regardless of the mix of energy for South Australia's energy future, ultimately it an issue of social license and South Australia needs an informed conversation around the future of gas to work through the complex issues, similar to Victoria's process with the development of its Gas Substitution Roadmap and ACT's Integrated Action Plan.

⁶⁵ ACT Government (2023) Developing ACT's Integrated Energy Plan – Position Paper, https://hdp-au-prod-app-act-yoursay-files.s3.ap-southeast-2.amazonaws.com/1216/9138/6293/Integrated_Energy_Plan_Position_Paper_ACCESS_FA2.pdf

⁶⁶ <https://www.netzeroaustralia.net.au/wp-content/uploads/2023/07/Net-Zero-Australia-Mobilisation-How-to-make-net-zero-happen-12-July-23.pdf>

Recommendations:

- **The South Australian Government sets specific dates and targets for the elimination of emissions from fossil gas, including dates for a moratorium on new residential gas connections as a prudent, no-regrets option**
- **The South Australian Government develops on a long-term policy roadmap for the gas transition, with clear milestones and targets. This needs to consider a number of issues, including:**
 - How to facilitate an orderly and fair transition, particularly for those likely to be left on the network (e.g. renters, low-income households)
 - Who should pay the gas transition, and how can costs be allocated fairly
 - Contingencies for dealing with network costs with fewer customers which minimises unnecessary costs and potential for stranded assets
 - How to support the workforce through the transition away from fossil gas

The current and future role of hydrogen gas

What is the best use of hydrogen in South Australia?

Hydrogen is likely to play an important role in South Australia's energy transition to net-zero. Given South Australia's bounty of renewable energy resources, green hydrogen must be selected over other forms of hydrogen, including blue hydrogen. Green hydrogen is produced from renewable energy by splitting water via the process of electrolysis, and is the only suitable 'shade' of hydrogen for a fully sustainable energy transition.⁶⁷ Blue hydrogen, as proposed in the Green Paper, is produced using fossil gas and deemed 'clean' by using carbon capture and storage (CSS) to offset emissions. Research from ANU has suggested that so-called 'low-emission' hydrogen produced from fossil fuels with CSS produces significant greenhouse gas emissions when actual carbon capture rates and fugitive emissions are considered.⁶⁸ This is simply incompatible with a net-zero future and **SACOSS calls on the State Government to rule out or limit investment into blue hydrogen.**

Hydrogen has been described as a swiss army knife of the energy transition, given its multitude of use cases in displacing fossil fuels. However, it is unlikely to be the best tool for every job. SACOSS believes that green hydrogen should only be pursued and prioritised in no-regrets situations and hard-to-abate sectors where there is a lack of alternative decarbonization options.

IRENA have analysed the uses cases of green hydrogen by considering the technological readiness of hydrogen against other decarbonisation solutions such as electrification (see Figure below). They have identified industrial uses such as production of green steel, ammonia products, chemical processes and refineries, and international shipping as high priority applications. High-grade heat applications are considered a medium priority area as either electrification and/or green hydrogen could be used. There

⁶⁷ https://www.irena.org/Publications/2020/Nov/-/media/Files/IRENA/Agency/Publication/2020/Nov/IRENA_Green_Hydrogen_breakthrough_2021.pdf?la=en&hash=40FA5B8AD7AB1666EECBDE30EF458C45EE5A0AA6, p. 20

⁶⁸ <https://www.sciencedirect.com/science/article/abs/pii/S0306261921014215?dgcid=author>

are a range of applications where there are already commercially and technologically viable decarbonisation alternatives to hydrogen such as for transport options.

