Empowering Vulnerable Households through Electricity Decarbonisation

The Climate Institute

Brotherhood of St Laurence
Working for an Australia free of poverty

acoss

About ACOSS

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

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

About Brotherhood of St Laurence

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

About The Climate Institute

Our vision is a resilient Australia, prospering in a zero-carbon global economy, participating fully and fairly in international climate change solutions. TCI develops non-partisan evidence-based policy advice, builds targeted multi-stakeholder coalitions, and engages decision-makers across all levels of government to drive effective action on climate change and clean energy.

About the Project

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- ACOSS Climate and Energy Policy Network for input and guidance into this submission.

ACOSS, BSL and TCI takes responsibility for final views and recommendations.

CONTENT

1 EXECUTIVE SUMMARY

A smooth and expeditious transition to a modern clean energy system is desirable and achievable. However Australia's energy system is in disarray, and low income and disadvantaged households are bearing the brunt of it. Urgent attention is need to ensure the transition is affordable, equitable and inclusive.

There are about 3 million people, including over 750,000 children, living below the poverty line. The number that struggle with energy stress is likely to be much higher than the poverty figures.

Households more likely to be vulnerable to energy stress are those living on unemployment or student allowances, single-parent families, the working poor, Indigenous households, households with someone with a disability or medical condition, pensioners and renters.

There is universal agreement that access to reliable and affordable electricity as essential, a basic human right. It is critical to the health, wellbeing, economic participation and social inclusion of Australians.

Despite being an essential service, electricity prices are skyrocketing, disconnections have increased, the number of households on hardship measures has risen, and more households are rationing energy to the detriment of their health and well-being. This is overlaid with a housing affordability crisis, low wage inflation, and long-term unemployment which has tripled since the global financial crisis with only one job for every ten people looking for work.

In addition, gas prices have become unaffordable, some networks continue to over-invest, retail competition is failing to reduce prices, coal-fired power plants have unexpectedly closed leaving workers and communities struggling, reliability of supply is becoming an increasing issue in some regions, and greenhouse gas emissions are increasing. The lack of policy certainty is now one of the biggest drivers of wholesale electricity price rises.

Efforts to provide access to affordable, reliable and clean energy - dubbed the energy trilemma - are failing.

A decade of policy instability; regulatory inaction; failure to better align climate, energy and social policy; and blame-shifting among federal and state governments is central to the deterioration of every element of the energy trilemma.

So what to do?

The report acknowledges that the energy system is shifting from a centralised base load/peaking grid to a more decentralised and diversified grid with a mix of large-scale and distributed energy. This will create opportunities and benefits, but also potential risks and losses. For example, rooftop solar and battery are predicted by CSIRO to contribute up to 45% of all electricity being generated by customers (not utilities). While such a shift is modelled to provide greater efficiency in the system and save the average household $414 annually compared with a future based on business as usual, the distribution of energy market costs in the new system, if not carefully managed, has the potential for wide ranging social equity impacts.

Put plainly, there are concerns that, without significant policy and regulatory reform, the future energy market will create a two tiered system between those who can access and afford distributive energy resources and those who cannot, further widening the gap between the haves and the have-nots.

This inequity is further exacerbated when incentives to support uptake of distributive energy are recouped in a regressive manner through electricity bills, rather than more progressive means, such as off budget. Those with distributive energy contribute less.

As an essential service it is critical that the most vulnerable in our society can access affordable electricity. Given that not all can access distributive energy, retaining an affordable grid with low cost large scale clean energy will be essential and the benefits of distributive energy shared equitably.

The biggest drivers of price are increases in wholesale, retail and network costs, with reforms needed in all three areas. From mid-2016 wholesale prices have risen steeply, due to a combination of factors including high gas fuel costs; tightening supply market resulting from loss of investment signal due to repeal of carbon price and wind back of the Renewable Energy Target (RET); the unexpected and rapid closure of coal generators in South Australia and Victoria; and the electricity system's struggle to cope with the rapid changes in generation type and availability. An underlying contributor to all of these is the lack of a reliable policy framework. It's estimated to be costing households hundreds of dollars a year.

While the first phase of this project as reported here does not recommend a specific set of policy levers, it does recommend Governments as a matter of urgency provide greater investment certainty by implementing a climate policy to transition the electricity sector in line with Paris Agreement goals. Policies should be least cost and utilise a mix of market mechanisms, regulation, and on-budget measures, the costs of which are allocated equitably and vulnerable households are protected. The Government should also ensure there is better alignment between climate and energy policy and reform the regulatory and governance frameworks of the national energy market to achieve this.

This report also clearly spells out that it is not just the price of electricity that hurts vulnerable households. It is also the total cost of securing their energy needs and their ability to pay. These are influenced by many factors including housing circumstances; how much and when energy is used; the ability to access information; energy market design; eligibility for concessions and access to technology.

The evidence shows ability to pay energy bills is closely linked to the costs of other essentials such as housing, transport and medical expenses. Housing circumstance is a particularly strong indicator of vulnerability. The cost of housing determines how much room exists in household budgets to pay energy bills. Whether housing is rented or owned determines the scope of actions available to reduce energy costs, as tenants may have neither the ability nor the incentive to invest in options such as energy efficient appliances or distributive energy like solar and batteries.

Energy efficiency was found to be critical and provides multiple benefits reducing costs, reducing emissions, improving health and wellbeing, and reducing need for concessions.

Retail competition has not produced the benefits espoused. For example Victoria has arguably the highest retail contestability but retail costs makes up a larger portion of the bill. And the question has to be asked, is competition delivering, especially for vulnerable households.

Recent research indicates that despite the plethora of choice, many households are disengaged with the energy market and are therefore likely to be paying 15-20% more than necessary for their electricity and gas. Some cohorts of vulnerable households are more disengaged and the inability to engage makes people more vulnerable.

These factors outlined above prevent those consumers experiencing poverty and disadvantage from exercising a level of choice that would materially reduce their energy costs.

Investing in access to technology, better consumer frameworks and consumer education will be critical but will also have limits for a range of reasons, including - cost, low literacy levels, housing situations, and complex lives – and therefore an adequate safety net will remain essential.

Unfortunately the various safety nets that should support low-income and disadvantaged households are increasingly recognised as inadequate. Newstart is woefully inadequate, in many cases energy concessions are poorly targeted and unresponsive to cost increases, and consumer protection laws are failing to keep pace with technology changes.

Given the essential nature of electricity, this report makes it clear that Governments, regulators and decision makers *must* prioritise factors outside the national energy market to provide urgent relief to energy stress and if we are to make the modern electricity sector inclusive and equitable to low income and disadvantaged households.

The report also suggest the principles governing the National Energy Market (NEM) must consider more than just 'price', and have regard for the distributional impacts and potential social and economic consequences for vulnerable members of the community as the electricity market transforms.

Unless there is nationally coordinated plan that has better integration between climate, energy *and* social policy, that is inclusive and equitable, vulnerable households will be left behind and further disadvantaged.

This report has been developed jointly by ACOSS, the Brotherhood of St Laurence, and The Climate Institute to highlight the myriad of issues facing low-income and disadvantaged households as the electricity sector transitions to a modern and clean system, and highlight areas for reform and urgent attention. This report draws on the findings from commissioned research *Energy Access and Affordability Research*[1] and consultations with the community and energy sector and other stakeholders. It utilises a framework structured around five policy outcomes that reflect the interaction between household energy bills and energy, climate and social policies. The report is intended as a basis to direct urgent Government attention to critical areas of reform and to consider further policy development, while noting other reforms will also be necessary.

In conducting this project ACOSS, BSL and TCI have identified gaps that need further research and consideration, including:

- Which climate and energy policy' packages are best to achieve Australia's fair contribution to Paris Agreement goals, provide certainty, are equitable, and have the least impact on low income and disadvantaged households. And what additional support will be needed to protect low income and disadvantaged households from the rising costs of electricity.
- A better understanding of the changing nature of vulnerability to current and future energy stress.
- What policy levers and network reforms are needed to ensure uptake of distributed energy is not regressive and further disadvantages low income and disadvantaged households, but rather is inclusive and equitable.
- Understanding the specific energy needs and issues facing Aboriginal and Torres Strait Island communities. These communities already experience multiple existing challenges including: remoteness, poor health, inadequate infrastructure, lack of educational and employment opportunities, and low incomes. Anecdotal evidence suggests Aboriginal communities experience periods of high energy use due to family and community stays, are often in inefficient accommodation and don't have ready access to energy information and education. In addition remoteness as an additional barrier to improving energy efficiency and take up of renewable energy. There is an urgent need for further research in this area and tailored policies and programs to better support Aboriginal and Torres Strait Islander communities.

The next stage of this project will aim to undertake further research and consultations to develop more detailed policy and advocacy around the issues and potential solutions raised in this report, in particular:

- Investigate further which climate and energy policies are best to achieve Australia's fair share of the Paris Agreement goals and are in the best interest of vulnerable households.
- Investigate further the distributional impacts of climate policy and energy policy measures and develop more detailed solutions to ensure low income and vulnerable consumers are better supported and not disadvantaged by the policy measures.

1 The full consultation paper is available at http://www.acoss.org.au/wpcontent/uploads/2017/03/EnergyAccessandAffordabilityPolicyResearchFINAL20March2017.pdf

- Investigate further how to address inequities created by clean energy incentives and growth of distributed energy to ensure the transition to clean energy is more equitable and inclusive.

2 SUMMARY RECOMMENDATIONS: FIVE OUTCOMES TO PURSUE AN INCLUSIVE AND EQUITABLE ENERGY TRANSITION

These recommendations are not detailed policy proposals, nor are they the only policies needed to ensure an inclusive and equitable energy transition. Instead, they are broad formulations that identify where government attention and more considered policy development **urgently** needs to focus.

Outcome 1: Electricity priced efficiently, including integrated climate policy

1.1 Federal government work with COAG Energy Ministers to implement effective and stable policies in the electricity sector consistent with Paris Agreement objectives, comprising a carefully designed package that utilises market mechanisms, regulation and on-budget measures.

1.2 Federal Government work with COAG Energy Ministers to investigate further how to address inequitable allocation of the costs associated with the transition and growth of distributed energy, to ensure the transition to clean energy is more equitable and inclusive.

1.3 Federal Government work with COAG Energy Ministers to develop policies for managed coal generator retirement and replacement in the interests of the public, energy consumers, and communities.

Other important priorities

1.4 Federal and state Governments support the development of models that enable low-income and disadvantaged households to access affordable distributive energy, including community and local energy models.

1.5 COAG Energy Council consider incorporating social and decarbonisation principles to guide the decision making of the operation of the National Energy Market (NEM).

1.6 COAG Energy Ministers implement policies to improve the role and utilisation of the electricity network in contributing to demand management and distributed generation that is inclusive and equitable.

Outcome 2: Informed and enabled[2] consumers

2.1 Federal and State Governments co-fund stable and ongoing assistance programs, delivered by local place based social support services to inform and enable vulnerable households engage with the energy market. Where possible these programs should strengthen relationships between vulnerable households, support services,

[2] While *Energy Access and Affordability Research* discusses the need for consumers to be more engaged, we received significant feedback that this term did not capture the need for households to be able to exercise agency in their involvement with the electricity market.

advocates and energy retailers.

2.2 COAG Energy Ministers require energy retailers to develop a low-cost, no-frills retail energy market offer that vulnerable and disengaged customers can default to if they cannot or do not engage in competitive retail energy markets.

Outcome 3: Energy consumed efficiently and productively

3.1 Federal, State Governments and local councils work cooperatively together to co-fund ongoing programs for vulnerable and low-income households that provide access to energy efficient technologies, solar PV and other distributed resources and provide a trusted source of information. Higher levels of support should be provided to the most vulnerable households.

3.2 Federal Government support State and Territory Governments to introduce minimum energy efficiency standards for rental properties in all Australian jurisdictions (with reference to local climatic conditions) to improve affordability, health and wellbeing outcomes for tenants in the poorest quality dwellings. Simultaneously the Federal Government review tax policy to ensure existing tax measure support energy efficiency upgrades.

3.3 Federal and State Governments provide additional support to upgrade all public and community housing stock to best practice energy efficiency standards.

Outcome 4: Robust Consumer Protections

4.1 COAG Energy Ministers undertake a review of disconnection laws in light of the essential nature of electricity, with a view to ending the tactic of disconnecting households because of inability to pay.

4.2 COAG Energy Ministers request a review of the current National Energy Customer Framework (NECF), with the following reforms in mind:

- Introduce Governing principles along the lines:
  - It should be easy for people to engage and make effective decisions.
  - Appropriate consumer protections should be applied to all energy products and services.
  - The benefits of a transforming market should be shared across the whole community
- Review of current best practice protections in line with principles
- Establish a range of no-regrets initiatives:
  - Testing the need for, and form of, market interventions against real consumer decision-making.
  - Ensuring adequate access to justice by expanding the jurisdiction of energy Ombudsman schemes.
  - Requiring energy service providers to identify the consumer's purpose in acquiring a service, to ensure it is appropriately identifying programs to assist vulnerable demographics access new products and services.
- Apply updated consumer protection framework in all states, with derogations for stronger protections allowable.

4.2 COAG Energy Ministers investigate additional measures that retailers could implement for those customers identified through Payment Difficulties or Hardship initiatives, such as energy education, access to financial

counselling, and support to access energy efficiency upgrades and distributive energy, in order to prevent re-occurring hardship.

Outcome 5: All households have the capacity to pay

5.1 The Federal Government improves the adequacy of income payments including Newstart and Youth Allowance.

5.2 Federal and state Governments jointly review concessions schemes to assess:

- Opportunities to improve and better target concessions to vulnerable households, with a preference towards more equitable percentage based system, and to harmonise their structure across jurisdictions, where substantive differences exist.
- Ways to improve emergency relief payments, to simplify application processes, and provide greater clarity for customers.
- Ways to better promote availability of concessions nationally.

5.3 Federal and State Government align policy, advocacy and research initiatives with corresponding housing affordability initiatives. Expand scope to include stronger integration with understanding of transport costs**.**

3 INTRODUCTION

3.1 Background

The Australian Council of Social Service (ACOSS), Brotherhood of St Laurence (BSL) and The Climate Institute (TCI), share a goal of wanting to see rapid decarbonisation of the electricity sector while ensuring the transition is affordable, equitable and inclusive to vulnerable Australians.

ACOSS, BSL and TCI were successful in securing a grant from Energy Consumers Australia to commission research and undertake national consultations with the community and environment sector, along with other key stakeholders.

ACOSS, BSL and TCI commissioned energy consultant Andrew Nance of The Energy Project, to conduct a literature review of the wide range of issues facing low income and disadvantaged Australians as Australia decarbonises its energy system. The consultant's paper [3] *Energy Access and Affordability Research* explores five policy outcomes that reflect the interaction between household energy bills and energy, climate and social policies. The Paper proposed that these five outcomes (below), pursued in broadly equal measure can ensure effective decarbonisation of the electricity supply chain while preserving universal access to affordable energy services:

- Electricity priced efficiently (including integrated climate policy);
- Informed and enabled consumers;
- Energy consumed efficiently and productively;
- Robust consumer protections; and

[3] Andrew Nance, 2017. Energy Access and Affordability Research. Andrew Nance developed the five-outcomes framework independently of this project.

- All households have a capacity to pay their energy bills.

To identify areas that are seen as particularly important and urgent, ACOSS, BSL and TCI used the Nance paper as a basis to consult with over 120 key stakeholders. The consultations considered and discussed in depth the merits of the high level solutions put forward in the Nance paper. At the end of each forum participants were given dots and asked to select four top priorities within each outcome and their top four priorities overall. Participants were also able to put red dots against measures if they strongly disagreed with them, and to add any new ideas that were not included in the research report (see appendix 1 for list and rating of solutions and new ideas put forward)

The consultation discussions and 'dotocracy' exercise were very useful in understanding where there was universal agreement on problems and solutions; divergence of views on the problem and solutions; and where more work clearly needs to be done on better understanding issues and solutions. While the dotocracy is a more democratic than truly scientific approach to determining priorities, it produced significant amounts of preferences for a limited number of priorities and so we are confident that it indicates areas with strong and widespread cross-sectoral support (but not necessarily consensus).

These recommendations presented in this document reflect the priorities drawn from the research paper, the dotocracy, the discussions during the consultations, and engagement with formal networks. The solutions given here are not detailed policy proposals, nor are they the only policies needed to ensure an inclusive and equitable energy transition. Instead, they are broad formulations that identify where government attention and more considered policy development **urgently** needs to focus.

3.2 Energy Trilemma – failing on all fronts

Efforts to provide access to affordable, reliable and clean energy - dubbed the energy trilemma - are failing.

The electricity sector is in transition from a highly centralised high-carbon generation to more diversified, distributed and cleaner energy. The model of 100% baseload and peaking plant electricity system is giving way to a mixture of centralised large scale renewable energy, distributed renewable energy, storage and demand management. Trends in technology, consumer preferences and business models make further progress inevitable[4]. Large scale wind and solar with storage are now cheaper than new gas or coal generation.[5] However more needs to be done to manage their variability, we have the solutions but to date it there has been a failure to put appropriate systems in place. Many coal-fired electricity generators will be past their design life between now and 2040.[6] How and when these generators are refurbished, retired or replaced will affect not just each aspect of the trilemma, and because of the implications for communities where these generators are situated, social cohesion as well. The need to address climate change makes faster decarbonisation highly desirable. However the transition is not being well managed.

Electricity prices are skyrocketing, emissions in the electricity sector are increasing, and reliability of supply is becoming an increasing issue in some regions.

A decade of policy instability, regulatory inaction and blame-shifting among federal and state governments is central to the deterioration of every element of the energy trilemma.

Low income and disadvantaged households are bearing the brunt of mismanagement and will be further disadvantaged if the desirable transition to a modern, clean electricity sector is not well managed, inclusive and equitable.

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[4] Finkel, A (2016) Independent Review into the Future Security of the National Electricity Market: Preliminary Report, pg. 10.https://www.environment.gov.au/system/files/resources/97a4f50c-24ac-4fe5-b3e5-5f93066543a4/files/independent-review-national-elec-market-prelim.pdf

[5] http://www.reputex.com/research-insights/a-cost-curve-for-emissions-reductions-energy-storage-in-the-australian-power-sector/

[6] Climate Council 2014: 65% of Australia's coal fired power stations will be over 40 years old by 2030.