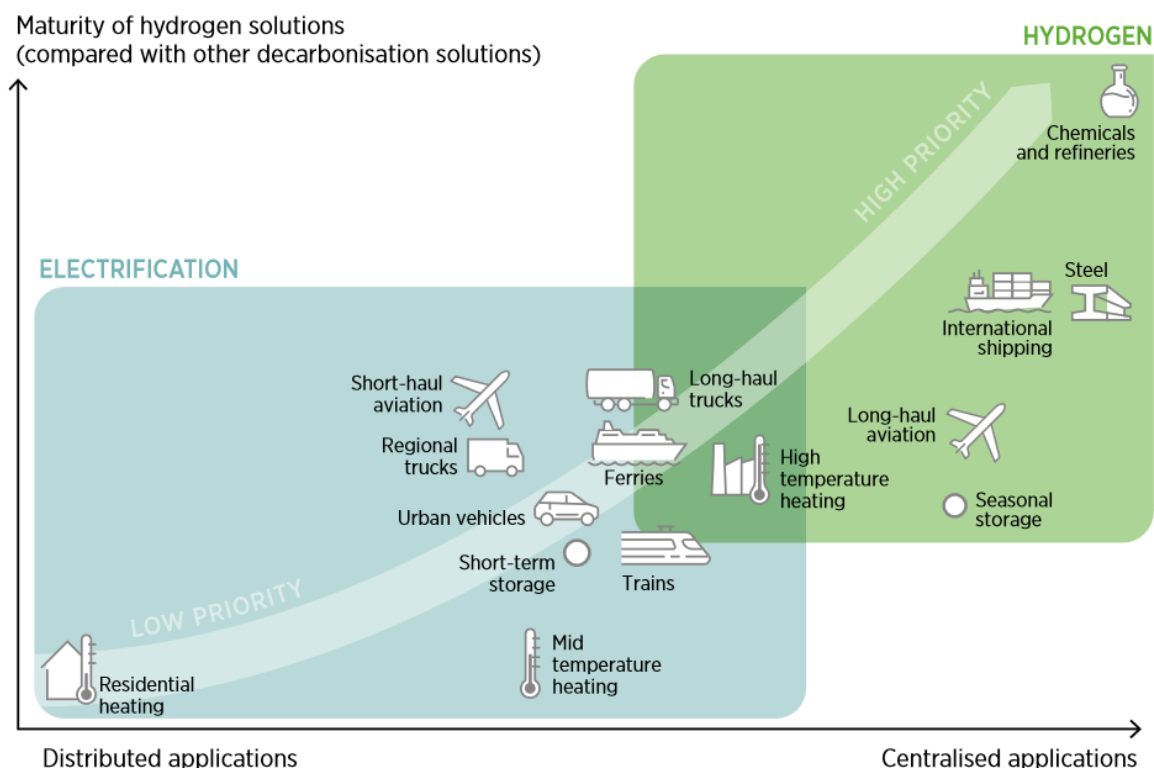


Figure 9: Comparison of technological readiness of hydrogen vs. electrification and potential size of hydrogen demand. Source: IRENA (2022)⁶⁹

‘Renewable’ Hydrogen in reticulated gas networks delays the energy transition and disadvantages low-income households and renters

A no-regrets vision for hydrogen infrastructure needs to focus on uses where it is best placed to meet South Australia’s net-zero goals. SACOSS does not support the widespread adoption of blended hydrogen in reticulated gas networks. Current evidence suggests that South Australia’s gas distribution network can only safely support blends of up to 10 per cent hydrogen by volume.⁷⁰ While hydrogen blending in gas networks is currently being trialled in some jurisdictions, they are in the nascent stages, including the current 5 per cent blend in Hydrogen Park South Australia. It is worth noting that due to the lower energy density of hydrogen, a 5 per cent hydrogen blend by volume is equivalent to

⁶⁹ IRENA (2022) Green hydrogen for industry: A guide to policy making, https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2022/Mar/IRENA_Green_Hydrogen_Industry_2022_.pdf?rev=720f138dbfc44e30a2224b476b6dfb77

⁷⁰ GPA Engineering for the Government of South Australian in partnership with Future fuels CRC on behalf of the COAG Energy Council. (2019) Hydrogen in gas distribution networks, <https://www.dcceew.gov.au/sites/default/files/documents/nhs-hydrogen-in-the-gas-distribution-networks-report-2019.pdf>

approximately 1.5 per cent by energy content.⁷¹ This means that the current emissions reduction capacity of “renewable hydrogen” is relatively trivial – even a theoretically feasible 20 per cent renewable hydrogen blend would only deliver 6 per cent emissions reduction.

We note that the gas networks have a stretch target of full decarbonisation of its gas networks by 2040 (or 2050 at the latest).⁷² However, there is little detail in the jump from 10 per cent renewable hydrogen in 2030 to full conversion by 2040.

Pursuing hydrogen in situations where there are already economic and technically viable alternatives for decarbonisation (i.e., electrification), risks delaying the energy transition and driving up costs. Even studies cited by gas network and related interest groups as evidence of the long-term cost competitiveness of green hydrogen for distribution networks raise several limitations and uncertainties around the blending to 100 per cent hydrogen pathway. For example, the Clean Energy Finance Corporation (CEFC) study⁷³ cited in the Australian Gas Infrastructure Group (AGIG)’s submission to Victoria’s Gas Substitution Roadmap⁷⁴ notes that:

- Hydrogen blending concentrations above 50% are not currently considered feasible in existing distribution networks due to increased impact on safety, leakage and material integrity. Adding more than 50% hydrogen to a distribution pipeline yields a significant increase in overall risk due to increase in probability and severity of ignition and explosion scenarios.
- Blending hydrogen into the existing natural gas distribution network at low concentrations, less than 10% hydrogen by volume, is generally considered viable without significantly increasing risks associated with utilisation, overall public safety, or the durability and integrity of the existing natural gas pipeline network.