3.2.1 Emissions Reductions

Unconstrained climate change will have serious economic, environmental and social impacts on Australia. Higher temperatures and more extreme weather increase the risk of deaths, injuries and disease.[7] The impacts of climate change on the economy are likely to be severe, with sectors like agriculture and tourism particularly exposed.[8] Above global temperature levels of 2°C adaptive responses are likely to become more expensive and disruptive, and less able to maintain acceptable standards of societal health, security and well-being.

While the costs of climate change will be felt across the economy, people affected by poverty and disadvantage will be the first and hardest hit by the impacts of a changing climate; as they are least able to cope, adapt and recover.[9] Runaway climate change will lead to significant social justice issues and increase pressure on the need for financial and services support.

It is therefore in the interest of vulnerable Australians that Australia does all it can to ensure the goals of the Paris Agreement on climate change are met. These goals are to limit global warming to well below 2°C, and pursue a limit of 1.5°C. Achieving these outcomes requires developed countries including Australia to reduce greenhouse gas emissions to net zero by 2050.[10] [11]

Electricity sector is the single largest source of greenhouse gas emissions in Australia, producing around one-third of total national emission. While all sectors need to play a role in achieving Australia's contribution to the Paris Agreement goals, the electricity sector is in a much better position - due to abundant renewable energy sources and available technology - compared to other sectors like agriculture, to do the heavy lifting to achieve Australians emission reduction commitments. Moreover, decarbonised electricity is a pre-requisite for deep emissions reduction in sectors like passenger vehicles and some industrial processes.

Analyses of electricity decarbonisation by CSIRO[12], Climate Change Authority[13] and The Climate Institute[14] find that the emissions intensity of Australia's electricity supply needs to approach 0.1tCO2e/MWh by 2040 for emissions reduction targets consistent with 2°C rise in average global temperatures. It is important to point out, that these analyses have not modelled what is required to pursue a global goal of limiting warming to 1.5 degrees. Achieving the 1.5C goal requires a faster rate of energy decarbonisation.[15]

Australia's electricity emissions are on a trajectory that is wholly inconsistent with the Paris Agreement goals. The sector's annual emissions are around 180 million tonnes, and are projected to remain at approximately that level in the absence of strong emissions reduction measures. Figure 1 shows the gap between government projections of electricity emissions and a pathway for the sector consistent with the 2°C goal in the Paris Agreement.

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[7] http://www.climatecouncil.org.au/uploads/1bb6887d6f8cacd5d844fc30b0857931.pdf

[8] The Climate Institute, 2016. *Beyond the Limits: Australia in a 1.5-2°C world*. http://www.climateinstitute.org.au/verve/_resources/TCI_Beyond_the_Limits_FINAL23082016.pdf

[9] Mallon, K, Hamilton, E, Black, M, Beem, B & Abs, J 2013, Adapting the community sector for climate extremes: Extreme weather, climate change & the community sector – Risks and adaptations, National Climate Change Adaptation Research Facility, Gold Coast, 286 pp. (www.nccarf.edu.au/publications/extreme-weather-climate-change-community-sector)

[10] The Climate Institute, *Beyond the Limits*.

[11] WWF, 2015. *Submission to the Climate Change Authority Special Review: Australia's greenhouse gas emissions reduction goals*. http://www.climatechangeauthority.gov.au/sites/prod.climatechangeauthority.gov.au/files/submissions/2015/WWF%20Australia.pdf

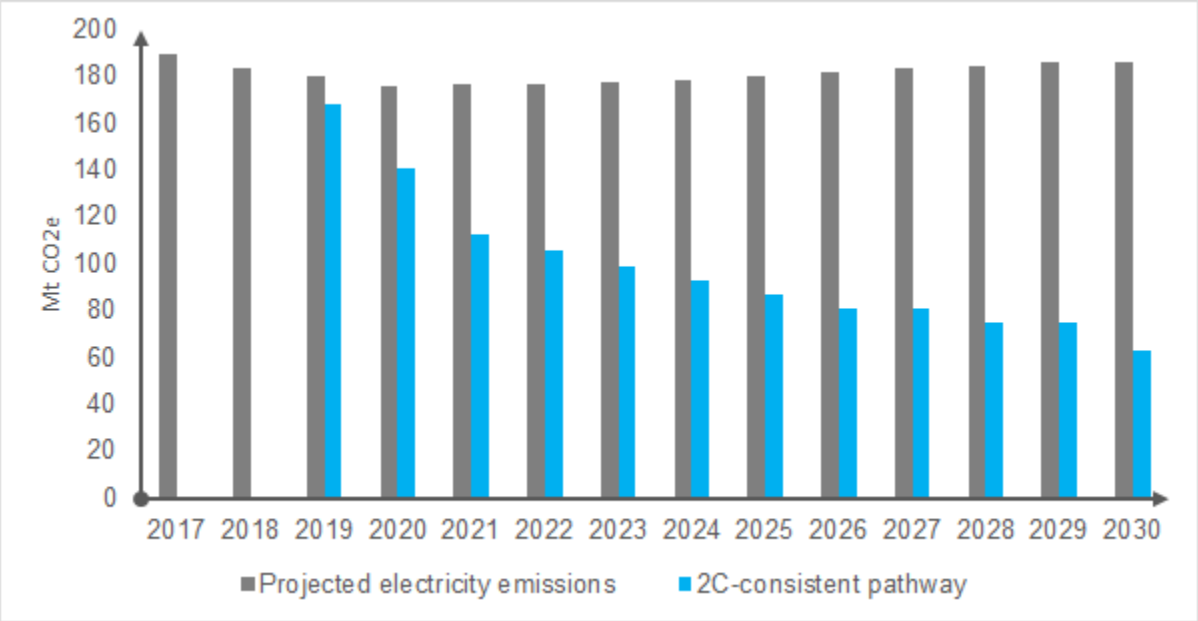
[12] Hatfield-Dodds, S., Adams, P.D., Brinsmead, T.S., Bryan, B.A., Chiew, F.H.S., Finnigan, J.J., Graham, P.W. Grundy, M., Harwood, T.D., McCallum, R. McKellar, L.E., Newth, D. Nolan, M., Schandl, H. and Wonhas, A., (2015), *Australian National Outlook 2015 - Supplementary data on electricity supply and emissions*. CSIRO, Canberra

[13] http://climatechangeauthority.gov.au/sites/prod.climatechangeauthority.gov.au/files/files/SR%20Electricity%20research%20report/Electricity%20research%20report%20-%20for%20publication.pdf

[14] The Climate Institute, 2015. *A Switch in Time: Enabling the electricity sector's transition to net zero emissions*. http://www.climateinstitute.org.au/verve/_resources/TCI_A-Switch-In-Time_Final.pdf

[15] The Climate Institute, 2017. *Limiting climate change to 1.5C: A guide for businesses and investors*, forthcoming.

Figure 1: Projected electricity emissions versus a 2°C-consistent emissions trajectory[16]



3.2.2 Security and Reliability

The Finkel Preliminary Report noted that "the shift from coal-fired generators to wind and solar photovoltaic generators has implications for security and reliability".[17]

Blackouts and brownouts can be extremely disruptive and potentially life threatening for some vulnerable households. People with health and medical conditions for example are probably the most vulnerable if they are reliant on heating or cooling to manage conditions.

The reasons often cited for the security and reliability concerns is that variable renewable electricity generators do not inherently provide usable inertia and frequency control to support power system stability and security, and are not currently required to provide or procure these services. They are also much less able to contribute to other ancillary services. Coal generators exiting earlier at short notice and extreme temperatures and weather events have also contributed to security and reliability issues.

[16] Projected emissions from Department of the Environment and Energy, 2016, *Australia's emissions projections 2016*. http://www.environment.gov.au/climate-change/publications/emissions-projections-2016. 2°C-consistent pathways from Jacobs, 2015. *Electricity sector impacts of emissions abatement policies*. http://www.climateinstitute.org.au/verve/_resources/Jacobs_-_Electricity_Sector_Impacts_of_Policies_to_Cut_Emissions_of_Greenhouse_Gases_Report.pdf

[17] Finkel, A (2016) Independent Review into the Future Security of the National Electricity Market: Preliminary Report, pg. 10.https://www.environment.gov.au/system/files/resources/97a4f50c-24ac-4fe5-b3e5-5f93066543a4/files/independent-review-national-elec-market-prelim.pdf

In the last twelve months South Australia has experienced a number of blackouts as a result of three different events, one being an extreme weather event that knocked out transmission lines, coupled with low setting for voltage disturbance on the States windfarms (which has since been altered); another being a fire at a gas power plant; and a third a result of load shedding due to exceeding peak loads during an extreme heat wave. The events in South Australia have led to concerns more broadly about whether appropriate measures have been put in place to ensure reliability and security and Australia's energy mix changes and extreme weather events, including heatwaves, fuelled by global warming increase.

There are solutions available to integrate renewable electricity into the grid, including intelligent wind turbine controllers, batteries, pumped hydro and synchronous condensers, and demand management[18], all of which can contribute to system security. But to date there has been a failure to plan for system security and put in place appropriate measures.

In March this year, AEMO and ARENA announced a joint project in South Australia to pilot demand response initiatives during summer to manage electricity supply during extreme peak times and avoid build of new fossil fuel generation.[19] In addition, the South Australian Government also announced in March investment in large scale storage which they argue will help drive down costs of electricity to consumers and provide grid security and reliability.[20]

But as Finkel pointed out, the NEM does not currently encourage the adoption of all the measures outlined above:

> *"Emerging markets for ancillary services, required to maintain system security, have not kept pace with the transition. New and updated frameworks, technical standards and rules may be required."*[21]

AEMO has said it is no longer appropriate to rely on traditional sources of electricity generation to keep the system balanced, and we need to factor in new ways to balance the system into how the electricity system is managed.[22] Integrating ancillary services into the system will add additional costs that need to be included into the costs of transition.

3.2.3 Affordability - Electricity Price Rises

As depicted in figure 2, retail electricity prices for a long while rose in line with inflation.[23] But after 2007 electricity prices leapt far above inflation. According to the ABS, between 2008 and 2013, the retail price of electricity across Australia's capital cities increased by 83%.

[18] Mechanical device to either generate or absorb reactive power as needed to adjust the grid's voltage, or to improve power factor

[19] https://www.aemo.com.au/Media-Centre/ARENA-and-AEMO-join-forces-to-pilot-demand-response-to-manage-extreme-peaks-this-summer

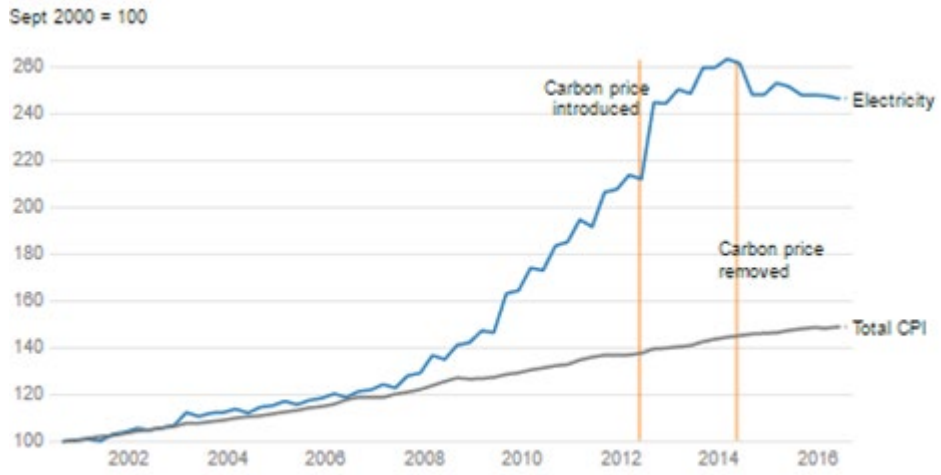
[20] http://www.premier.sa.gov.au/index.php/jay-weatherill-news-releases/7206-state-government-invites-expressions-of-interest-to-build-australia-s-largest-battery

[21] Finkel, A (2016) Independent Review into the Future Security of the National Electricity Market: Preliminary Report, pg. 10. https://www.environment.gov.au/system/files/resources/97a4f50c-24ac-4fe5-b3e5-5f93066543a4/files/independent-review-national-elec-market-prelim.pdf

[22] AEMO report on SA.

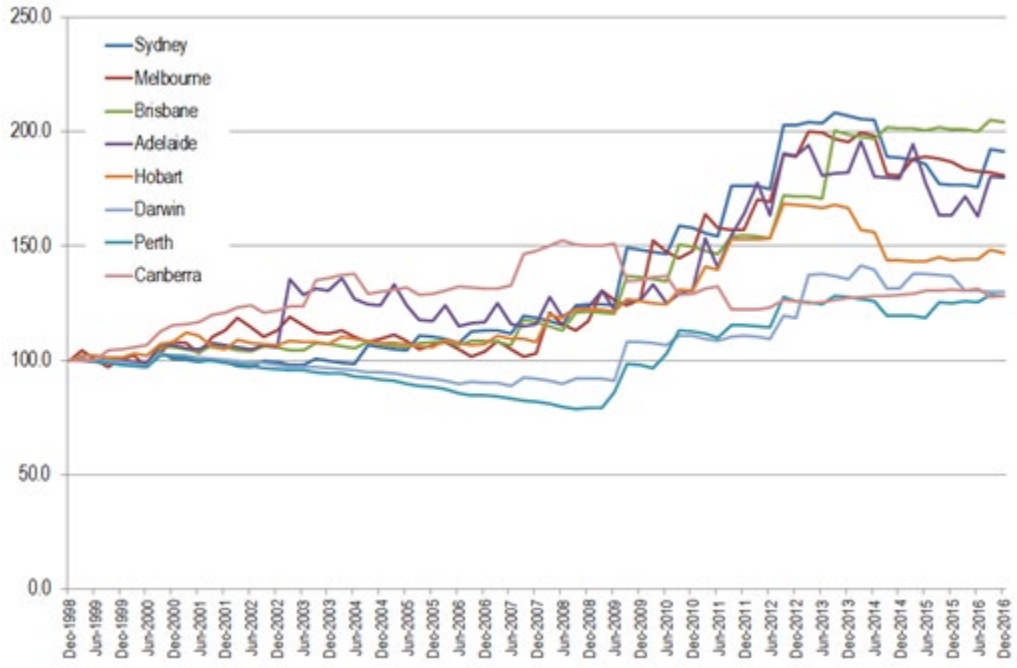
[23] *https://www.theguardian.com/commentisfree/2017/feb/16/electricity-pricing-is-bloody-confusing-thats-why-theyre-using-it-to-mislead-us*

Figure 2 Average retail electricity price compared with total CPI 2001-2016[1]



There are however significant differences among jurisdictions (see figure 3). The period from mid-2009 to mid-2012 saw the strongest growth in prices in all locations except Canberra. Price growth has been markedly lower in Tasmania, WA, ACT and NT where there is effectively no competition, jurisdictional regulators and/or Governments set retail prices and networks are in government ownership.

Figure 3 Electricity price 1999 to 2016 by State[24]



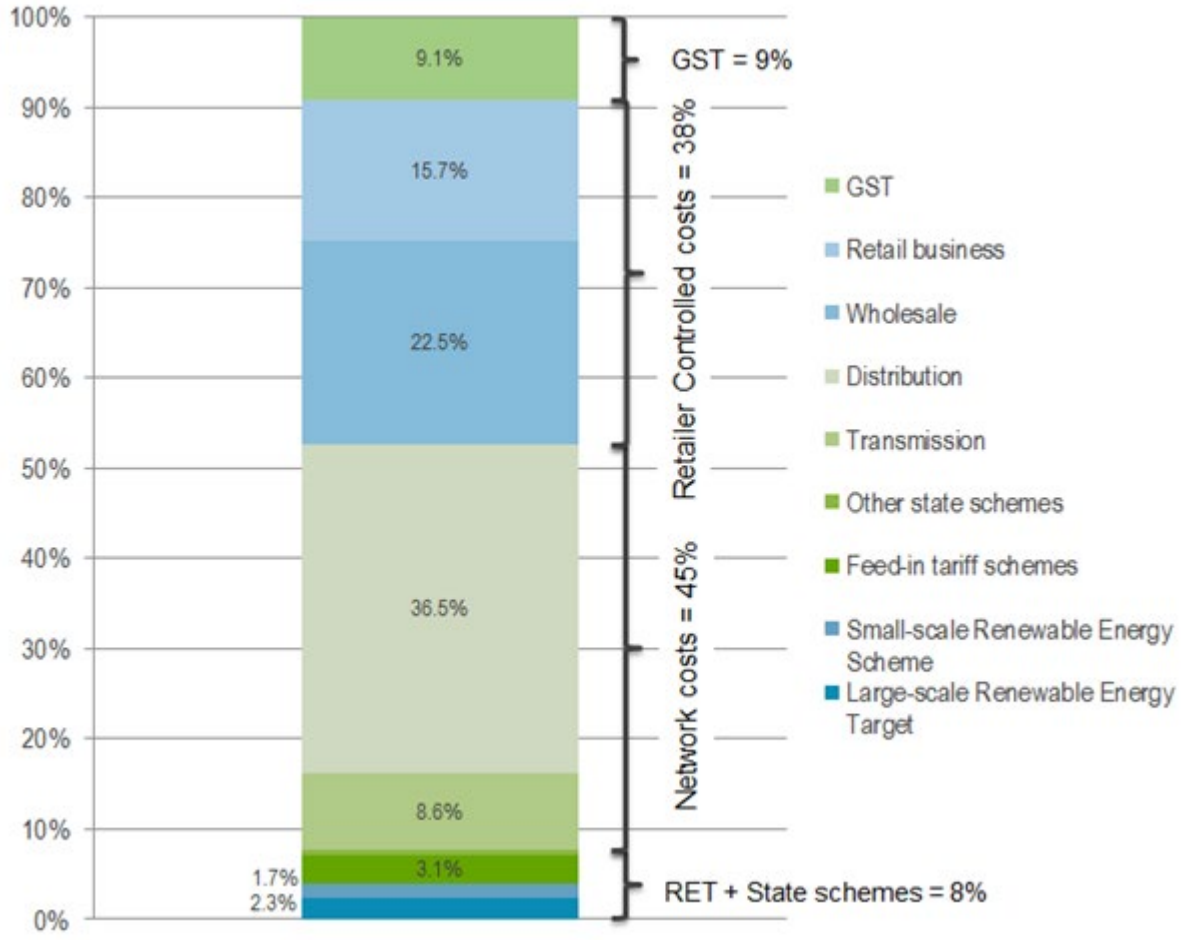
Understanding the 'building blocks' that comprise an electricity bill can help better understand where costs are coming from and where future cost reductions can be made. The percentages discussed below represent national averages and will vary across jurisdictions (see also figure 4).