The study goes on to conclude that “the blending of hydrogen into natural gas networks is considered to have moderate dependence on hydrogen for decarbonisation, with a rating of 5 out of 10. Other alternatives, such as electrification and 100% hydrogen networks, are likely to be more important.”⁷⁵ Curiously, the economic gap analysis / capacity to pay metrics were not determined for the 100% hydrogen gas network scenario because these are not the “ultimate end-users”.⁷⁶ There remains very little detail on how the above technical and safety issues around hydrogen blending will be resolved.

⁷¹ Frontier Economics (2020) Indicative analysis of blending hydrogen in gas networks, <https://www.dcceew.gov.au/sites/default/files/documents/nhs-hydrogen-in-the-gas-distribution-networks-report-2019.pdf>

⁷² Energy Networks Australia (2020) Gas Vision 2050, <https://www.energynetworks.com.au/projects/gas-vision-2050/>

⁷³ CEFC (2021) Australian Hydrogen Market Study, <https://www.cefc.com.au/media/nkmljvkc/australian-hydrogen-market-study.pdf>, p. 67

⁷⁴ https://www.agig.com.au/-/media/files/agig/media-release/vic-gas-substitution-roadmap/202108_agig_submission-to-victorian-gas-substitution-roadmap-consultation_redacted.pdf, p. 4

⁷⁵ CEFC (2021) Australian Hydrogen Market Study, <https://www.cefc.com.au/media/nkmljvkc/australian-hydrogen-market-study.pdf>, p. 68

⁷⁶ CEFC (2021) Australian Hydrogen Market Study, <https://www.cefc.com.au/media/nkmljvkc/australian-hydrogen-market-study.pdf>, p. 40; 87

Similarly, the Australian Industry Energy Transitions Initiative⁷⁷ cited in the AGIG submission focuses on decarbonizing the ‘hard-to-abate’ industrial sectors such as steel, aluminium, liquified natural gas, other metals (e.g. copper, nickel and lithium) and chemicals (e.g. fertilisers and explosives).

The level of uncertainty in the cost, timing and magnitude of Australia’s prospective hydrogen economy has led to AEMO replacing its ‘Hydrogen Superpower’ scenario with a ‘Green Energy Exports’ scenario, where the role of hydrogen has been scaled down.⁷⁸ Put simply, South Australia does not have time to wait for hydrogen to be proved to be economic for residential use cases.

Recommendations:

- **The South Australian Government should rule out or limit investment into blue hydrogen and focus on scaling green hydrogen for hard-to-abate industrial uses rather than residential uses.**
- **The South Australian Government should consider credible scenarios and exit strategies for the gas network should fully renewable gas prove to be not to be feasible. This could be part of the gas transition roadmap (see section above).**

Energy Efficiency and Electrification

The Energy Efficiency Council of Australia states that: *“the purpose of our electricity system is to meet people’s demand for services such as comfortable homes and productive businesses. If we need less electricity to meet this demand, we will need to spend less on generation, storage and networks. This makes building a 100% renewable grid faster, easier, and cheaper”*⁷⁹. SACOSS supports this view and encourages an emphasis on and prioritization of energy efficiency measures alongside rapid household electrification as a core element of this State’s energy transition.

The International Energy Agency is clear that “energy efficiency action is the unambiguous first and best response to simultaneously meet affordability, supply security, and climate goals”⁸⁰. Rapidly improving the efficiency of our energy system needs to be a priority for the government throughout the energy transition. Not only does improved energy efficiency keep energy systems affordable, it helps minimise the risk that challenges associated with the roll out of generation, storage, and transmission changes could significantly delay the energy transition. Managing demand more effectively also reduces the impacts of delays in projects or the development of new technologies.

Rapid Electrification and Efficiency Upgrades

There is a strong case for rapid electrification of households in South Australia. Modelling from Rewiring Australia⁸¹ demonstrates that the full electrification of households in Adelaide by 2030 would:

- save the average Adelaide households \$4100 per year in energy bills and vehicle costs

⁷⁷ <https://energytransitionsinitiative.org/>

⁷⁸ <https://aemo.com.au/-/media/files/major-publications/isp/2023/2023-inputs-assumptions-and-scenarios-report.pdf?la=en>, p. 17

⁷⁹ EEC (2023) [Clean Energy Clean Demand](#)

⁸⁰ IEA (2019) [Multiple Benefits of Energy Efficiency \(from “hidden fuel” to “first fuel”\)](#)

⁸¹ Rewiring Australia (2021), [Rewiring Adelaide](#)

- provide a combined \$1.5 billion in overall savings across all households in Adelaide
- create economic flow on effects that could (both directly and indirectly) create up to 9,600 new jobs.