[24] Source: Real electricity price movements since 1998, Australian Capital Cities (Source: ABS Cat No. 6401.0 Table 9)

- Network costs – the transmission of electricity from large generators and distribution to and between customers - represent around 45% of the average residential retail bill.
- Wholesale costs – the production of electricity from large generators - are around 23% of the bill.
- Retailer controlled costs – the costs of billing, administration of customer accounts and risk management – represent around 16% of the bill.
- Australia's national Renewable Energy Target, state-based feed-in tariffs and energy efficiency schemes represent around 8% of the average bill.
- GST adds 10% to the above costs and therefore represents around 9% of the final bill.

Analysts suggests the price rise between the period from 2008 to 2011, was primarily due to investment in networks "poles and wires'. Concerns about brownouts and incorrect market forecasts lead in many cases to over investment or 'gold plating' of the network, which consumers are still paying for.

Figure 4 Breakdown of average national residential electricity price, 2015-16



(Source: Based on Climate Change Authority 2016 Figure 8, AEMC 2013, 2016)

Between 2012 and 2015, the carbon price contributed to increasing prices by around 9-10%. For the majority of low-income and disadvantaged households and many Australians compensation was provided through the tax and social security system.

While there was a slight drop in electricity prices after the carbon price was repealed, electricity prices have continued on their upwards trend.

From mid-2016 wholesale prices have risen steeply, due to a combination of factors including high gas fuel costs; tightening supply market resulting from loss of investment signal due to repeal of carbon price and wind back of the Renewable Energy Target (RET); the unexpected and rapid closure of coal generators in South Australia and Victoria; and the electricity system's struggle to cope with the rapid changes in generation type and availability.

An underlying contributor to all of these is the lack of a reliable policy framework integrating the three elements of the trilemma - affordability, security and reliability, and emissions reduction. The Australian Energy Council has estimated the lack of national climate and energy policy certainty to be the single biggest driver of higher wholesale electricity prices, equivalent to a carbon price of over $50 a tonne.[25]

The impact on retail prices is now just coming through the system with electricity price rises of up to 20% being announced or foreshadowed for the ACT, NSW, South Australia and Victoria. Queensland and Tasmanian Governments have buffeted their states from high price rises. Retailers have signalled higher wholesale prices as the main culprit, citing policy uncertainty as one of the key factors.[26] All major retailers announced measures to support their customers on hardship programs, which is welcome, many more will struggle with price rises of this level.

3.3 The interaction between electricity, poverty and disadvantage

> *"I can never pay on time and I have to go without other things like proper meals to be able to pay my electricity bills, water and phone bills."*
>
> *"Living expenses are so high and it's hard to find work as a single mum. Bills take up whatever income is left after paying high rent."*
>
> *'I can never pay on time and I have to go without other things like proper meals to be able to pay my electricity bills, water and phone bills.'*
>
> *'It is hard to keep on top of the bills and the money goes there instead of other essential items I could be buying for my children.'*
>
> *I have cut down on electricity everywhere and every way possible. If I cut down any more then we simply would not be using any ever! It is a nightmare. It is causing a lot of anxiety and depression"*
>
> *Source: NCOSS (2017) Turning off the Lights: The Cost of Living in NSW*[27]

There is over 13% of the Australian population living well below the poverty line.[28]These people face situations where they are unable to afford a socially acceptable existence. A very similar percentage of the population is living in poverty

[25] Australian Energy Council, Submission to Independent Review into the Future Security of the National Electricity Market Preliminary Report

[26] http://www.canberratimes.com.au/act-news/actewagl-announces-sharp-increase-in-gas-and-electricity-prices-20170607-gwmv4r.html;http://www.smh.com.au/business/consumer-affairs/agl-increases-electricity-prices-by-16-per-cent-and-gas-prices-by-9-per-cent-in-nsw-20170609-gwo3gu.html

[27] https://www.ncoss.org.au/sites/default/files/Cost-of-Living-Report-16-06-2017-FINAL.pdf

[28] ACOSS 2016, Poverty in Australia 2016 – Australian Council of Social Service and the Social Policy Research Centre and the University of NSW www.acoss.org.au/poverty

today compared with ten years ago.[29]To illustrate the challenge people face, it is worth noting that those receiving the Newstart Allowance are at least $100 per week *below* the poverty line and those on Youth Allowance are at least $150 per week *below* the poverty line. These are untenable situations given increases in energy costs sustained over the last decade in particular.

The number of people in households that struggle with energy affordability is much higher than the number of people in poverty.

As noted above electricity prices have increased significantly, which is having negative impacts for vulnerable households. A study by KPMG found that between 2015/2016 around 160,000 households were disconnected for non-payment of their electricity or gas bill, up approximately 47% since 2009/10.[30] In some States there has been a threefold increase in electricity disconnections as a result of non-payment due to hardship since 2008.[31] Others are forced to ration energy, foregoing heating or cooling,[32] risking their health and wellbeing.

Various studies have painted a complex picture of household types that struggle with electricity affordability in Australia.[33] Analyses of historic income and expenditure suggest that a diverse range of household types are represented in the vulnerable household cohort, although some are at much higher rates than their proportion of the wider community. These include:[34]

- People out of paid work and living on low, fixed incomes;
- People living in poor quality housing or in the private rental market;
- Aboriginal and Torres Strait Islander peoples;
- Single parents and their children;
- Newly arrived migrants and refugees; and
- People with a disability and the people who care for them.
- People in rental properties

Single parent families have been found most likely to seek emergency assistance to help pay for their energy costs.[35] Significant hardship is also experienced by people who need to charge wheelchairs or run medical equipment at home, and by those with a medical need to control body temperature. For example, people with multiple sclerosis (MS) have very low tolerances to heat and cold, and some need to run their air conditioners as much as 15 times longer than the average household.[36]

Weekly spending on electricity by household type is higher amongst households on government benefits (figure 5). Noting that the data presented here show averages for the various categories of people, but the distribution of the proportion of weekly spend is substantial, with some people in each category paying substantially more than the average for the category.

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[29] *ibid*

[30] KPMG 2016 *Energy Consumers Australia, Quantifying the cost of energy disconnections 14 October 2016* available from http://www.energyconsumersaustralia.com.au/policy-and-advocacy/keeping-people-connected

[31] Consumer Action Law Centre (2015) Heat or Eat: Households should not be forced to decide whether they heat or eat.http://consumeraction.org.au/wp-content/uploads/2015/08/Heat-or-Eat-Consumer-Action-Law-Centre.pdf

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

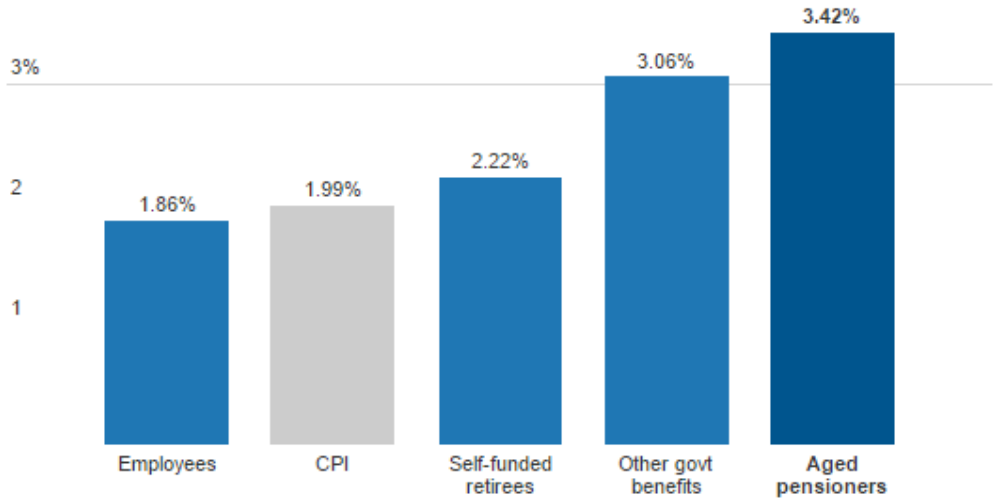
[33] Nance 2013, *Relative Energy Poverty in Australia* available from www.sacoss.org.au/relative-energy-poverty-australia; and Vinnies 2016. (St Vincent de Paul Society and Alviss Consulting) Households in the Dark; and Azpitarte, F, Johnson, V & Sullivan, D 2015, *Fuel poverty, household income and energy spending: an empirical analysis for Australia using HILDA data*, Brotherhood of St Laurence, Fitzroy, Vic.

[34] Nance 2013, *Relative Energy Poverty in Australia* available from www.sacoss.org.au/relative-energy-poverty-australia

[35] Anglicare 2008: Helping with the cost of energy: Report of Anglicare Sydney's 2006 EAPA data collection, September 2008

[36] Summers 2009: Michael Summers and Rex Simmons, Keeping Cool Survey: Air conditioner use by Australians with MS, MS. Australia, 2009.

Figure 5 Proportion of weekly spending on electricity by household type[37]



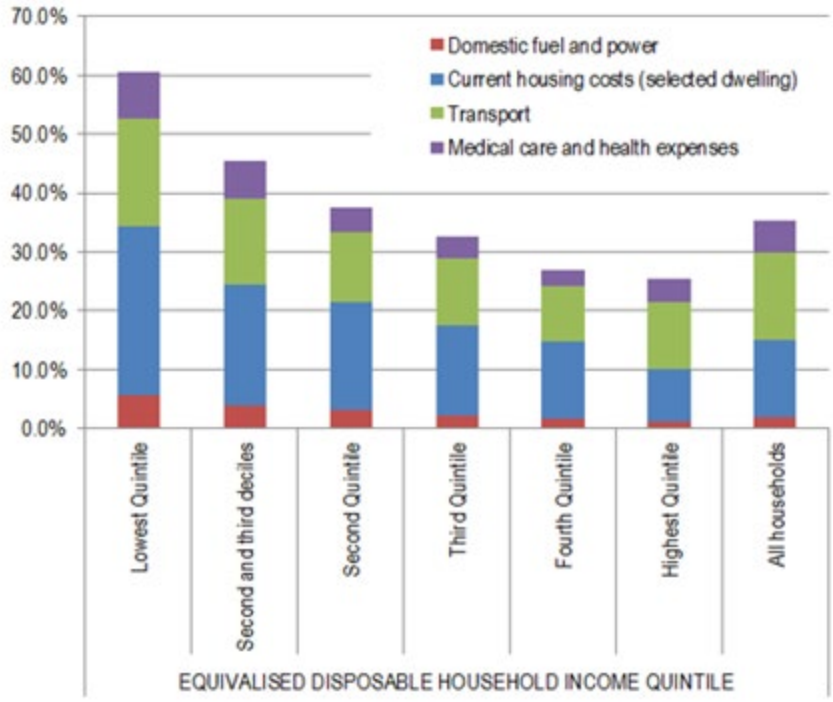
Housing circumstances were found to be a clear key indicator of vulnerability. Nationally about 30% of the population are renters, most are on low incomes and unable to engage with energy markets and newer technologies unlike homeowners. The cost of housing determines how much room exists in the household budget to pay energy bills and tenure determines the scope of actions available to change consumption, followed by transport costs. Analysis by AGL has identified a new cohort presenting with energy stress: families with young children facing high mortgage repayments or rental costs[38].

Research by the Salvation Army of those who access emergency relief found that individuals were spending 59% of their total income per week on accommodation expenses. Therefore, individuals spent $180 per week on accommodation and had less than $125 a week left ($17.86 per day) to live on.[39]

Figure 6, looks at average household expenditure on housing, energy, transport and health by equivalised disposable Income. It shows that not only do households on the lowest income spend a greater proportion of income on energy than other higher income levels, but the relative capacity to pay for energy of these low income households is clearly compromised by their expenditure on other necessities.

Figure 6: Average Household expenditure on housing, energy, transport and health by Equivalised Disposable Income

[37]https://www.theguardian.com/commentisfree/2017/feb/16/electricity-pricing-is-bloody-confusing-thats-why-theyre-using-it-to-mislead-us
[38] Paul Simshauser and Tim Nelson, 2012. *The Energy Market Death Spiral - Rethinking Customer Hardship*.
http://aglblog.com.au/wp-content/uploads/2012/07/No-31-Death-Spiral1.pdf
[39] 14Salvation Army, National Economic and Social Impact Survey 2015 Pg 7
https://salvos.org.au/scribe/sites/auesalvos/files/media/newsroom/pdf/2015-tsa-esis-report.pdf



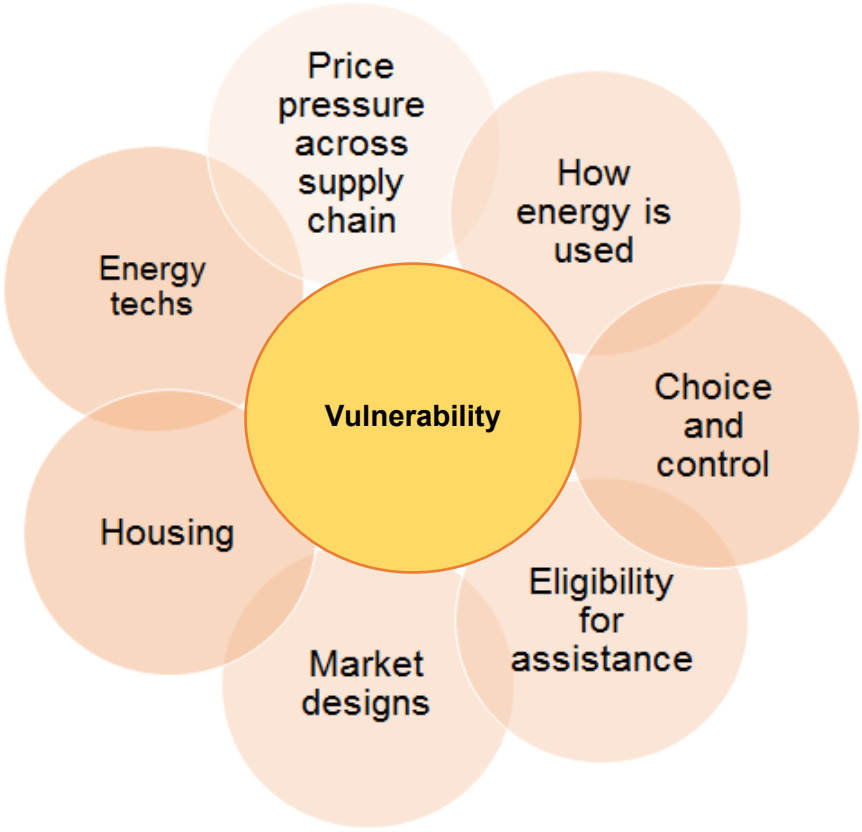
Recent research by St Vincent de Paul and Alviss Consulting analysed and mapped approximately 200,000 electricity disconnections for non-payment raised by AGL in South Australia, Victoria, NSW and South East Queensland between July 2012 and July 2015.[40] This analysis identified six broad categories of households correlated to high disconnection rates. Four of the six categories were households in housing stress (spending more than 30% of income on housing costs) while the other two categories had lower housing costs but higher transport costs. In all cases disconnection rates were correlated with high expenditure on other key items in the household budget.

This indicates that the price of electricity is only part of the story. What also affect vulnerable households are the total cost of securing their energy needs and their ability to pay, and these are influenced by (see figure 7):

- The technologies used to produce electricity;
- The market designs used;
- Upward pressure across the supply chain, including network and retail charges;
- When and how much energy is consumed;
- The level of choice and control individuals consumers have over their energy costs and ability to respond to price signals;
- Ability to engage
- Low income and access to appropriate concessions;
- Housing circumstance, including number of people in a dwelling, health requirements of people in dwelling, house design and level of energy efficiency; and
- How and at what pace society responds to the risks of climate change.

[40] Households in the dark Mapping electricity disconnections in South Australia, Victoria, New South Wales and South East Queensland Report by the St Vincent de Paul Society and Alviss Consulting | May 2016 https://www.vinnies.org.au/content/Document/VIC/2016-June-Households-in-the-dark2.pdf

Figure 7 Factors influencing total costs of securing energy



Price, total costs for energy and ability to pay culminate in low income and disadvantaged households experiencing energy stress in a variety of ways, each with significant implications for their well-being.

Essentially problems arise when households are unable to afford the energy they need for their health, well-being, economic and social participation. Energy stress reveals itself in a number of different ways including (see also box 1 summarising results from a recent survey of low income earners in New South Wales):

- Households who are unable to pay their energy bills on time and end up in energy retailer hardship programs or get disconnected.
- Households who restrict their energy usage to the detriment of their health or well-being, for example living in a very cold home in winter. This often results in health or other issues.
- households who trade off other parts of life for energy, for example forgoing school kids excursions, or going without food, or not paying rent (see for example Chester's 2013)
- Households who live on a low income, and spend a high proportion of their income, and as a result curtailing their wellbeing in other areas of life.

Box 1: Impacts of Energy Bills on low income households in NSW

- 7-9% reported that they regularly go without medical treatment and medication when needed
- 9% of respondents regularly go without a substantial daily meal for themselves, while a very worrying 6.5% of respondents' children regularly go without a substantial daily meal as a result of energy bills.
- 24% of households with children have gone without school books or uniforms in order to pay energy bills,

with nearly 7% doing so on a regular basis.

- 31% of households with children have gone without school excursions or activities in order to pay energy bills, with nearly 9% doing so on a regular basis.
- 30.2% of people surveyed had not used hot water for bathing in an attempt to reduce their energy usage, with half of those responses (67 of 134) from households with children.
- 76.8% of people surveyed had not used any heating, or limited their heating to a single room to reduce their energy usage, with 15% of people indicating this was something that they always did. Again, nearly 50% lived in households with children.
- 61.8% of people said that they had gone to bed early in an attempt to reduce their energy usage, with 50% of those people living in households with children
- 40% of households with children are going without an Internet connection, or paying bills late, in order to pay their energy bill, with 12% doing so regularly.
- 29.6% of people had foregone public transport or use of a private vehicle in order to pay their bills, with 6.4% doing so regularly. More significantly, of the 45 responses from people receiving Newstart Allowance, nearly 50% had not used public transport or a private vehicle as a result of their energy bills - forcing them to forgo interviews.
- 29.1% of people had not paid an Internet bill or paid it late as a result of energy bills, with 6.6% doing so regularly. Again nearly 50% of those receiving Newstart, many of whom would rely on an internet connection to access information on supports, training and potentially find employment.
- 32.9% of people had not paid a phone bill or paid it late in order to pay their energy bills, with 8.6% doing so regularly. Once again, 50% of responses from those receiving Newstart had paid a phone bill late or gone without, impacting their ability to access support services and find employment
- 12.3% of people reported being forced to use payday lenders, one of the most problematic and expensive sources of finance,
- 23% of people had cancelled or missed a payment on their insurance in order to pay an energy bill, with 6% doing so regularly.