Further, the full electrification of South Australian households would reduce our state's emissions by 42.4%. And the technology to do this already exists. Importantly, the benefits of home electrification are amplified when electrification occurs at scale.

However, not all households can access the technologies – and subsequent benefits – needed for energy efficiency upgrades and electrification equally. SACOSS emphasise the need to support and prioritise access for low-income households, and renters in particular. In Australia, rental homes account for 32% of all homes (approximately 3 million homes). There is, however, limited information on the condition of rental homes in Australia. The Australian Rental Housing Conditions Dataset, with a sample size of 15004, shows that (in contrast to the Australian Housing Condition dataset which contains predominantly owner-occupied data) only 76% of rental households were thermally comfortable during winter, and 71% during summer⁸².

Minimum energy performance standards for rental homes, either as part of a larger housing quality initiative or specific to energy performance alone, are established in numerous countries. Proposing the introduction of minimum energy efficiency standards for rental buildings in Germany it was noted that policies for introducing minimum standards for rental buildings should be designed with a financial mechanism and flanking instruments to ensure there is no displacement of existing tenants, and that they are not forced to accept significant and disproportionate costs. Minimum standards have proven valuable in addressing high energy costs and affordability challenges, particularly for vulnerable low-income renters. The most effective method for increasing energy security and improving the health and wellbeing of building occupants is the establishment of minimum building performance rules combined with cost-efficient government policy initiatives. Further, financing mechanisms must be investigated and introduced to support upgrading low-income housing and reducing the burden and disincentive of upfront capital costs⁸³.

In particular, prioritising the transformation of household heating and cooling lends itself to not only significantly cutting household energy costs but also improving their energy efficiency while also significantly reducing emissions. Space heating and/or cooling accounts for an average of 40% of household energy use in Australia, and depending on the climate zone and building performance, this can range from 20%-50%. Policies in these areas can intersect to support greater reliance on electricity rather than natural gas for heating, and recent research from SACOSS and Renew highlights the significant savings and benefits of switching from gas heating to electric heating and cooling. Even small energy efficiency retrofits and appliances can make a big difference to household bills and emissions, but savings and other benefits are further compounded when deeper retrofits are undertaken⁸⁴.

In a two-bedroom duplex, using July 2023-24 tariff prices:

⁸² Baker et al. (2020), [The Australian Rental Housing Conditions Dataset](#)

⁸³ RACEfor2030 (2023), [Enhancing home thermal efficiency](#)

⁸⁴ SACOSS (2023) [Efficient heating and cooling in Adelaide homes](#)

- Installing RCAC to replace gas heating would pay for itself in 7.4 years, or in 2 years if it is not used for cooling. If there was a 50% rebate on the upfront costs, it would pay for itself in 3.7 years
- Installing RCAC to replace gas heating, as well as installing ceiling insulation, draught sealing, and blinds, would pay for itself in 3.8 years, or in 3.3 years if the RCAC is not used for cooling. If there was a 50% rebate on the upfront costs, it would pay for itself in 1.9 years.

In a three-bedroom detached house, using July 2023-24 tariff prices:

- Installing RCAC to replace gas heating would pay for itself in 6.8 years, or in 2.5 years if it was not used for cooling. If there was a 50% rebate on the upfront costs, it would pay for itself in 3.4 years
- Installing RCAC to replace gas heating, as well as installing ceiling insulation, draught sealing, and blinds, would pay for itself in 5.1 years, or in 4.6 years if it was not used for cooling. If there was a 50% rebate on upfront costs, it would pay for itself in 2.6 years.

There is also evidence that targeted government support is highly effective in assisting low-income homes to access the significant benefits of improved energy efficiency. One example is the Outreach Energy and Water Efficiency Program facilitated by the ACT Government. The program provided eligible low-income households with some (or all) of the following:

- A home energy efficiency assessment and education
- New energy-efficient and water-efficient appliances to replace old, inefficient appliances
- A retrofit to improve the energy efficiency of water efficiency of households

The program delivered significant energy and water savings for households, but also identified that draught sealing was consistently the most cost-effective retrofit measure, and that insulation also significantly reduces the energy used (while delivering increased comfort) in case study homes⁸⁵. These results are supported by similar programs in other jurisdictions, such as the Home Energy Efficiency Upgrade Program in Victoria⁸⁶.

In considering energy efficiency measures for households, the government must also consider - and understand - the 'rebound effect' associated with energy efficiency. As part of government (and department) discussions, SACOSS has often heard the argument that there is a risk with energy efficiency (or energy affordability) measures that they will increase the demand for (or use of) energy services. This highlights to us that there needs to be better understanding of the rebound effect, and what it means not just for our energy system but for households and businesses as well.