Source: NCOSS (2017) Turning off the Lights: The Cost of Living in NSW[41]

In addition to developing climate and energy policies to provide access to clean, affordable energy for all, it is essential that governments, regulators and decision makers *also* consider factors outside the electricity system to further reduce energy stress for low income and disadvantaged households in order to improve their health, well-being and ability to participate in the economy.

3.4 Making the energy transition inclusive and equitable

This section discusses three principles that were repeatedly raised in our consultations as both fundamental to appropriate energy policy-making and currently absent from the bulk of discussion of energy issues. These principles underpin all five policy outcomes that were identified in *Energy Access and Affordability Research* and are discussed in the rest of this report.

[41] https://www.ncoss.org.au/sites/default/files/Cost-of-Living-Report-16-06-2017-FINAL.pdf

3.4.1 Less reliance on choice for consumers with limited ability to exercise it

Effective markets rely on consumers being able to exercise their choice. The Finkel Review Preliminary Report argued that in addition to technology change, consumers are driving the change through their choices, the most obvious is the uptake of distributed energy like solar (Australia has the highest rooftop solar per capita) and batteries.[42]

The NEM reforms underway as a result of the AEMC's *Power of Choice Review* aim to give consumers more options in the way they use electricity.[43]

However, consumers experiencing poverty and disadvantage do not always have the same capacity to exercise choice as other consumers. This could be because:

- They are in a rental property and have no control over improving energy efficiency or putting solar PV on the roof.
- They can't afford to purchase energy efficiency improvements or solar panels.
- Their circumstances, like mental health issues or domestic violence, prevent them from engaging in the market.
- They face language or literacy barriers.

Those unable to exercise choice often end up paying more for their electricity[44], are more likely to be disconnected, and risk being 'left behind' possibly leading to the emergence of a 'two tier energy market'.[45]

Barriers to choice needs to be better understood and considered by decision makers when developing policies to support changes to the electricity market, or we are at risk of creating a market that excludes low income and disadvantaged households and create further disadvantage.

3.4.2 Inequitable cost allocation

As noted earlier the energy systems is shifting from a centralised base load and peaking system to a more decentralised and variable grid with greater role for distributed energy (DERs) like solar, battery storage and electric vehicles. This will create opportunities and risks, benefits and potential losses.

While rooftop solar has provided broad benefits through downward pressure on wholesale prices, emissions reductions, avoided new peak generation, and job creation, other benefits are not equitably shared.

DERs have not been an option for households living in poverty, in apartments or in rental housing. Under current pricing structures, households with DER are able to reduce their exposure to several types of fixed costs, which are then reallocated to households without DER. For example, the costs of network expenditure and renewable energy policies (the Renewable Energy Target, the Small-scale Renewable Energy Scheme, state feed-in tariffs and energy saving schemes) are currently recovered on electricity bills through charges applied to *each unit of energy consumed*. If a household has DERs their energy bills are small or zero and in some cases can be in credit, they are paying little if anything towards network expenditure and renewable energy policies, whereas households without DER - including low-income and disadvantaged households - pay the full amount.

As electricity prices increase and costs of solar and battery storage decrease we'll see more and more households who are able to take up DERs. A study by CSIRO and Energy Networks Australia (ENA) predict up to 66% of households will generate some energy by 2050. The shift is modelled to provide greater efficiency in the system, reduce the need for

[42] Finkel, A (2016) Independent Review into the Future Security of the National Electricity Market: Preliminary Report, pg. 16.https://www.environment.gov.au/system/files/resources/97a4f50c-24ac-4fe5-b3e5-5f93066543a4/files/independent-review-national-elec-market-prelim.pdf

[43] More information is available from www.aemc.gov.au/Major-Pages/Power-of-choice

[44] AEMC's Energy Consumer Research 2016

[45] See for example the ECA submission to the Finkel Review p11 http://energyconsumersaustralia.com.au/research/finkel-review-submission/

significant investment in traditional poles and wires ($16 billion by 2050), improve reliability and security, pay customers for grid support, and save the average household $414 annually compared with a future based on business as usual. However the report also examined the difference between "active participants" - those who could access solar and batteries, and those who could or did not, and found that all were better off under the roadmap scenario than the counterfactual scenario (cheaper bills), active participants were better off than passive, and the gap between active and passive narrows by between 30 to 66 per cent depending on household type.

Further policy consideration needs to be given to how to allocate costs of climate policy and network costs more equitably, and how to further narrow the gap between active and passive households to ensure that the cost allocation of the transition is more equitable and greater numbers of vulnerable households can access distributed energy and/or benefit from its cost savings.

3.4.3 Recognition of electricity as an essential service

What seems to have been forgotten in the debate around the energy trilemma is the undeniable fact that access to reliable and affordable electricity is considered essential, a basic human right and a merit good[46]. Critical to the health, wellbeing, economic participation and social inclusion of Australians. However as noted earlier disconnections have increased 47% since 2008 and anecdotal evidence suggests more people are rationing their energy use.

In 2008 the Productivity Commission noted the essential nature of electricity and questioned whether corporatisation and privatisation was the best means of ensuring vulnerable customers continue to have access:

> *The introduction of competition to the provision of energy, water and telecommunications services has delivered significant benefits for consumers. In particular, while the need to put provision on a commercial footing has sometimes led to upward pressure on prices, this pressure has often been more than offset by the productivity gains that have ensued from the more competitive market environment. Moreover, consumers now have much greater capacity to purchase service 'bundles' that meet their particular requirements.*
>
> *However, these benefits have sometimes been diluted by high 'switching' costs, and complex customer contracts. And the corporatisation and privatisation of suppliers has raised issues about the best means of ensuring that vulnerable and disadvantaged consumers continue to have appropriate access to these services.*[47]

Many participants during the consultations asked us to consider whether the current market driven electricity sector was appropriate given it was failing so many people. And whether new models needed to be considered going forward, including a return to greater public ownership (noting a shift to more distributive energy makes a traditional public ownership model more challenging).

ACOSS, BSL and TCI have not made a specific recommendation as to what the model would look like, we have made recommendations throughout the paper to better reflect the principles that electricity is an essential service, such as amending the principles that guide the National Energy Market, and changing the laws around disconnection. We encourage policy makers and stakeholders to give further consideration to the essential nature of electricity and future market design.

[46] A 'merit good', is described as a commodity which is judged that an individual or society should have on the basis of need, rather than ability and willingness to pay. Merit goods and services create positive externalities when consumed and these positive externalities have benefits not only for the individual and their family, but society as a whole. Market failure occurs when merit goods and services are under-consumed under free market conditions, and in this case also withheld.

[47] Review of Australia's Consumer Policy Framework Productivity Commission Inquiry Report No. 45, 30 April 2008 www.pc.gov.au/inquiries/completed/consumer-policy/report

3.5 What is to be done? Five Policy Outcomes

The Report explores five policy outcomes identified in the *Energy Access and Affordability Research,* which reflect the interaction between household energy bills and energy, climate and social policies. It is proposed that these five outcomes, pursued in broadly equal measure can ensure effective decarbonisation of the electricity supply chain while preserving universal access to affordable energy services.

4 OUTCOME 1: ELECTRICITY PRICED EFFICIENTLY, INCLUDING INTEGRATED CLIMATE POLICY

Outcome 1: Electricity priced efficiently, including integrated climate policy

1.1 Federal government work with COAG Energy Ministers to implement effective and stable policies in the electricity sector consistent with Paris Agreement objectives, comprising a carefully designed package that utilises market mechanisms, regulation and on-budget measures.

1.2 Federal Government work with COAG Energy Ministers to investigate further how to address inequitable allocation of the costs associated with the transition and growth of distributed energy, to ensure the transition to clean energy is more equitable and inclusive.

1.3 Federal Government work with COAG Energy Ministers to develop policies for managed coal generator retirement and replacement in the interests of the public, energy consumers, and communities.

Other important priorities

1.4 Federal and state Governments support the development of models that enable low-income and disadvantaged households to access affordable distributive energy, including community and local energy models.

1.5 COAG Energy Council consider incorporating social and decarbonisation principles to guide the decision making of the operation of the National Energy Market (NEM).

1.6 COAG Energy Ministers implement policies to improve the role and utilisation of the electricity network in contributing to demand management and distributed generation that is inclusive and equitable.

This policy outcome focuses on access and affordability by ensuring consumers are paying no more than necessary for an electricity system that is viable in the short term and sustainable in the long term.

The policy objective of efficient electricity pricing is enshrined in the National Electricity Objective.[48] However, as indicated by steep hikes in wholesale prices, recent ballooning network costs, stubbornly high retail margins, significant cross-subsidies, externalised emissions costs, and messy signals for the entry and exit of generation capacity caused by

[48]AEMC, 2016. *Applying the Energy Market Objectives: A guide for stakeholders.* http://www.aemc.gov.au/About-Us/Engaging-with-us/Decision-making-process/Applying-the-energy-market-objectives.aspx

ongoing policy uncertainty, the current state of electricity pricing is very far from efficient across almost every component of the retail bill stack.

There are many factors behind the rise in electricity prices, including high gas fuel costs[49], sudden tightening of the supply-demand balance by generators exiting at short notice[50], decreasing competition and the exercise of market power[51], excessive expenditure on network capacity[52], and, in South Australia, a greater need for ancillary services coupled with an underdeveloped framework for their provision[53].

However an overarching driver of higher prices is the lack of a reliable policy and regulatory framework that supports efficient investment in clean energy and supporting technologies. This in turn is related to weaknesses in the system of governance of the electricity sector.

Reducing the uncertainty requires the integration of climate and energy in ways that solve for each aspect of the energy trilemma - affordability, emissions reduction, and security and reliability - and that are consistent with the long-term climate objectives to which Australia has committed through the Paris Agreement.

National and international experience suggests that a single policy mechanism cannot achieve this. There are many factors and policy levers that can influence how efficiently **energy is priced**. They can include policies that minimise upward pressure on price, by, for example, making coal generator retirements more predictable; or tariff reforms that put downward pressure by minimising the need for future network builds. Without policy adjustments across each element of the supply chain (wholesale, network, retail), unnecessary and unfair costs are likely to increase. A more comprehensive approach to market reform and transition management is required.

The reforms and the way the costs are allocated for the transition must be equitable and inclusive.

The recommendations provided above are not detailed policy proposals, nor are they the only recommendations needed to ensure an affordable, inclusive and equitable energy transition. Instead, they are broad formulations that identify where government attention and more considered policy development **urgently** needs to focus.

4.1 Lower prices require stable policy over the long term, which in turn requires alignment with the long-term objectives of Paris Agreement

A review of recent modelling of climate policies including emissions trading scheme, emissions intensity scheme, extended Renewable Energy Target, and power station regulation, found that, almost irrespective of the type of mechanism used to reduce greenhouse gas emissions in the electricity sector, the combination of wholesale prices and policy costs was around 5c/kWh or 20 per cent higher than average 2015-16 electricity prices from 2020 to 2030, ***assuming no changes to any of the other cost drivers***.[54] This reflects a level approximating the long-run marginal cost of new generation. This price impact also tended to hold for a range of emission reduction targets, so that more ambitious emissions reductions targets would have little impact on the cost of transition.[55]The convergence of prices to this level simply reflects the fact that every mechanism would induce the gradual replacement of existing coal-fired power stations with new cleaner generation.

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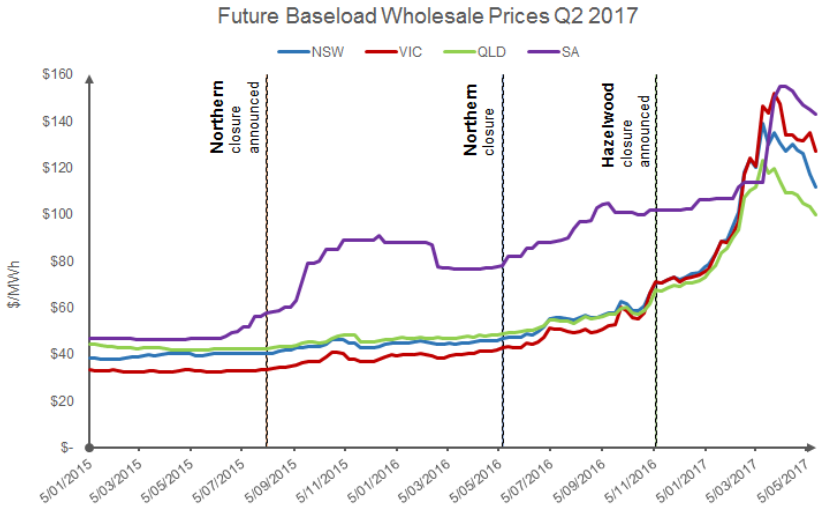
[49] Australia Industry Group, 2017. *Energy Shock: No gas, no power, no future?* http://cdn.aigroup.com.au/Reports/2017/Energy_shock_report_Feb2017.pdf
[50] AEC State of the Energy Market 2015
[51] AER State of the Energy Market 2015
[52] http://www.pc.gov.au/inquiries/completed/electricity/report/electricity-overview.pdf
[53] See AEMO's future power system security work program
[54] Andrew Nance, 2017. *Energy Access and Affordability Research.* *http://www.acoss.org.au/wpcontent/uploads/2017/03/EnergyAccessandAffordabilityPolicyResearchFINAL20March2017.pdf*
[55] Ibid.

However, current wholesale prices are well *above* this level, as exiting generation is not being efficiently replaced because of policy uncertainty (see Figure 8, below). Modelling done for the government's UNFCCC taskforce put the cost of policy uncertainty at 0.4 per cent of GDP by 2030, due purely to the heightened risk premium of energy sector investments.[56] The costs of greater policy risk are exacerbated in electricity generation investment by the shift toward technologies with a higher proportion of upfront capital expenditure.

Figure 8 Wholesale electricity future contract prices[57]



A recent estimate by the Australian Energy Council (AEC) puts the *current* cost of policy uncertainty in the electricity sector alone to be equivalent to a $50+/tonne carbon price, or a wholesale price increase of $40-60/MWh. The AEC has warned:

> *"Without a stable national policy, and with ageing power stations closing and no signals for how they should be replaced, there is likely to be continued volatility in wholesale prices. The recent future contract price rises are the result of sustained policy changes at state and national level and, as a result, ongoing uncertainty."*[58]

And recent modelling by the Centre for International Economics (CEI) found policy uncertainty is one of the factors costing households $184 to $272 a year.[59]

This suggests that a key criterion for lowest-cost emissions reduction policy is that it is sufficiently stable and reliable to mobilise timely investment.

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[56] Warwick J. McKibbin, 2015. *Report 1: 2015 Economic Modelling of International Action under a New Global Climate Change Agreement.* McKibbin Software Group. http://dfat.gov.au/about-us/publications/Documents/economic-modelling-international-action-under-new-global-cc-agreement.pdf

[57] Australian Energy Council, 2017. *Are higher wholesale prices the new norm?* https://www.energycouncil.com.au/analysis/are-higher-wholesale-prices-the-new-norm/

[58] Australian Energy Council, *Are higher wholesale prices the new norm?*

[59] http://climatechangeauthority.gov.au/sites/prod.climatechangeauthority.gov.au/files/files/2017%20Elec%20Review/Review%20of%20economic%20modelling%20exercvises%20%26%20assessment%20of%20the%20impact%20of%20uncertainty.pdf

A basic requirement of policy predictability is consistency with clearly stated long-term goals that match the timeframe of asset investment (20-40 years). Given the objectives of the Paris Agreement are to keep global warming to "well below" 2°C and to pursue a limit of 1.5°C, climate policies should be demonstrably capable of consistency with these objectives to give investors comfort that policy parameters will not have to be drastically changed in future.

Many pieces of analysis have shown that the Paris Agreement objectives imply that Australia's national emissions need to reach net zero levels by 2050.[60] Given that electricity decarbonisation is a prerequisite to decarbonisation of other parts of the economy (such as vehicles and buildings), and other sectors like agriculture and some emissions intensive industry like steel and cement, will lag due to lack of technology, electricity emissions need to approach this point even earlier.[61]

Business and investors will remain hesitant to invest if the targets don't match what is required under the Paris Agreement.

The costs of the transition to clean energy are coming down. Recent analysis from Bloomberg,[62] Reputex,[63] Centre for International Economics (CIE)[64] and the gentailer AGL[65] finds that for new energy generation build, renewable energy (wind and large scale solar pv) is now cheaper than gas and coal. Reputex and AGL finds this is still the case with storage and or firming capacity added.

For example the CIE analysis conducted in May 2017 of the levelised cost of electricity (the unit cost of electricity over the lifetime of a generating asset) is outlined in table 1 below, showing wind energy the cheapest form of new build energy, followed by solar pv.

Table 1. CIE Analysis of Levelised Cost of electricity Generation

Technology	Life Years	Capital Cost ($/W)	Operating cost ($/MWh)	Fuel Price	Capacity factor (%)	LCOE with 8% discount rate ($/MWh)	LCOE with 9% discount rate ($/MWh)	Impact of 5% increase in risk premium ($/MWh)
Supercritical, Black Coal	40	2.3	7.0	$100/t	50	92.5	98.0	32
Ultra-supercritical, Black coal	40	3.1	7.0	$100/t	50	107.8	115.0	41
CCGT-Gas	30	1.4	7.0	$10/GJ	50	115.4	118.6	18
Wind	25	1.8	8.0	N/A	35	67.6	72.3	27
Solar	25	1.9	3.0	N/A	25	88.5	95.6	41

Note: the impact data shown here include a 15 per cent profit component

[60] The Climate Institute, 2017. *Submission to the Independent Review into the Future Security of the National Electricity Market*. http://www.climateinstitute.org.au/verve/_resources/TCI_Finkel_Submission_03032017.pdf

[61] Erwin Jackson and Cameron Reid, 2017. *Reducing the horizons of uncertainty: Setting Australia's post-2030 emission goal.* http://www.climateinstitute.org.au/articles/publications/reducing-the-horizons-of-uncertainty-setting-australias-post-2030-emission-goal-(tci-agl).html

[62] Bloomberg via http://reneweconomy.com.au/clean-coal-most-expensive-new-power-supply-says-bnef-and-not-all-that-clean-74531/and http://www.reputex.com/research-insights/a-cost-curve-for-emissions-reductions-energy-storage-in-the-australian-power-sector/

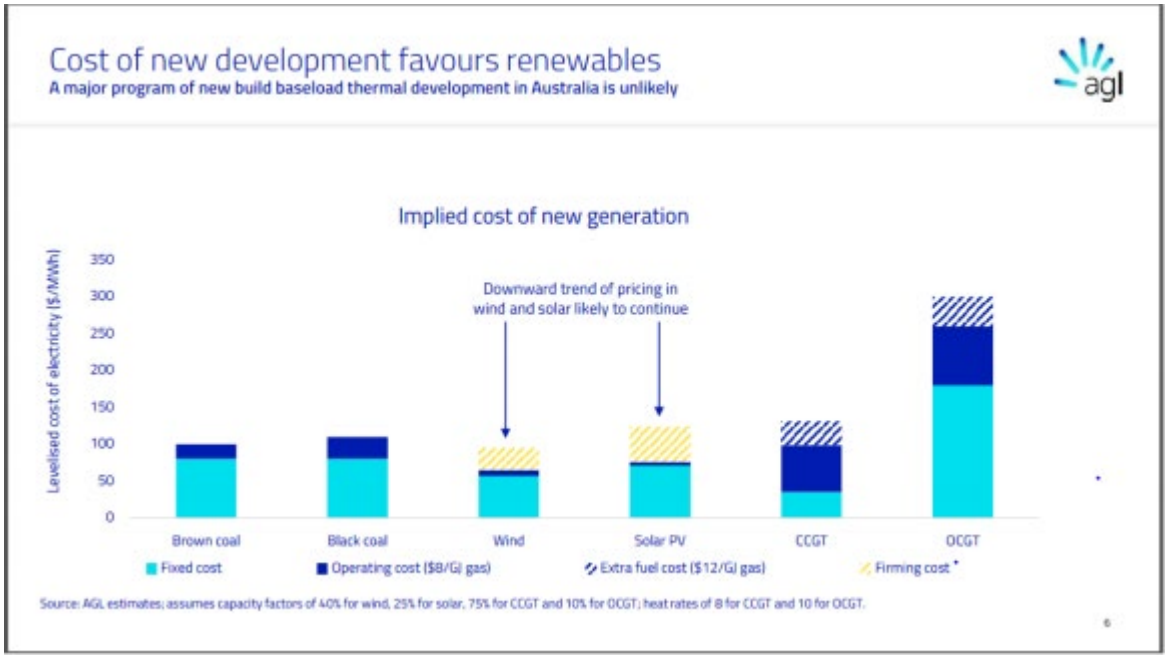
[63] http://www.reputex.com/research-insights/a-cost-curve-for-emissions-reductions-energy-storage-in-the-australian-power-sector/

[64] CIE (2017) Review of economic modelling exercise & assessment of the impact of uncertainty http://climatechangeauthority.gov.au/sites/prod.climatechangeauthority.gov.au/files/files/2017%20Elec%20Review/Review%20of%20economic%20modelling%20exercvises%20%26%20assessment%20of%20the%20impact%20of%20uncertainty.pdf

[65] *Ibid.*

As shown in figure 9, AGL has done a similar analysis including costs of firming with new build renewables and finds wind is the cheapest source of new energy.

Figure 9 AGL diagram showing costs of new energy generation



While clean energy has become cost competitive, stable, effective and long-term climate and energy policy will still be necessary to accelerate the transition to meet emissions reductions targets consistent with the Paris agreement and ensure the transition does not compromise reliability and security.

4.2 Delivering a stable framework for efficient investment demands a pragmatic combination of policies and regulatory reform.

Upward and downward pressure on electricity prices will be dependent on: how and at what pace we respond to the risks of climate change; the technologies used to produce electricity; the market designs we use; and how we manage significant increases in the price of natural gas.

The exact technology mix that will best provide universal access to reliable, affordable decarbonised energy is unknown; however multiple analyses show it is likely to contain a majority proportion of large-scale energy and as yet unknown percentage of decentralised renewable energy.[66]

Core principles that should underpin the reform to better support low income and disadvantaged households include, include:

- Policies should be least cost;
- The cost allocation for the transition is equitable;
- Inclusive, accessible and affordable for all; and
- Include policies that protect the most vulnerable.

[66] See for example Jacobs, 2016. *Modelling illustrative electricity sector emissions reduction policies.* Final report for the Climate Change Authority, 21 November. http://climatechangeauthority.gov.au/sites/prod.climatechangeauthority.gov.au/files/files/170217%20Jacobs%20Final%20Report%28revised%29.pdf

What has been clear from the experience overseas and our experience in Australia is that no o single climate policy can solve the problem. Our review of climate policy modelling[67] showed that carbon pricing policies like emissions trading schemes or energy intensity schemes, tend to have the lowest overall economic costs, while subsidy policies, particularly those that incorporate some element of market competition such as contracts for difference and white certificate schemes, can result in lower energy prices. As modelled, regulations tend to produce results at higher cost, due to their inflexibility. However, there are several caveats to these results:

- *Carbon markets in the real world have not yet demonstrated an ability to drive capital investment decisions.* Models assume a forward carbon cost trajectory that is predictable enough over the long term for investors to bank on. However, as the IEA notes: "After more than a decade of using carbon markets globally, carbon pricing policies are not delivering their theoretical potential. Realistically achievable carbon prices in the short to medium term do not appear high enough to drive the investment and operational changes needed to decarbonise electricity systems." This has largely due to poorly designed models where too many free permits were given, access to poor quality offsets amongst other things.
- *The costs of subsidy schemes have to be recovered from somewhere*. If these costs are attached to other parts of the electricity bill, there is the risk of inequitable and distortionary impacts. If incentives are provided out of government revenues exposure to costs aligns more with the progressive nature of Australia's tax and transfer system rather than electricity prices. The downside of on budget subsidies is their vulnerability to changing priorities of the Government of the day and the health of the budget.
- *How to decide what to build, and when and where to build it, is not obvious*. One of the challenges with current market mechanisms used to drive renewable growth is that it has driven least cost investment of large scale renewable with little consideration to most suitable location and what additional requirements are needed to guarantee grid reliability and security. A market mechanism which allows decision-making to be spread across more participants and to be made in response to price signals might be more resilient to uncertainty, but this will only happen if price signals appropriately reflect all the changing needs of the electricity system. If an 'around the market' scheme like reverse auctions for contracts for difference is used, the scheme's settings need to be capable of providing this function, which would require very sophisticated and responsive policy settings.
- *Managing the lumpy nature of coal generator exit needs particular attention*. New large-scale generation or storage tends to require several years to plan, finance and build; recent generator retirements have occurred barely six months after they are announced not allowing time for market operators, financial markets to prepare and replacement generation to be built. The mismatch between entry and exit timeframes has already resulted in degraded energy security and higher prices. It has also had significant impact on workers, their families and local communities.

  Research shows that under national and global 2°C scenarios, traditional coal generation is phased out by 2035, and is replaced by a mixture of large- and small-scale zero- and near-zero emissions energy.[68] [69] Not only will this have implications for ensuring adequate generation and reliability measures are in place, but will have significant impact on communities in those regions where coal-fired power stations are located.

  To avoid current issues arising from unplanned and poorly managed closure, policies are needed that will provide more advance warning and clarity to avoid upward pressure on prices, and to implement worker and community transition measures.

[67] See Andrew Nance, 2017. Energy Access and Affordability Research http://www.acoss.org.au/wpcontent/uploads/2017/03/EnergyAccessandAffordabilityPolicyResearchFINAL20March2017.pdf
[68] IEA, 2016. *Energy, Climate Change and Environment: 2016 Insights*. IEA/OECD, Paris.
[69] Jacobs, *Modelling illustrative electricity sector emissions reduction policies.*

- *Optimising the role of the grid is necessary for efficient and equitable decarbonisation.* Most climate policy analysis to date has paid relatively little attention to the role of the transmission and distribution network in decarbonisation. But an efficient and equitable transformation of the electricity supply depends to a large extent on ensuring the grid is capable of facilitating a wide range of energy technologies and transactions (large scale and distributive) and that the costs of its doing so are fairly allocated. The current grid and its regulatory framework is not positioned to deliver these outcomes without significant reform.
- *Some level of policy inflexibility i.e. regulation, is useful in reducing uncertainty and its costs.* Experience to date demonstrates that emissions markets are volatile and weak, and subsidy policies are vulnerable to budget reductions. Buttressing these policies with regulated minimum requirements can significantly diminish volatility and uncertainty. Examples include carbon price floors (as in the UK), emission intensity regulations (as in Europe) or generator age limits (as in Canada). Given the need for regulations to adapt over time to changes in technology and market behaviour, minimum requirements along with a process of foreseeable opportunities to update or strengthen these can ensure regulations remain fit for purpose.

The need for stable effective climate and energy policy consistent with Paris Agreement objectives was seen as a priority throughout our consultations. ACOSS, BSL and TCI have not recommended specific climate and energy policy but argue that we need a carefully designed package that utilises market mechanisms, regulation and on-budget measures. And that the policies should manage coal generator retirement and replacement in the interests of the public, energy consumers, and communities.

4.3 Costs associated with the transition to clean energy and growth of distributed energy must be equitable

ACOSS, BSL and TCI support the transition to clean energy in line with the Paris Agreement objectives, noting that Australians experiencing poverty and disadvantage are the least able to adapt cope and recover from climate change impacts. But poorly managed allocation of the costs associated with the transition can disproportionately increase the costs and burden on low income and disadvantaged households who are least able to afford the costs.

As noted earlier, a number of renewable energy incentives such as the National Renewable Energy Target (RET) mechanism, state based feed-in-tariffs, and energy efficiency schemes, are recouped in a regressive manner through electricity bills. These schemes add an average of 8 per cent on electricity bills, noting the amount varies depending on the state.

While these schemes have arguably provided 'public good' through emissions reductions, avoided new peak generation, and job creation, low-income and disadvantaged households are not benefiting as much as recipients of the schemes and are essentially subsidising wealthier households.

In recognition of the negative impact, the Queensland Government recently shifted the cost recovery of their solar feed-in-tariff off bill and on to the Government budget.[70]

We would urge other Governments to explore shifting the remaining FiTs, Small Scale Renewable Energy Scheme (SRES), energy efficiency schemes off bills and on to government budgets.

Inequity is further increasing with the growth of distributed energy (DERs) such as solar and battery storage. To date, the opportunities and benefits of cheaper power from distributed energy resources have not been accessible for

[70]http://www.brisbanetimes.com.au/queensland/government-steps-in-to-reverse-decision-on-power-price-hike-20170531-gwh0vs.html

households experiencing poverty or disadvantage, who are unable to access new technology (i.e. renters), or unable to afford new technology (i.e. can't afford upfront costs).

Under current pricing structures, DERs are emerging as a potential driver of a 'two tier' electricity market: households with DER are able to reduce their exposure to several types of fixed costs, which are then reallocated to households without DER. Further widening the gap between the haves and the have nots.

A key reason for this, is currently network expenditure and clean energy policies are recovered through charges applied to ***each unit of energy consumed*****,** rather than a fixed amount. If a household has DERs their energy bills are small or zero and in some cases can be in credit, they are paying little if anything towards network expenditure and clean energy policies, whereas households without DER - including low-income and disadvantaged households - pay disproportionately more.

Unless addressed, this inequitable cost allocation will increase as the uptake of distributive energy increases. Research by CSIRO and the Energy Networks Association (ENA) finds that by 2027 over 40% of customers could use onsite DERs and that by 2050, this figure could increase to 66%, with up to 45% of all electricity being generated by customers (not utilities).[71]

To a limited extent these issues have been considered in the AEMC's Power of Choice reform package, which aimed to unwind cross-subsidies and open up competition for metering, energy storage and other customer-side aspects of energy markets. The Distribution Network Pricing Arrangements Rule Change (AEMC 2014) is a key component of Power of Choice, often referred to as 'cost reflective pricing'. The rule change compels network pricing to better reflect network congestion at times of peak demand. However there have been no trials of cost reflective pricing with low income and disadvantaged households, and the only comparable comparison found certain households, such as families with children, found it difficult to adjust energy use and responded better to non-price signals such as 'peak alerts'.

Similarly, a key feature of the CSIRO/ENA approach was to keep people connected to the grid. It focused on ways to access the systemic benefits to the electricity distribution network of sophisticated use of demand management and distributed energy resources via changes in policy settings and price structures. This enabled a reduction in expenditure on network investments while increasing the value of a smarter electricity network. This study found that a scenario achieving net zero emissions by 2050, with a very high level of distributed energy and demand response, would save the average household $414 annually compared with a future based on business as usual. A medium-income family who cannot take up distributed energy resources would still save over $600 annually (in real terms) through the removal of cross subsidies.[72] However those with distributed energy benefit more.

Using fixed charges to recover fixed policy costs rather than each unit of energy consumed, is another potentially policy response. This could also apply to recouping costs of a climate policy mechanism aimed to incentivise large scale investment. In particular where the cost of the scheme are recouped through the bill like the RET or the Clean Energy Target (CET) as recommended by chief scientist, Alan Finkel. Other options to more progressively fund climate policy is through consolidated revenue, which is reliant on healthy government budgets or a progressive tax levy.

Further policy development is needed. It's more likely that most households and business will stay connected to the grid, incentivised by new sources of revenue such as selling to the grid, selling to neighbours, and network payments; however the 'stay on the grid' scenario should be deliberately enabled. Identifying how network costs and the costs of

71 Energy Networks Australia and CSIRO (2017) Electricity Network Transformation Roadmap: Final Report. http://www.energynetworks.com.au/sites/default/files/entr_final_report_web.pdf

72 CSIRO/ENA, 2017. Electricity Network Transformation Roadmap: Final Report. http://www.energynetworks.com.au/sites/default/files/entr_final_report_april_2017.pdf

transition to clean energy are more equitably allocated is a priority, to ensure everyone contributes fairly to the transition and maintenance of a universal accessible, affordable, reliable and secure energy system.

4.4 Incentivise access to distributive energy for low income and disadvantaged households

One emergent sector that could help provide access to a broader range of distributive energy services for low income and disadvantaged households is the community and local energy service sector.

Still in its infancy in Australia, community and local energy projects and proponents are driven by social and environmental objectives as well as economic objectives. Initiatives tend to be designed and supported by coalitions of individuals or organisations, and can take many forms. A focus is often on overcoming specific barriers to participation in sustainable energy generation or use.

Examples of different community energy efforts are:

- The Moreland Energy Foundation's focus on supporting local communities with energy advice and support to invest in affordable renewables for low-income earners and the community.[73]
- SGCH's (formerly St George Community Housing) program to incorporate energy efficiency and solar PV into community housing for low-income families.[74]
- The STUCCO Student Cooperative provides an example of a consumer-led solar plus storage embedded network that lowers the electricity bills of 40 student residents.[75]
- CORENA, which funds solar and energy efficiency upgrades for charities across Australia.

The ability for community and local energy to develop innovative approaches to specific community circumstances could make it an important contributor to providing access to the benefits of the energy transition to those currently locked out. Community energy groups working with the community sector are also well placed to be trusted providers of energy-related advice for energy users in their area.

Community energy projects have leveraged private funding as well as public funding and financing mechanisms. However, further development of community power is hampered by regulatory and financial barriers. A solid foundation of government support will enable the sector to grow, evolve and contribute to a richer ecosystem of Australian energy solutions.

Other mechanisms including government funded and targeted programs are discussed in later sections.

4.5 Keep an eye on the big picture

4.5.1 Public versus Private - energy as a social good

Throughout the consultations we undertook for this submission, there was debate about the merits of privatisation versus State ownership and which model would benefit low income and disadvantaged households.

We heard a strong message from across both the community and environment sectors that the promise of privatisation, particularly in the retail market, has not been realised, and that excessive prices show competition is not working in practice as well as it does in theory.

73 See for example https://www.mefl.com.au/news/unaa-awards/#more-2524 and http://www.theleader.com.au/story/4071387/power-bills-to-be-cut/

74 https://onestepoffthegrid.com.au/csiro-internet-things-pilot-aims-cut-community-housing-power-bills-80/

75 See http://www.stucco.org.au/solar

On the other hand, lack of competition in the wholesale industry in some states, like Queensland where the State Government has ownership over significant generation, was also considered a driver of higher prices.

In addition, state-owned network companies have been more responsible for excessive 'gold plating' of the poles and wires, compared to privatised networks.

It was also noted that Tasmania who has ownership of majority wholesale and retail, were recently able to put a cap on price rises, to benefit of consumers.

Consensus was not achieved. We note that both private- and public-owned entities have been accused of price-gouging, but critics of the market have a point. Irrespective of their ownership, energy providers need to operate within rules that provide more robust consumer protection and stronger constraints on the exercise of market power.

4.5.2 Consideration should be given to updating the National Electricity Market guiding principles

The electricity market is undergoing a dramatic transition to decarbonise creating both opportunities and risks, benefits and losses. Yet the national energy market rules and regulations have been slow to respond hindering the decarbonisation transition and compromising reliability and security.

It's fair to say that the electricity market is currently failing on the NEM objectives around price, reliability and security. These narrow objectives are no longer fit for purpose.

Now more than ever, the distribution of energy market costs has the potential for wide ranging and serious social equity impacts. Yet the current framing of the national energy market does not provide guidance on how to consider social or distributional impacts of energy policy or regulatory decisions, especially for low income and disadvantaged households. Given the essential nature of energy supply, it is important that outcomes for vulnerable customers are explicitly considered by decision-makers.

Similarly the current framework that guides the NEM also does not provide guidance on how to facilitate and support energy policy.

Australian Chief Scientist, Alan Finkel has argued

> *For both system security and affordability reasons, it is important that governments ensure energy and emissions reduction policies are integrated. The energy system needs to be able to adapt to changes in technology and in supply and demand that are stimulated by emissions reduction policies. Emissions reduction policies that are aligned with the operation of the electricity system will better support efficient investment decisions by consumers and in generation and network assets."*[76]

Consideration should be given to incorporating social and decarbonisation principles to guide the decision making of the operation of the NEM. While there was broad support in the consultations for inclusion of social good and decarbonisation principles to be considered in the NEM operations, some community organisations held a different view primarily concerned about implications on affordability.