The rebound effect occurs when improvements in energy efficiency result in an increased demand for services, resulting in less energy being saved than anticipated. We want to emphasise that this can be, and often is, a good thing⁸⁷. In fact, research indicates that the rebound effect is typically modest and

⁸⁵ Lighthouse Architecture (2021) [Proof that retrofit measures work](#)

⁸⁶ BSL (2016) [Home Energy Efficiency Upgrade Program Final Report](#)

⁸⁷ EEC (2023) [Clean Energy Clean Demand](#)

may increase the overall benefits of investments in energy savings⁸⁸. Examples of positive elements of the rebound effect include, for example, a residential property's energy use for heating increasing following energy efficiency improvements. However, this is because those energy efficiency improvements now allow that household to afford to heat their homes to a healthy temperature where they were unable to afford to do so before.

Energy Efficiency and Climate Change Mitigation (and Emissions Reduction)

Improved building energy efficiency contributes significantly to greenhouse emissions reduction objectives⁸⁹. The International Renewable Energy Agency estimates that energy efficiency will deliver a full quarter of the world's emissions reductions leading up to 2050; this is the same proportion that is expected to come from renewable energy.

Energy efficiency and energy security are emerging concerns in climate change policy, but there is (at present) little acknowledgement of energy justice issues. Marginalised and vulnerable communities may be disproportionately exposed to both climate change impacts and costs associated with energy transitions related to climate change mitigation and adaptation. Further, climate change produces energy-related impacts such as increased cooling costs and higher electricity costs associated with 'climate proofing' energy network infrastructure may exacerbate fuel poverty⁹⁰.

In South Australia research from SACOSS and Renew has identified potential significant emissions reductions from improving the efficiency of heating and cooling in Adelaide homes⁹¹.

In terms of emissions reduction, in a two-bedroom duplex:

- Switching from a gas heater to an inefficient electric portable heater reduces emissions by 839.11 kg CO₂-E annually
- Switching to RCAC with ceiling insulation, draught sealing, and blinds reduces emissions by 1377.52 kg CO₂-E annually

In a three-bedroom detached house for the same scenario:

- Switching from a gas heater to an inefficient electric portable heater reduces emissions by 709.11 kg CO₂-E annually
- Switching to RCAC with ceiling insulation, draught sealing, and blinds reduces emissions by 1172.84 kg CO₂-E annually

While energy efficiency measures have sometimes been referred to internationally as the “first fuel” when it comes to the energy transition, in Australia it has been labelled the “forgotten fuel”. Australia is currently ranked worst in the developed world for energy efficiency. Research commissioned by ANZ and the Energy Efficiency Council suggest that in the Australian context, energy efficiency measures can deliver 19% of emissions reduction by 2030, and 14% by 2050. If combined with electrification, this

⁸⁸ Sorrell, Dimotopoulos, and Sommerville (2009), [Empirical estimates of the direct rebound effect: A review](#)

⁸⁹ Enker and Morrison (2020) [The potential contribution of building codes to climate change response policies for the built environment](#)

⁹⁰ Byrne and Portanger (2014) [Climate Change, Energy Policy and Justice: A Systematic Review](#)

⁹¹ SACOSS (2023) [Efficient heating and cooling in Adelaide homes](#)

could be 39% of emissions reductions by 2050; a larger share of emissions reduction than delivered through renewable electricity (on current plans and projections)⁹².

There is a clear case for greater government investment in and prioritisation of energy efficiency upgrades and retrofits as part of the energy transition as an effective means of both reducing costs and reducing emissions associated with the energy system.

Recommendations:

- **Introduce minimum energy efficiency standards and mandatory disclosure of energy efficiency ratings for rental properties**
- **Introduce minimum energy efficiency standards for appliances and other technologies offered to consumers**
- **Prioritise energy efficiency measures, particularly targeting disadvantaged and low-income households, as part of the energy transition**
- **Develop a strategy and timeline for rapid energy efficiency retrofitting and the electrification of South Australian households that includes funding support to address barriers to electrification and retrofit**
 - **This must include appropriate financing mechanisms to ensure that households, particularly those on low incomes, are not paying disproportionately for or bearing other costs associated with household electrification and energy efficiency retrofits**

Health and Equity

General comments on Health and Equity section in Green Paper

SACOSS is concerned that equity, social outcomes, and health outcomes have not been prioritised throughout the Green Paper to the same extent as economic and particularly industry-related outcomes and opportunities. We view this as both a missed opportunity in the approach so far, but also a significant risk for the success and sustainability of the proposed energy transition. Affordable access to energy supply is a crucial determinant of human and environmental health. However, human health outcomes (and impacts) are rarely considered in energy policy. Research has shown that energy policy can be health promoting, but literature and policy analysis demonstrates that this needs to be a strong and explicit focus in developing future energy policy⁹³.