Inclusion of a decarbonisation principle in the NEM to support decarbonisation of the electricity network is not intended for the NEM to set the policies for meeting Australia's national or international decarbonisation targets, as this should be done by Federal and State Governments via a nationally coordinated approach. However the rules and regulations that govern the electricity market should embrace, facilitate and not hinder these policies or the market.

[76] https://www.environment.gov.au/system/files/resources/97a4f50c-24ac-4fe5-b3e5-5f93066543a4/files/independent-review-national-elec-market-prelim.pdf

4.6 A well-designed package of measures can lower total costs.

Multiple policies in theory increase costs by diminishing efficiency; however, if they significantly reduce the range of investment uncertainty and provide clearer guidance as to required emissions reductions, these benefits may more than compensate.

Modelling by Jacobs for the CCA found that combinations of climate policies were able to achieve emissions reductions at a lower combined cost than the individual policies as each policy made up for a weakness in the other.[77] The CSIRO/ENA modelling took the examination of multiple measures further by examining a policy package that addressed the needs of both the network and generation sectors.

Ensuring decarbonisation and improving affordability will require aspects of all of the following policy types: regulation to provide minimum standards of action, transparency, and protection; market signals to enable competition and choice and minimise compliance costs; and on-budget subsidies to assist those most in need and reward public good innovation.

5 OUTCOME 2: INFORMED AND ENABLED CONSUMERS

2.1 Federal and State Governments co-fund stable and ongoing assistance programs, delivered by local place based social support services to inform and enable vulnerable households engage with the energy market. Where possible these programs should strengthen relationships between vulnerable households, support services, advocates and energy retailers.

2.2 COAG Energy Ministers require energy retailers to develop a low-cost, no-frills retail energy market offer that vulnerable and disengaged customers can default to if they cannot or do not engage in competitive retail energy markets.

Increasingly consumers are being required to engage in their home's energy usage if they want to lower their energy bills. Engagement can take many forms, from getting the best deal in the retail market to using smart meter data to change energy consumption habits. Many benefits can flow to informed and enabled consumers.

However, it is important to understand that some households face limits and barriers to engage with the market, which may include lack of capital, language and literacy barriers, rental, or geography.

There was clear evidence that better informing and educating consumers about their bills, energy use and the energy market significantly benefited consumers.

During the consultations many participants argued it is unrealistic and unfair to expect all consumers to engage to the level required to access material benefits. And that many existing efforts place too much emphasis on the individual consumer and insufficient emphasis on ensuring the design of the market leads to acceptable outcomes for all consumers, including those who are disengaged.

[77] Jacobs, 2016. Modelling illustrative electricity sector emissions reduction policies - Climate Change Authority Final report.

This section highlights two areas where appropriately informed and enabled consumers can benefit:

- Competitive retail energy markets
- Smart meters

Concerted policy leadership is missing and there is no obvious champion of energy assistance programs for low income and vulnerable households.

5.1 Competitive retail energy markets are not delivering on their promise

5.1.1 Engaged and active consumers can get lower prices

Competitive retail energy markets have held up the promise of lower and more efficient prices for all. Evidence from the AEMC,[78] AER,[79] and St Vincent de Paul[80] suggests that there is a large spread of market offers available and the difference between the best and the worst offer is very large. For example in Victoria the difference can be up to $830 per annum for electricity and $480 for gas, which can be a significant savings and benefit to households.[81]

For households to get the better deals in the market, they need to regularly engage with the retail electricity or gas market to ensure they are receiving a competitively priced supply.

5.1.2 However, many households are missing out on ongoing benefits from the market

Research suggests that, even where competition is available, it is failing to drive down the retail component of energy bills.[82] A majority of households are also disengaged from the energy market and paying more than necessary. The AEMC's Energy Consumer Research found around 55% of all customers had not switched electricity retailer or plan in the last five years. This suggests that these households are paying significantly more – typically 15-20% more - than customers who actively pursue a better offer.[83]

The common design of retail contracts with limited 'benefit period' discounts allow retailers to price discriminate against the disengaged. Similarly, the prevalence of 'pay-on-time' discounts discriminates against those that are unable to pay their power bills on time due to dire financial circumstances. The flipside of these discounts (up to 30 per cent of consumption charges) are hefty late payment penalties.[84]

There has been calls from many consumer advocates for retailers to change their business model to become more consumer focused by putting customers on the retailer's best plan for the customers circumstances.

The concerns that consumers are not benefiting from retail competition has led to the federal Government has directed the ACCC to investigate retail supply of electricity and the competitiveness of retail electricity markets in Queensland, NSW, Victoria, South Australia, Tasmania, and the ACT.

78 www.aemc.gov.au/Major-Pages/Power-of-choice
79AER (2016) Annual report of the performance of the retail energy market
https://www.aer.gov.au/system/files/AER%20Annual%20Report%20on%20the%20Performance%20of%20the%20Retail%20Energy%20Market%20201415_0.PDF
80 https://www.vinnies.org.au/icms_docs/256169_Victorian_Energy_Prices_October_2016.pdf
81 Ibid
82CME (2015) A critique of the Victorian retail electricity A report for the Brotherhood of St Laurence; and Ben-David (2016) Shock Therapy Reviving retail competition in the energy market
83 Based on the differences between standing offers and market offers in each jurisdiction reported in AEMC 2016 Residential Price Trends Report.
84 Consumer Action Law Centre (2017) Submission to the Independent Review into the Future Security of the National Electricity Market: Preliminary report.

5.1.3 There is limited choice in some states

While choice is failing to deliver on its promise in some areas, in other areas there is limited or no choice. There is limited choice of retailer in the ACT and no effective choice in regional QLD, TAS, WA and NT.

5.2 Smart meters as a tool for engagement

Smart meters and network tariff reform offer new ways of engaging with households and managing consumption. But they also add a new layer of distinction between customers. Smart metering can provide more frequent billing and real time consumption and cost information. This can help reduce energy bills and/or minimise bill shock, which has significant potential to soften vulnerability. However, despite the rollout of smart metres in Victoria, all the expected consumer benefits have yet to be realised.[85] A report by VCOSS, *Making Energy Visible*,[86] identified a number of technical and costs barriers, including lack of energy literacy, lack of internet access, and poor data functions.

5.3 Barriers to engagement

While there is some evidence that some vulnerable households do engage actively in the energy market to find the best deals, other cohorts of vulnerable households are more disengaged and the inability to engage makes people more vulnerable. Consultation participants identified multiple barriers to engagement and options to address them. They also identified that a significant proportion of consumers may not want to, or be in a position to be, informed and engaged consumers.

Pre-requisites for engagement include:

- **Information provided in accessible formats** (including languages and modes of dispersion) and in accessible locations (including for regional, rural and remote communities)
- **Consumer literacy including adequate financial and energy literacy** to be able to comprehend and take action from the information
- **Time and energy** – many vulnerable households are facing multiple stressors, which limit their ability to take on additional tasks, such as hunting for a better energy deal.

At present many of these prerequisites are not being adequately addressed for all segments of the population. As a result many households, particularly vulnerable ones are facing barriers to participation, including:

- Language;
- Geography – reduced competition in regional areas, and lack of retail competition in specific geographic areas including regional QLD and WA;
- Internet access;
- Trust in providers;
- Trust in outcomes of switching or engagement in distributed energy;
- Lack of straight forward access to data - to enable independent third parties to assess provide services including recommending different tariffs, this included states with smart meters such as Victoria.

In relation to engaging in basic distributed energy such as solar, these included:

- Resources or capital – many households simply do not have sufficient capital to invest in upgrades, nor the desire to go into debt

[85] Consumer Action Law Centre (2017) Submission to the Independent Review into the Future Security of the National Electricity Market: Preliminary report.
[86] http://vcoss.org.au/document/making-energy-visible/

- Control – renters are often not in a position to take actions such as energy efficiency upgrades or the installation of solar because they do have the authority to do so
- Misaligned incentives – landlords face misaligned incentives to installing energy efficiency or solar upgrades

5.4 Greater consumer focus

During the consultations it was identified that there was a need for electricity market regulators engaged in all levels of the market, to be more consumer focused. This includes:

- Understanding customer needs and preferences and finding out how to best meet those needs and preferences. In practice, this approach can take different forms. Ranging from customer groups and consumer advocates directly engage with regulators in developing policy, regulation and decisions. In other cases, the formal analysis of customer needs and preferences be an important input in regulatory decision making.
- Better informing consumers of decision making and their rights.

5.5 Two complementary priority solutions

Vulnerable households need tailored, trusted, ongoing support to engage with their energy use and with the energy market. Support should cover a variety of issues, based on the customer's needs. Customers struggling to pay their energy bills are likely to need financial management and energy related advice. This should be available prior to customers getting into substantial debt as well as in response to debt and disconnection. Many households are also likely to need support engaging in retail markets and trusted information to assist in accessing solar and other distributed energy sources. Current programs are often curtailed by a severe lack of resources relative to the level of need.

One example of how to educate and enable low income and vulnerable consumers is the *Switched on Communities* program managed by the Queensland Council of Social Service (QCOSS) in South East Queensland.[87] Community organisations receive funding to implement tailored approaches to target specific customer groups to assist their clients better understand their bills, compare electricity plans and access the supports available if they experience financial difficulty (see Box 2 for more information). The funding for the program is provided by the Queensland State Government and energy retailer AGL.

Box 2: Switched on Communities in South East Queensland

The Switched On Communities grants funding provides targeted programs to assist people who experience disadvantage or financial hardship to get better outcomes in the competitive energy market. Grants of up to $100,000 are available for not-for-profit organisations in south east Queensland to get their community switched on.

With thanks to the generosity of AGL and the Queensland Government $500,000 has been made available for organisations to assist their clients better understand their bills, compare electricity plans and access the supports available if they experience financial difficulty.

The successful community organisations to receive Switched On Communities grants are:

- Salvation Army
- Multilink Community Services -Queenslanders with Disability Network - who are engaging people with intellectual disability through interactive games and workshop activities
- COTA Qld

[87] https://www.qcoss.org.au/our-work/switched-communities

- Laidley and District Community Organisation
- Coast2Bay Housing Group
- Encircle
- Mangrove Housing
- Palm Beach Neighbourhood Centre

For low income and vulnerable customers who do not engage in the market, it is important to ensure that they are not unduly penalised. A solution is to require retailers to develop a low-cost, no-frills retail energy market offer that vulnerable and disengaged customers can default to if they cannot or do not engage in competitive retail energy markets. While there was broad support in the consultations for a low cost default product, some community organisations held a different view primarily concerned about cost allocation. Detailed policy design including how costs are allocated needs further consideration.

6 OUTCOME 3 - ENERGY CONSUMED EFFICIENTLY AND PRODUCTIVELY

3.1 Federal, State Governments and local councils work cooperatively together to co-fund ongoing programs for vulnerable and low-income households that provide access to energy efficient technologies, solar PV and other distributed resources and provide a trusted source of information. Higher levels of support should be provided to the most vulnerable households.

3.2 Federal Government support State and Territory Governments to introduce minimum energy efficiency standards for rental properties in all Australian jurisdictions (with reference to local climatic conditions) to improve affordability, health and wellbeing outcomes for tenants in the poorest quality dwellings. Simultaneously the Federal Government review tax policy to ensure existing tax measure support energy efficiency upgrades.

3.3 Federal and State Governments provide additional support to upgrade all public and community housing stock to best practice energy efficiency standards.

How much energy households use and how efficiently they use it directly impacts their energy bills.[88]

Our consultation highlighted two priority areas for ensuring energy is consumed efficiently and productively:

- Improving residential energy efficiency, particularly in vulnerable and low income households.
- Ensuring access to distributed energy resources including, but not limited to, rooftop solar.

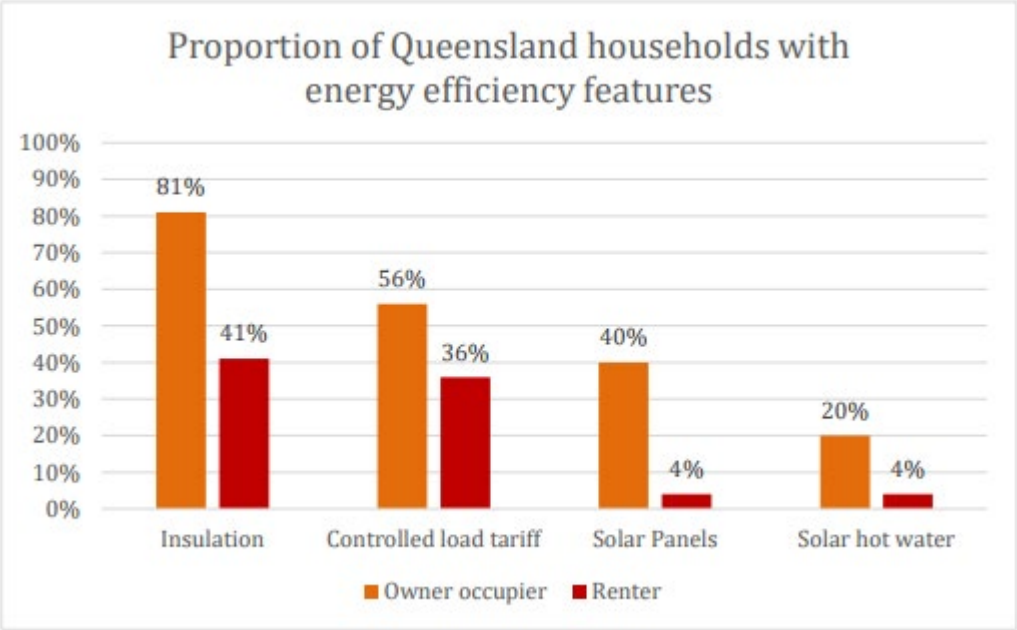
Low income and vulnerable households are more likely to live in inefficient homes and have less efficient appliances, as a result they end up paying more for basic energy services.[89] There is an opportunity here to provide significant emission reductions and cost savings from improving the energy efficiency of households.

[88] In most cases, recently there have been examples of new retail market offers, which are essentially uncapped usage at a fixed price.
[89] ACOSS (2013) Energy Efficiency and People on Low Incomes
http://www.acoss.org.au/images/uploads/ACOSS_ENERGY_EFFICIENCY_PAPER_FINAL.pdf

According to ABS 2008 data, one-half (49%) of people on low incomes are living in rental properties (where low income is defined as the bottom quintile of household incomes), and people on low incomes are twice as likely to be renting as those in the highest income quintile.[90]

Rental properties have significantly less energy efficient features and distributive energy (see figure 10 for example of Queensland households).

Figure 10. Proportion of Queensland households with energy efficiency features[91]



Renters are in a particularly difficult position because they have limited ability to make changes to the properties they live in and landlords have little incentive to invest in upgrades which do not benefit themselves (see Box x for examples of renters attempts to improve energy efficiency).

Box 3: Experience of renters seeking energy efficiency improvements

"I attempted to have insulation installed under the government's free scheme. The owner told us to get quotes, then said he would have the job done by someone who was doing all his properties. It never happened."

"I asked to have solar panels installed, made all the enquiries re: cost etc., but the request was rejected."

"My current landlord denied me the right to install flyscreens, despite it being a capital improvement which would improve the value of the property… They were… uninterested in tenant comfort and energy savings."

"I am charged quite a lot of money for energy, around $420 per bill, just for two tenants. {The retailer} said there might also be something wrong with the thermostat as the hot water system in the garage takes ages to heat up, which results in hundreds of extra dollars per bill. The landlord will not get this fixed."

"I requested that they [lessor] remove the gas from our property (as the bill is around $100/Quarter and we use about $4 of gas) & put an electric oven in so we only had one bill (the property needed a new oven). They declined."

[90] ABS 2008: Australian Bureau of Statistics, Australian Social Trends, 2008, ABS 4102.0
[91] https://www.qcoss.org.au/sites/default/files/QCOSS%20Choice%20and%20Control%20-%20the%20experience%20of%20renters%20in%20the%20energy%20market.pdf

"[I] cancelled gas account as could not pay both electricity and gas bill, so chose just to have electricity to the property - no hot water, no gas stove - that's the reality…"

Source: QCOSS (2017) Choice and Control? The experience of renters in the energy market.[92]

Ensuring low income and disadvantaged households have more efficient homes and appliances enables consumers to get better value from their energy use. For example, housing energy performance has been the focus of a number of policy recommendations. In Victoria, raising a home from a 2-star to 5-star energy rating can result in a 32% total energy saving, or up to $600 in annual household savings a year.[93]

Arguably the most important and cost effective energy efficiency programs have been minimum standards for new residential buildings and minimum standards for appliances. Minimum standards for appliances are particularly important as they eventually flow through to all stock. Examples of savings include: 25% reduction in energy used by dishwashers compared to 10 years ago, 27 reduction in energy used on lighting since the phase out of inefficient lighting began in 2009 and a 50% improvement in the efficiency of small split-system air conditioners since 2001.[94]

While the benefits are clear, low income and disadvantaged households are often unable to capitalise because of cost and access. At the state level there are multiple promising initiatives targeted at vulnerable households, for example:

- NSW has prioritised large scale programs targeted to low income households, such as the Home Energy Action (HEA) program, which helps low income households access efficient appliances. The program follows up from their large scale Home Power Savings Program, which "helped more than 220,000 low-income households collectively save 120,000 MWh of electricity and over $36 million on their power bills each year"[95].
- South Australia delivers support to low income households through the Retailer Energy Efficiency Scheme (REES), which includes a priority group where a fixed percentage of savings need to occur and a requirement for a certain number of energy audits. The audits have been very popular and are regularly over-subscribed.
- The Clean Energy Finance Corporation Community Housing Program is providing finance to fund improvements in energy performance of community housing.[96]
- The NSW Office of Environment and Heritage and the Victorian Department of Human Services are running pilots for energy efficiency upgrades in the social housing stock.

Lessons can be drawn from these and other successful programs. Energy Consumers Australia is working from the Low Income Efficiency Program (LIEEP) to develop "a best practice voluntary guideline for service providers which will seek to reduce the barriers to vulnerable consumers effectively engaging with energy productivity measures and services."

However, in the consultations a number of problems were identified with energy efficiency programs:

- With some notable exceptions, many programs run for short and uncertain periods of time. This increases their transaction costs and reduces certainty for industry.
- Many of the programs are not of a sufficient scale to address the problem they face. Investing in only small ticket items and not where large scale savings can be made like hot water and insulation.
- Only some tailored programs include rooftop solar (solar photovoltaics).

[92] https://www.qcoss.org.au/sites/default/files/QCOSS%20Choice%20and%20Control%20-%20the%20experience%20of%20renters%20in%20the%20energy%20market.pdf

93 OME 2013: One Million Homes Roundtable Summary Report: May 2013 http://environmentvictoria.org.au/wp-content/uploads/2016/06/OneMillionHomes_RoundableSummaryReport.pdf

94 http://www.energyrating.gov.au/about

95 http://www.environment.nsw.gov.au/households/government-programs.htm

96www.cleanenergyfinancecorp.com.au/where-we-invest/a-better-built-environment/cefc-community-housing-program.aspx

There is a need for Federal, state Governments and local councils to work cooperatively together to co-fund ongoing programs for vulnerable and low-income households that provide access to energy efficient technologies, solar PV and other distributed resources and provide a trusted source of information. Higher levels of support should be provided to the most vulnerable households.

A high priority should also be given to upgrading the public and community housing stock, which is essential to improve affordability for some of the most disadvantaged in the community. Governments should be showing leadership, noting investment in energy efficiency and renewable energy for the most vulnerable in our society would meet multiple Government objectives.

Box 4 - Energy Efficiency and Solar for Community Housing[97]

The St George Community Housing project has been an explorer example of what can be done in community energy space. In partnership with the NSW government, St George Community Housing are retrofitting 1400 community housing developments across Sydney. The $5.4 million project, of which the state government is contributing half the funds to, is expected to cut energy bills across the SGCH properties by about $800,000 a year, which is an average of $570 dollars per property that tenants won't be spending on their energy bills each year. The project will include the installation of rooftop solar PV, ceiling insulation, the replacement of electric water heaters with heat pump systems and the installation of LED lighting.

Energy performance ratings and disclosure at point of sale or lease have worked well in the commercial buildings sector and can be beneficial in the residential sector. We note the Council of Australian Governments' *National Energy Productivity Plan 2015–2030* (NEPP) includes a commitment to "improve residential building energy ratings and disclosure.

However, these mechanisms do not protect low-income and disadvantaged households who have very little ability to choose their accommodation. Introducing minimum energy performance standards for existing residential buildings, with a particular focus on rental properties to overcome to landlord-tenant split incentive, ensures that all households should be able to achieve an acceptable minimum level of energy efficiency. This measure received very strong support throughout our consultations and should be a priority for Governments. It was noted that implementation of such standards would need to be done in ways that minimised the risk of raising accommodation prices. Minimum standards for residential properties is currently being reviewed by NSW and Victorian Governments.

7 OUTCOME 4 - ROBUST CONSUMER PROTECTIONS

4.1 COAG Energy Ministers undertake a review of disconnection laws in light of the essential nature of electricity, with a view to ending the tactic of disconnecting households because of inability to pay.

4.2 COAG Energy Ministers request a review of the current National Energy Customer Framework (NECF), with the following reforms in mind:

- Introduce Governing principles along the lines:
  - It should be easy for people to engage and make effective decisions.
  - Appropriate consumer protections should be applied to all energy products and services.

[97] http://www.theleader.com.au/story/4071387/power-bills-to-be-cut/

- The benefits of a transforming market should be shared across the whole community
- Review of current best practice protections in line with principles
- Establish a range of no-regrets initiatives:
  - Testing the need for, and form of, market interventions against real consumer decision-making.
  - Ensuring adequate access to justice by expanding the jurisdiction of energy Ombudsman schemes.
  - Requiring energy service providers to identify the consumer's purpose in acquiring a service, to ensure it is appropriately identifying programs to assist vulnerable demographics access new products and services.
- Apply updated consumer protection framework in all states, with derogations for stronger protections allowable.

4.2 COAG Energy Ministers investigate additional measures that retailers could implement for those customers identified through Payment Difficulties or Hardship initiatives, such as energy education, access to financial counselling, and support to access energy efficiency upgrades and distributive energy, in order to prevent re-occurring hardship.

The need for robust consumer protection for vulnerable households reflects the fact that electricity is recognised as an essential service, and some form of *universal access to affordable energy services* is required.

We note that the current transition is happening so rapidly that current consumer protections are already inadequate.

Our consultation highlighted three priority areas for ensuring robust consumer protections:

- Rethinking the policy around disconnection;
- Ensure best practice consumer protections apply in all states;
- Review the current consumer protection framework to reflect the changing market and support a more inclusive and equitable energy systems, including expanded role for State Ombudsman.

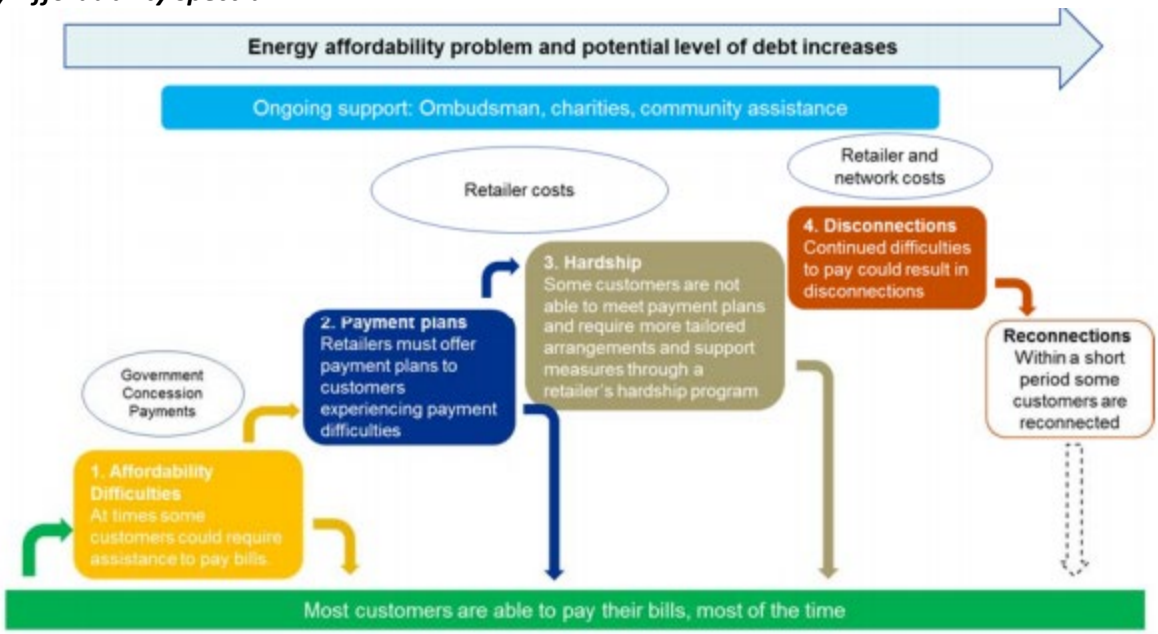
7.1 Disconnections

Access to reliable and affordable electricity is considered essential and a basic human right. It is critical to the health, wellbeing, economic participation and social inclusion of Australians. This was acknowledged by the Productivity Commission in recommending separate consumer law protections for energy consumers (PC 2008, p108):

> *"There are good reasons to supplement the generic consumer law with specific measures to protect and empower energy consumers. They are essential services, with disconnection having potential harmful effects; billing is lumpy increasing the risk of financial stress for low income households; price menus and product bundling can be complex; and some areas of supply are not yet fully competitive."*

However under current energy consumer protection laws, if customers fail to pay their electricity or gas bills after a number of support mechanisms are implemented, as outlined in figure 11, a household can be disconnected as a last resort.

Figure 11. Energy Affordability spectrum[98]



Source: KPMG

Alarmingly, but not surprisingly given the rising electricity prices, household disconnection rates have grown significantly in the last six years. A study by KPMG found that between 2015/2016 around 160,000 households were disconnected for non-payment of their electricity or gas bill, up approximately 47% since 2009/10.[99]

A study by the Public Interest Advocacy Centre (PIAC)[100] in 2013 found people more likely to be disconnected from utilities were (see box 4 for some case studies):

- Unemployed (40% in the survey compared to 6% in the general NSW population)
- Sole parents (29% compared with 16%)
- Aboriginal and/or Torres Strait Islander (15% compared to 3%)
- Almost one half (45%) of respondents reported a household member with one of a number of listed health conditions. Mental health issues were present in 30% of households disconnected from utilities.
- Renting (43% compared to 24%) or living in public housing (24% compared to 3%)
- 44% of those surveyed were in paid employment, the 'working poor'.

This was a change from previous reports, where most people who were disconnected were receiving welfare payments. Further, a Victorian Government investigation into disconnections found:

- Customers in payment difficulty often use more energy than other customers;
- Existing hardship programs were generally ineffective at preventing customers from accumulating further debt
- By the time help is offered, it is often too late to assist customers to manage their debt
- Some retailers offer more help than others. There is no consistent or minimum standard of assistance.

And a recent study by St Vincent de Paul in Victoria revealed that advanced metering is also increasing disconnection.[101]

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[98] KPMG 2016 *Energy Consumers Australia, Quantifying the cost of energy disconnections 14 October 2016* available from http://www.energyconsumersaustralia.com.au/policy-and-advocacy/keeping-people-connected

[99] *Ibid.*

[100] *Cut Off III: the social impact of utility disconnection* available from www.piac.asn.au/project-highlight/research/

[101] Vinnies 2016. (St Vincent de Paul Society and Alviss Consulting) Households in the Dark. https://www.vinnies.org.au/content/Document/VIC/2016-June-Households-in-the-dark2.pdf

Disconnections negatively impact on health and wellbeing, prevent heating and cooling, affect food storage and consumption, hygiene maintenance, and ability to participate in education and employment (see box 1). KPMG has estimated the annual cost incurred by retailer and customers associated with disconnections and subsequent reconnections is approximately $11 million.

Box 4: Case studies of Disconnections

27 year old Emira (a public housing tenant from regional Victoria) detailed the experience of having her energy disconnected while trying to escape a violent relationship: "I had a domestic issue and [the retailer] was demanding money that day. I was more worried about my son's safety: I just wanted to get him out of there. I hung up the phone and they rang me back in half an hour, while I'm trying to get ready to get out… but they don't care. They just want their money." Originally from Bosnia, she now has no family in Victoria. She is not currently working and receives a Centrelink payment. She was disconnected for 5 days. Emira says a friend provided some food for Jack, while she went without. It was cold and they used blankets to keep warm. Emira worried about the impact on Jack. Emira sought help from St Vincent de Pauls (Vinnies), who helped pay for the reconnection.

Sarah, an inner-Melbourne woman in her forties in private rental apartment. With a tertiary degree and regular work, Sarah had always been able to manage her finances; but things changed after she was held up in an armed robbery, and later assaulted. She developed post-traumatic stress disorder (PTSD), anxiety and depression. Suffering regular panic attacks and agoraphobia, she stopped working and fell behind on bills. She was disconnected by her energy company over $220. She told RMIT researchers that"…given that they knew my situation and in the end I only owed $220.00… I just wonder whether there are better ways to go about addressing these issues than just cutting someone's power off." After speaking to MoneyHelp, Sarah received support from Energy and Water Ombudsman Victoria, who negotiated with the Energy Retailer for reconnection.

Karen a single mother of four experiencing domestic violence had her parenting payment switched to Newstart allowance when her children were removed because of the domestic violence. Karen was suffering depression, anxiety and post-traumatic stress, at one point she was hospitalised. Of the $500 per fortnight, $350 went to rent. Karen visited her children 250 km away three times a week using most of her leftover money on petrol. Karen amassed $5,000 in rent and bill debts. Because Karen had been on hardship program before but had been disqualified when she missed payments, the retailer would not let her back on. She was disconnected. Her food went off, the fridge blew up because of water melt in the motor, she could' cook or have warm showers. She eventually got help from Energy and Water Ombudsman Victoria, who spoke to the gas and electricity retailers on her behalf, discovering the energy company had not been applying concessions Karen was eligible for, reducing some of the debt.

Lyn is 58 years old. She lives with her daughter in Melbourne's north, and they have experienced several energy disconnections. Lyn is a survivor of domestic violence, and her financial problems stem from there. After years of abuse Lyn took out an intervention order against her husband. After periods of work, Lyn suffered four heart attacks related to a nervous system condition and has been unable to work since. Debts piled up. Sometimes Lyn would go several days without eating so she could feed her daughter. Lyn was disconnected in the middle of winter. Lyn and her daughter used public showers and cooked on park BBQs. Centrelink referred her a financial counselling service. The counsellor discovered Lyn was eligible for medical cooling concession, and helped her get reconnected.

Source: Consumer Action Law Centre (2015) Heat or Eat: Households should not be forced to decide whether they heat or eat.[102]

[102] http://consumeraction.org.au/wp-content/uploads/2015/08/Heat-or-Eat-Consumer-Action-Law-Centre.pdf

The research above indicates that households who find themselves disconnected are in challenging circumstances and the current system is failing them. In Victoria, as a result of the investigation and consultation, the Victorian Government also recently proposed a code change in an attempt to reduce disconnections, where certain conditions must be met before a customer can be disconnected from their energy supply. This includes:

- the retailer must have provided three minimum level of assistance to which the customer is entitled
- the retailer must have issued a complaint disconnection warning notice
- the retailer must have used its best endeavours to contact the customer prior to disconnection (after the relevant warning notice period is over)

While an improvement, the response still seems inadequate to address a systemic problem. It was raised in a number of consultations that in addition to providing 'payment options', education and support to address underlying problems are critical to prevent repeat hardship customers.

Some consumer advocates have called for retailers to be removed from decision making and that an independent panel make the decision.

In the consultations there was an overwhelming concern that disconnections are an inappropriate response to an essential service and a basic human right. Some conversations were had around whether 'restricting electricity' as a last resort might be more appropriate than disconnection, but even this solution has its drawbacks.

Given the essential nature of electricity and the negative impacts of disconnections on individuals, families and society, consultation participants called for alternative measures to be explored instead of disconnections, with a view to ending the tactic of disconnecting households because of inability to pay. Detailed policy, including cost implications needs further exploration.

7.2 Consumer protection framework

7.2.1 Current consumer protection framework should reflect' best practice'

In considering the essential nature of electricity, the Productivity Commission called for the development of a national energy consumer protection scheme and for that scheme to apply to all jurisdictions:

> *… Australian Governments should agree to the longer term goal of a national consumer protection regime for energy services, with a single set of requirements to apply in all jurisdictions participating in the national energy market. Those requirements should be enforced by the Australian Energy Regulator.*

This recommendation led to the creation of the National Energy Customer Framework (NECF). The NECF complements the generic consumer protections provided by Australian Consumer Law in the jurisdictions that choose to adopt the framework.

However the NECF does not currently apply in Western Australia or the Northern Territory, only applies in a limited manner in Victoria, and Tasmania hasn't applied the gas rules. And is often implemented differently in each state, with some states making their own variations (called 'derogations'), some of which are viewed as highly beneficial to low income and disadvantaged households and should be implemented in other jurisdictions. For example, good derogations in Queensland include caps on exit fees at $20, and a requirement for retailers to provide customers with "individualised, advance notice of price increases including loss of a discount or benefit". Both of these derogations help encourage active participation in the market as consumers are directly notified when their prices go up so have an opportunity to seek a better offer and have comfort in knowing they won't be penalised for doing so.

Victoria has developed its own consumer protection framework, and is considered by many as stronger than the NECF. For example, in Victoria they have a Wrongful Disconnection Compensation Scheme – which means that every time a retailer disconnects someone without following correct procedure (i.e. without offering them concessions or a payment plan etc.) they have to pay the customer a certain amount for every day they went without power.

The Hardship Review conducted by the Victorian Essential Services Commission in 2016 and the subsequent development Payment Difficulties Safety Net project can be regarded as a test case in robust consumer protection. This sits alongside recent work by the Australian Energy Regulator under the NECF on a Sustainable Payment Plans Framework.[103] Both initiatives are aiming for 'best practice' in the way customers are treated. More consideration can and should be given to additional support to prevent ongoing hardship such as energy education, support to install energy efficiency and possibly even solar.

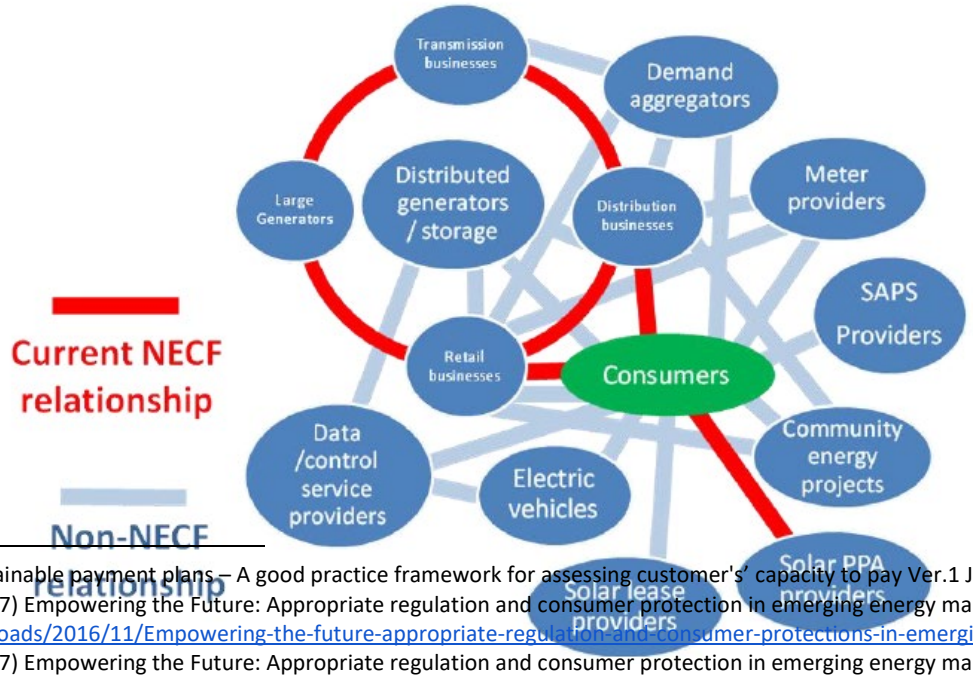
Best practice measures should be reviewed and included in the NECF and applied across jurisdictions.

7.2.2 Consumer protection framework needs to be expanded

The energy market is becoming more complex for consumers with new products and services such as solar leasing and energy storage management, emerging in response to changing technologies. As noted by the Alternative Technology Association (ATA) in their recent report *Empowering the Future: Appropriate Regulation and Consumer protection in Emerging Energy Markets*, "such 'behind the meter' products and services are not regulated beyond the generic provisions of Australian Consumer Law (ACL), and these customers are not benefiting from the many 'energy-specific' customer protections that have developed over time – special rules such as supply guarantees and hardship provisions – that reflect the vital importance of an energy supply."[104]

The ATA has identified 20 possible future relationships arising from potential new services in the energy market, more than a half of which involve consumers directly. As shown in figure 12 all of the new services and relationships currently sit outside of the current NECF – and the equivalent Victorian Framework, primarily delivered by the Energy Retail Code – and therefore outside energy-specific consumer protections.