Healthier Households

Energy insecurity (a household's inability to afford its basic energy needs) is an under-appreciated material hardship that low-income households face. When households experience energy insecurity, they are more likely to take financial risks, engage in unsafe coping strategies, as well as suffer adverse mental and physical impacts as they try to pay their energy bills and avoid utility disconnection. Climate change will likely deepen this problem due to ongoing and projected increases in average and extreme temperatures, which will expose those that cannot afford to maintain comfortable temperatures inside

⁹² ANZ and EEC (2023) [Putting Energy Efficiency to Work](#)

⁹³ Braum et al (2023) [Energy as a Social and Commercial Determinant of Health: A Qualitative Study of Australian Policy](#)

their homes to extreme heat. This exposure may lead to severe health consequences, including heat exhaustion and death from heatstroke⁹⁴.

Houses with high energy consumption are a severe burden to low-income populations and lead them to be unable to satisfy their energy needs for proper indoor temperature and environmental conditions. In parallel, low-income populations mainly live in quite deprived and degraded urban areas, where the phenomenon of the urban heat island is stronger – largely due to a lack of urban green spaces. Exposure to higher summer outdoor temperatures considerably increases the low-income populations' vulnerability and puts their health conditions under stress, leading to increased mortality rates⁹⁵. In South Australia, we also see other temperature-related health risks in lower-income and, in particular, rental populations during the winter months. Research from Better Renting has identified through analysis of monthly death statistics and average monthly temperature data that the months July to October show an above average number of monthly deaths in South Australia. This pattern is typical of countries with low-quality housing stock that offers inadequate protection during cooler months⁹⁶. This is consistent in with the findings of other studies that deaths in Australia are much more likely to be attributable to cold than in significantly colder countries like Sweden, and that these deaths are linked to the poor energy and thermal efficiency of our housing stock; particularly as 84% of such deaths in South Australia occurred indoors, compared to 5% of hypothermic deaths in Sweden⁹⁷. Improving household energy efficiency would likely reduce excess winter deaths.

Energy insecurity is affected by housing tenure. There are unique challenges for renters, as opposed to homeowners for example, that can perpetuate energy insecurity conditions. Poor energy efficiency has been associated with an increase in household dampness, which is associated with worsened arthritis symptoms, dizziness, headaches, and fevers, and increases the presence of mold, exacerbating medical conditions such as allergies, eczema, and asthma. Energy inefficiency is also associated with an increase in a number of thermal-related illnesses, and homes with poor ventilation and outside air infiltration have more dust mites and cockroach faeces, which are known to exacerbate or lead to acute respiratory illnesses⁹⁸.

Multiple studies find that upgrading the thermal performance of buildings can deliver benefit-cost ratios of up to 4:1, with health benefits accounting for approximately 75% of those benefits⁹⁹. Building on that, analysis of the Victorian Healthy Homes program also demonstrated significant health benefits and in

⁹⁴ Graff, Konisky, Carley, and Memmott (2022) [*Climate Change and Energy Insecurity: A Growing Need for Policy Intervention*](#)

⁹⁵ Synnefa, Haddad, Rajagopalan and Santamouris (2020) [*Survivability under Overheating: The Impact of Regional and Global Climate Change on the Vulnerable and Low-Income Population*](#)

⁹⁶ Better Renting (2021) [*The sick season: cold weather and mortality in South Australia*](#)

⁹⁷ Gasparri et al. (2015) [*Mortality risk attributable to high and low ambient temperature: a multicountry observational study*](#)

⁹⁸ Jessel, Sawyer and Hernandez (2019) [*Energy, Poverty, and Health in Climate Change: A Comprehensive Review of an Emerging Literature*](#)

⁹⁹ IEA (2015) [*Capturing the Multiple Benefits of Energy Efficiency*](#)

household energy bills and household health spending and a significant decrease in healthcare and health system utilisation¹⁰⁰.

Recommendation:

- **That greater priority and consideration is given to principles of equity and fairness in South Australia's energy policy and energy transition planning**
- **That the energy transition accounts for, and measures, associated health outcomes that result from the energy transition – particularly those associated with energy affordability changes and energy efficiency upgrades**
- **That energy is recognised as a social and commercial determinant of health, and that this is reflected in government policy moving forward**

Education and information

Education and information is key to ensuring an equitable transition. SACOSS is calling for the State Government to fund, or co-fund with the Federal Government, increased awareness and information campaigns and a comprehensive energy advisory service, as well as financial counselling and energy audit services. We note the Green Paper refers to the ConnectEd program,¹⁰¹ which has now been de-funded, and we are as yet unaware of how this program will be replaced.

There is an overwhelming need amongst energy consumers for more information and advice on billing, energy efficiency, renewable technologies, smart meters, tariffs, energy audits, which is not currently being adequately provided. We receive consistent feedback that the AER's Energy Made Easy website is failing to deliver for consumers, and the Energy and Water Ombudsman continues to receive record calls from consumers concerned about billing. Financial Counselling providers are being inundated with calls for assistance with managing energy debt, including from people who have never asked for assistance before. We know that calls to Uniting Communities from mortgagees has increased from 5% to 15% this year. Increased government funding for support, education, energy advice and utility literacy is essential, and we are calling on the South Australian Government include provision for these services in the next budget.

Smart meters

The Australian Energy Market Commission is proposing to accelerate the roll-out of smart meters in South Australia to a 100% universal uptake by 2030.¹⁰² SACOSS strongly considers education is essential for the realisation of smart meter benefits to consumers and the system more broadly. None of the benefits will be achieved, nor the risks avoided, without a comprehensive education campaign. Information should be accessible, clear, simple and consistent and should cover costs, tariffs, functions, services, consumer protections and the contribution of smart meter technology to the management of the changing energy system.

Importantly, in light of current retailer practices, it is essential South Australian consumers receive accessible information about the impact of smart meter installation on their retail tariffs and related

¹⁰⁰ Sustainability Victoria (2022) [The Victorian Healthy Homes Program Research Findings](#)

¹⁰¹ South Australian Government, Green paper, p. 78

¹⁰² AEMC, [Draft Report: Review of the Regulatory Framework for Metering Services](#), 3 November 2022, p. i

energy usage patterns. Unless changes are made to the current frameworks to ensure consumer retail tariff choice is protected and retained, smart meter customers who are unaware or unable to change their energy usage patterns could face significant bill increases through an inability to opt out of mandatory ToU retail tariffs.

SACOSS fully supports Recommendation 14 of the Retail Electricity Pricing Inquiry Report¹⁰³ (REPI Report) that:

Governments should appropriately fund communication campaigns around the benefits of cost-reflective pricing and smart meters to build community acceptance and awareness of individual and community wide benefits, as well as customer awareness of their rights.

As noted in our submission to the AEMC,¹⁰⁴ SACOSS considers State and Federal governments should fund information and awareness campaigns around the impact of time of use tariffs and the costs and benefits of smart meters more generally, and this should be actioned immediately given the proposed time-line of the rollout. In addition, the South Australian Government should develop a financial support scheme to assist households with the costs of the smart meter roll-out.

Recommendations:

- **The South Australian Government fund, or co-fund with the Federal Government, increased awareness and information campaigns and a comprehensive energy advisory service, as well as financial counselling and energy audit services to be included in the next State Budget.**
- **Given the 2030 smart meter roll-out target, the South Australian Government immediately action Recommendation 14 of the ACCC's 2018 *Retail Electricity Pricing Inquiry Report* that:**

Governments should appropriately fund communication campaigns around the benefits of cost-reflective pricing and smart meters to build community acceptance and awareness of individual and community wide benefits, as well as customer awareness of their rights.

- **The South Australian Government develop a financial support scheme to assist households with the costs of the smart meter roll-out, funded in the next State Budget.**

Consumer Protections for remote energy customers

SACOSS strongly supports the South Australian Government funding an information and awareness campaign on the new consumer protections for off-grid energy customers contained in ESCOSA's *Small Scale Electricity Networks Code*¹⁰⁵ and *Prepayment Meter System Code*.¹⁰⁶ In order for consumer protections to operate effectively, it is essential that remote energy customers are aware of, and

¹⁰³ ACCC, [Retail Electricity Pricing Inquiry Report](#), June 2018, p.xix

¹⁰⁴ SACOSS, [Submission to the AEMC on the Review of the Regulatory Framework for Metering Services](#), 9 February 2023, p.9

¹⁰⁵ ESCOSA, [Small-scale Electricity Networks Code](#), July 2023

¹⁰⁶ ESCOSA, [Prepayment Meter System Code](#), July 2023

understand their rights and protections, including their right to payment support, protection from disconnection and access to South Australia's Ombudsman scheme.

Recommendation:

- **The South Australian Government fund an information and awareness campaign on the new consumer protections for off-grid energy customers contained in ESCOSA's *Small Scale Electricity Networks Code*¹⁰⁷ and *Prepayment Meter System Code*.**

Education for landlords and agents

SACOSS supports the ANU's submission on government funding to increase awareness amongst landlords and property agents of the benefits of solar and energy efficient appliances as an investment, including the increased attractiveness of the rental property and expected savings for tenants.

Other Considerations

Energy Concession Reform

Usage-based Energy Concession

SACOSS has long advocated for a usage-based energy concession for low-income energy users, that is, a concession based on a percentage of the bill rather than the current flat rate structure. A usage-based concession would be better targeted as it would provide greater relief for those with higher bills, and lower levels of support for those who are likely to struggle less with energy affordability.

In the context of South Australia's energy transition, a usage-based concession acts as a protective mechanism which can help manage price shocks for those most in need. Crucially, it also provides governments with 'skin in the game' and incentive to co-invest in targeted thermal and energy efficiency improvements such as insulation, upgrading to more efficient appliances and installing rooftop solar for concession households. These measures would reduce energy usage, provide benefits for people on low-incomes and ultimately reduce government budget on concessions in the long-term.

SACOSS has been alerted to concerns that moving to a usage-based concession would inadvertently encourage people to use more energy. There is insufficient evidence showing a behavioural relationship between price and consumption (i.e. energy demand is very price inelastic) and we question whether people on low-incomes using more energy is inherently a perverse outcome. Many people on low incomes are experiencing energy stress and often underutilising/self-rationing their energy use, sometimes to a point where it threatens their health and wellbeing. For these households, if a usage-based concession enabled them to afford electricity for the basic necessities and without cruellling the rest of the household budget, that should be regarded as a success. Indeed, it is what we want a concession to do.

Emergency Electricity Payment Scheme

SACOSS and other stakeholders, including the South Australian Financial Counsellors Association, have long-called for the Review and amendment of the Emergency Electricity Payment Scheme (EEPS).¹⁰⁸ It is

¹⁰⁷ ESCOSA, [Small-scale Electricity Networks Code](#), July 2023

¹⁰⁸ SACOSS, [Submission to the Department for Human Services on the Review of the Emergency Electricity Payment Scheme](#), May 2021

clear EEPS is not achieving its purpose of providing meaningful assistance to households in a financial crisis who are unable to pay their electricity debt, and over the past several years, fewer households have been able to access this important emergency support.

The Department of Human Services (DHS) Annual Reports point to continued declining expenditure on EEPS. The State Government spent \$216 000 on EEPS grants in 2021, compared to \$319 000 in 2020. At \$400 per payment, this means only 540 households were able to access Emergency Electricity payments in 2021 (down from 797 in 2020). Only 460 payments were made in 2021/2022, representing a 42% drop in payments in two years.¹⁰⁹ South Australian households have experienced burgeoning energy debt levels over that period, pointing to a clear failure of EEPS to achieve its objectives.

Given the current cost of living and energy affordability crisis and future uncertainty associated with the energy transition, we are urging the South Australian Government to review and amend the Scheme as a priority.

SACOSS considers the following elements of the Scheme are operating to reduce its effectiveness:

- the eligibility requirement that the customer's debt not exceed \$2000
- the eligibility requirement that the customer be disconnected or at risk of disconnection
- the eligibility requirement that the customer be the account holder (thereby excluding embedded network customers from accessing EEPS, as they are not billed directly by a retailer)
- the requirement that the customer only be permitted to access EEPS every three years (this time frame should be reduced)
- the \$400 payment amount
- onerous paperwork burden for applicants.

The eligibility criteria exclude customers of embedded networks (e.g. in residential parks and apartment blocks), most customers with long-term energy debt (around 70 per cent of customers in debt for more than 24 months have debt over \$2500), and customers on payment plans or hardship programs (who are not, in theory, 'at risk of disconnection'). Feedback from financial counsellors also points to the \$400 as being insufficient to make a real impact on customers with large energy debts, and the three-year time-frame results in customers being unable to meaningfully break the debt cycle and avoid disconnection.

During this time of soaring energy costs and extreme energy bill stress, we are urging the South Australian Government to do all that it can to support customers to remain connected to their energy supply. We refer the Government to the Utility Relief Grant Scheme,¹¹⁰ currently in operation in Victoria, as an example of a Scheme that provides meaningful assistance to households in crisis who can't afford to maintain their connection to essential services.

Energy Concession Reform Recommendations:

- **The South Australian Government introduce a usage-based energy concession.**

¹⁰⁹ Government of South Australia, Department of Human Services, [2021-22 Annual Report](#), p.119

¹¹⁰ State Government of Victoria, Families, Fairness and Housing, [Utility Relief Grants Scheme](#)

- **The South Australian Government urgently review and update the Emergency Electricity Payment Scheme, having regard to the Victorian Government's Utility Relief Grants Scheme.**