Figure 12. The connecting bars represent current and potential future energy relationships. Those in red are covered by National Energy Consumer Framework (NECF) today; those in blue are not.[105]



[103] AER Sustainable payment plans – A good practice framework for assessing customer's' capacity to pay Ver.1 July 2016
[104] ATA (2017) Empowering the Future: Appropriate regulation and consumer protection in emerging energy markets. http://www.ata.org.au/wp-content/uploads/2016/11/Empowering-the-future-appropriate-regulation-and-consumer-protections-in-emerging-energy-markets_ATA.pdf
[105] ATA (2017) Empowering the Future: Appropriate regulation and consumer protection in emerging energy markets. http://www.ata.org.au/wp-content/uploads/2016/11/Empowering-the-future-appropriate-regulation-and-consumer-protections-in-emerging-energy-markets_ATA.pdf

The ATA also identified the services that may be provided by any of the entities noted in Figure 8, and may involve the operation, leasing and/or outright sale of household-scale energy generation, consumption, and management:

- residential demand response
- energy generation systems
- energy storage systems
- electric vehicles
- operation of smart appliances
- direct load control
- optimisation services across multiple loads and energy sources
- load shedding
- community owned decentralised renewable energy
- energy sold between consumers on the same distribution network (wheeling arrangements, or micro grids)
- solar energy sold in land sharing community arrangements between strata owners, strata corporations and tenants
- energy sold through urban-regional council partnerships
- energy sold via smart meters (which will offer possibilities for third parties to be involved in providing a range of smart meter services)
- off-grid energy sales
- groups of investors who generate renewable energy to sell for their own use
- small off-grid networks.

The ATA note that these services don't all require the same consumer protections; but they all require some consumer protections, depending on the severity of impact on the consumer of market failure or financial hardship.

The Consumer Action Law Centre's (CALC) report *Power Transformed: unlocking effective competition and trust in the transforming energy market* outlines the potential detriment for consumers in the new energy market[106] (see Table 2).

Table 2. Potential detriment for consumers in the new energy market

Detriment	Example
Lack of access to basic consumer protection	Many new products and services may fall outside of the current regulatory framework, and protections that ensure a right to supply, hardship arrangements and access to ombudsman schemes may not apply
Buck-passing and blame shifting	When disputes arise in new products which may require network of relationships to deliver, the potential for buck-passing and blame-shifting between parties is high.
Miss-selling	As products get more complex, some companies may turn to sales tactics relying on product complexity to mask inappropriate or unsuitable products and services.
Poor decision-making	Consumers may find it difficult to make decisions in their own interest when the number of choices, and complexity of those choices increase.
Long lock-in contracts	Long-lock in contracts (e.g. 15 years for a solar leasing) reduce consumer choice and flexibility.

[106] Consumer Action Law Centre, *Power Transformed*, July 2016 http://consumeraction.org.au/wp-content/uploads/2016/07/Power-Transformed-Consumer-Action-Law-Centre-July-2016.pdf

Complex Financing Tools	New financing arrangements for products and services (e.g. Solar leases and power purchase agreements) are complex and may include unclear costs and inconsistent regulatory oversight
Inability to access the new market	Some consumers may face systematic barriers to participation in the new personalized electricity market; this may include those with low incomes, poor literacy skills, language barriers and renters.
Difficulty Comparing products and Services	Bundled products and services which are increasingly marketed to individuals based on their personal usage profiles may become more difficult to compare where inclusions, exclusions and technology may differ.
Market failure due to segmentation	Downward pressure on energy prices through mass market competition may be undermined in a market where retailers can increasingly identify and target active, affluent households with individual deals.
Exclusion through Complexity	People who could benefit from switching to new products and services may not engage if information and information are to complex, or the reason for participation is not clear.
Hardship in off-grid scenarios	Off-grid households may experience reduced supply or loss of supply if they fail into hardship, or during a dispute with their technology provider.
Reduced choices in off-grid communities	Consumers in off-grid communities may have reduced ability to choose their preferred electricity provider and may face higher costs where retail competition is reduced.

CALC notes that "different people will have different needs in the new energy market. Strong innovation policy may be sufficient to support some, while others may be more reliant on effective competition, clear education campaigns, or more traditional essential service regulation to continue to get fair and affordable energy supply in a decentralised and tech-heavy energy market."[107] CALC goes on to advocate that in order to support the needs of all consumers, it is important to:

- Provide meaningful information and choices which take into account real consumer decision making biases;
- Ensure the adequacy of consumer protections across all products and services; and
- Share the benefits of energy market innovation across the whole community, including the vulnerable demographics who may face barriers to accessing new products and services.

Further, the ATA contends that "by extending appropriate regulation to all energy products and services, the evolving energy market will better embrace the growing diversity and pace of innovation, while promoting:

- horizontal equity with regard to consumer access to a sufficient supply of energy;
- innovation and competition in provision of energy services; and
- consumer confidence in the energy market"

The *Power Transformed* report, whose reference group included a mix of representatives from consumer advocates, retailers, transmission business, government, and academia, argues that while energy businesses and governance institutions are best placed to develop initiatives and interventions, that the following principles are required to guide these developments, to ensure that enabling better consumer outcomes and trust are embedded in the development of products, services and regulations:

- Principle 1: It should be easy for people to engage to make effective decision
- Principle 2: Appropriate consumer protections are applied to all energy products and services
- Principle 3: The benefits of the transformation energy market should be shared across the whole community

[107] *Consumer Action Law Centre (2016)* http://consumeraction.org.au/wp-content/uploads/2016/07/Power-Transformed-Consumer-Action-Law-Centre-July-2016.pdf

The *Power Transformed* report also argues that from a consumer perspective, no-regrets initiatives that could be adopted in the short to medium-term include:

- Testing the need for, and form of, market interventions against real consumer decision-making.
- Ensuring adequate access to justice by expanding the jurisdiction of energy Ombudsman schemes.
- Requiring energy service providers to identify the consumer's purpose in acquiring a service, to ensure it is appropriate.
- Identifying programs to assist vulnerable demographics access new products and services.
- Targeting concessions to address need rather than tying them to specific supply arrangements.

Both the CALC and the ATA advocate for expanded role of state based ombudsmen. ATA note that extending coverage of energy ombudsman schemes to cover providers of other energy products and services requires a number of changes including developing new membership categories and fee structures within ombudsmen, which may not be simple but is solvable. An extended role for ombudsman is currently being explored in Victoria, New South Wales and South Australia[108].

ACOSS, BSL and TCI acknowledge that expanding and developing more consumer focused customer protection frameworks will likely occur additional costs which should be shared between government, retailers, civil society and consumers.

8 OUTCOME 5 - ALL HOUSEHOLDS HAVE A CAPACITY TO PAY THEIR ENERGY BILLS

5.1 The Federal Government improves the adequacy of income payments including Newstart and Youth Allowance.

5.2 Federal and state Governments jointly review concessions schemes to assess:

- Opportunities to improve and better target concessions to vulnerable households, with a preference towards more equitable percentage based system, and to harmonise their structure across jurisdictions, where substantive differences exist.
- Ways to improve emergency relief payments, to simplify application processes, and provide greater clarity for customers.
- Ways to better promote availability of concessions nationally.

5.3 Federal and State Government align policy, advocacy and research initiatives with corresponding housing affordability initiatives. Expand scope to include stronger integration with understanding of transport costs**.**

As indicate earlier electricity prices have skyrocketed, more and more households participating in retail payment options, are seeking hardship payments and are being disconnected, demonstrating their 'capacity to pay' is diminishing.

Our consultation highlighted two priority areas for ensuring there is an adequate safety net for low income and disadvantaged households:

[108] http://www.ata.org.au/wp-content/uploads/2016/11/Empowering-the-future-appropriate-regulation-and-consumer-protections-in-emerging-energy-markets_ATA.pdf

- Improving capacity to pay through increasing social security payments, in particular Newstart and Youth Allowance
- Better targeting concessions to be more percentage base and

8.1 Inadequate social security payments

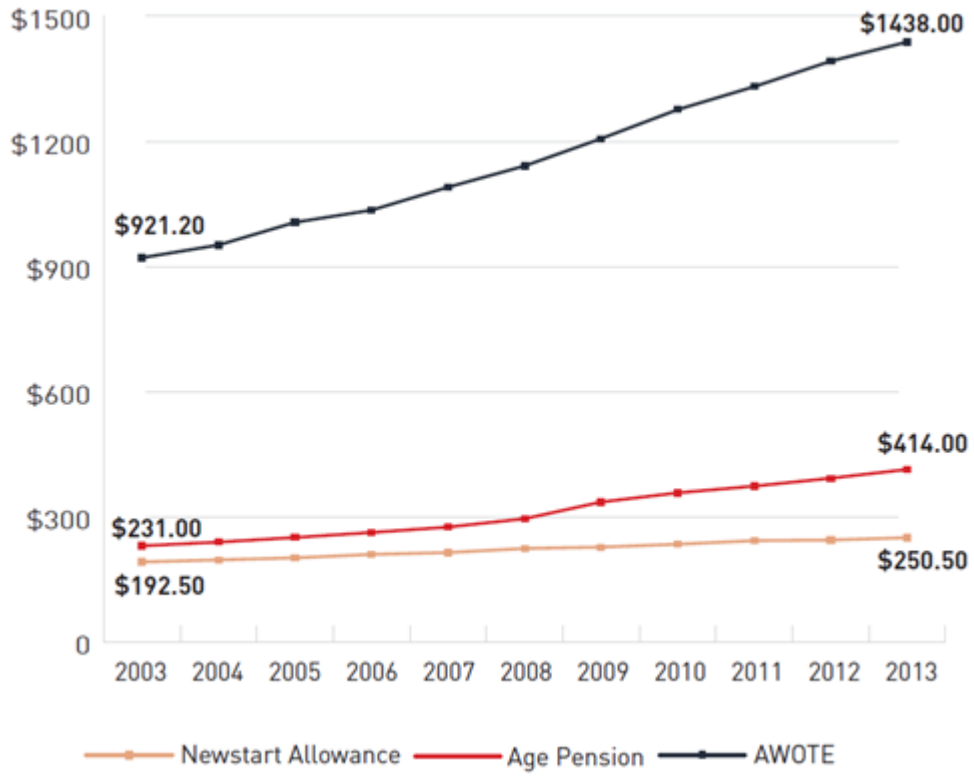
According to *Poverty in Australia 2016*,[109] 13.3% of the Population (3 million people) lived below the poverty line in 2013-14. Of those people, 57.3% relied on income support payments as their main source of income. To illustrate the challenge people face it is worth noting that those on Newstart Allowance are at least $100 per week *below* the poverty line and those on Youth Allowance are at least $150 per week *below* the poverty line. These are untenable situations given increases in energy costs sustained over the last decade in particular.

Social security reforms over last few years, has meant there is a growing number of people shifting off other payments to receiving lower-rate social security payments (mainly Newstart), which increases the likelihood they live in poverty. At the same time, a larger proportion of people receiving Newstart have a partial work capacity due to illness or disability or because they are primary carers of children. These groups have more difficulty finding suitable employment and remain on unemployment payments for extended periods of time.

At 5.7% in June 2017,[110] unemployment remains stubbornly high. Further, over half a million people - 70% of those receiving unemployment payments - have had to rely on income support for more than 12 months and many face major barriers to work.

Most income support payments are indexed to price inflation rather than wage inflation. And some payments have recently had increases frozen for the next three years. People on allowances such as Newstart, for example, are particularly vulnerable because their allowances have not increased in real terms since 1994 (see figure 12).

Figure 12: Trends in payment rates compared with average wages (Source: ACOSS 2016 Poverty in Australia Figure 18)



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However as outlined in the introduction, while electricity prices from 1984 to 2007 roughly matched inflation, after 2007 electricity prices accelerated ahead of inflation increasing 83% between 2008 and 2013 (unlike social security payments).

There is a real need to lift the safety net of socials security payments in Australia given increasing costs of living including housing affordability and energy prices - the most critical is Newstart.

8.2 Concessions

Energy concessions provide an important buffer against high prices, but, they vary in amount, coverage and eligibility from jurisdiction to jurisdiction. Some of the lowest income households – such as those on the woefully inadequate Newstart – miss out on the Commonwealth utility support (pension supplement or utility allowance). Those on Newstart also miss out on State energy concessions in some jurisdictions. Households who are working but on relatively low, or variable incomes, may also miss out on concessions altogether. Refugees are also eligible for concessions.

The KPMG report notes that the changes to assets threshold from $1.15 million to $823,000 from 1 January 2017 will allow fewer retires to access the pension cared and the concessions that it provides. AEMCs[111] customer research found that some customers who are particularly vulnerable may not be eligible for them. For example, during the consultations concerned were also raised about lack of access to energy concessions for refugees and some medical conditions.

There are almost 40 different schemes available across Australia, (See KPMG report with full list of jurisdictional concessions[112]), and as shown in Table 3 below some states providing significantly more support than others.

Table 3. Value of Jurisdictional and commonwealth rebated to customers[113]

State	Electricity rebate ($ per customer per annum)	Gas rebate ($ per customer per annum)	Total/combined
ACT			$426.46
NSW	$235.00 - $258.50	$90	$325 - $348.50
NT	$462.82 plus an reduced consumption charge of $0.091 per Kwh	none	$462.82 +
QLD	$330	$70	Up to $400
SA			$215
TAS	$483.80	none	$483.80
VIC	17.5% off electricity bills	17.5% off winter gas bills	
WA			$233.95 (inc. GST)
Cwth			$609.20

Source: Jurisdictional and Commonwealth Government Budget reports for 2016/17. See Appendix A for full details.

[111] AEMC 2016, Retail Competition Review, Final Report, 30 June 2016, Sydney www.aemc.gov.au/Markets-Reviews-Advice/2016-Retail-Competition-Review

[112] http://energyconsumersaustralia.com.au/wp-content/uploads/KPMG-ECA_Estimating_costs_associated_with_payment_difficulties_and_disconnections_October_2016.pdf.pdf

[113] *Ibid*

The Victoria's percentage based electricity concession scheme was acknowledged by many in the consultation as the most equitable and comprehensive. It provides a proportional electricity concession of 17.5% of bills for the entire year (after discounts). As a result it scales to the household's energy usage, helping to better target those most in need.

AEMC retail competition report[114] found jurisdictional differences increase the compliance burden for retailers required to administer these programs across multiple jurisdictions. This can reduce customer's' choice of retailers, as often it is the smaller retailers without sophisticated systems and large compliance teams who are most affected, restricting their ability to compete. AEMC recommended that greater consistency in the mechanisms for delivering concessions (as distinct from the level of concessions) across jurisdictions would reduce this burden.

A comprehensive report by KPMG for Energy Consumers Australia, estimates that the total cost to governments of energy concession schemes (electricity and gas) is forecast to be $875m in the 2016/17 Financial Year. Total GST receipts from residential electricity and gas expenditure is estimated at approximately $1,600m. Concession schemes can therefore be considered to return around 55% of the GST revenue raised. More targeted, percentage based schemes could provide additional savings, especially if concerted effort was made to improved energy efficiency in residential homes.

In addition, AEMCs[115] customer research also suggests that some customers who may be eligible for concessions are not aware of them, indicating more concerted effort needs to be made to increase awareness.

AEMC's 2016 Retail Competition Review and the National Energy Affordability Roundtable[116]; recommended that a national review of concessions across jurisdictions to improve and align these measures nationally and to improve targeting. Concessions reform, with a focus on more equitable models like percentage based, was seen as one of top five priorities in our national consultations.

8.3 Capacity to pay linked to housing

There is overwhelming evidence that energy vulnerability is directly linked to housing stress. As the most significant fixed cost to the household budget, housing has a direct impact on the affordability of all other costs. This is borne out in the income data shown in figure 1 at the beginning of the report and the disconnections research by St Vincent's de Paul's also discussed above.

Households reliant on social security as a significant portion of the household income struggle with affordable housing. For example, the Anglicare member network surveyed 75,410 rental properties across Australia and found just 21 properties were affordable for single adults living on Newstart, and only one was suitable for young people living on Youth Allowance. Despite the higher level of pensions compared to allowances, affordable rentals were extremely limited for a single person living on any government payment. A further 780 properties were affordable for those on a parenting payment and 389 for those on Disability Support Payment. Once the level of income reaches two people on the minimum wage in a household, they can access 26.2% or over 19,000 properties.

And as noted in the St Vincent De Paul's disconnection research, four of the six categories of disconnections were households in housing stress (spending more than 30% of income on housing costs).[117]

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[114]AEMC 2016, Retail Competition Review, Final Report, 30 June 2016, Sydney www.aemc.gov.au/Markets-Reviews-Advice/2016-Retail-Competition-Review

[115] AEMC 2016, Retail Competition Review, Final Report, 30 June 2016, Sydney www.aemc.gov.au/Markets-Reviews-Advice/2016-Retail-Competition-Review

[116]https://www.ewon.com.au/content/Document/SCER%20Report_National%20Energy%20Affordability%20Roundtable.pdf

[117]Households in the dark Mapping electricity disconnections in South Australia, Victoria, New South Wales and South East Queensland Report by the St Vincent de Paul Society and Alviss Consulting | May 2016 https://www.vinnies.org.au/content/Document/VIC/2016-June-Households-in-the-dark2.pdf

Policy links to housing access and affordability are evident, yet there is little evidence of institutional interaction with energy policy.

Opportunities exist to align energy affordability research with housing and poverty research when the ABS release data from the most recent Household Expenditure Survey later in 2017.

This policy outcome has roles and responsibilities spread between Australian, State and Territory Governments and between Federal Treasury/Finance, Human Services and Housing Portfolios.

Reducing housing stress, does not negate the need to also reduce energy stress.

APPENDIX 1: POLICY SOLUTIONS GENERATED FROM RESEARCH AND CONSULTATIONS

To identify areas that are seen as particularly important and urgent, ACOSS, BSL and TCI used the Nance research paper "Energy Access and Affordability Policy Research", commissioned for the project, as a basis to consult with over 120 community, environment and energy expert stakeholders nationally, through face to face and online consultation forums.

The consultations considered and discussed in depth the merits of the high level solutions put forward in the Nance paper. At the end of each forum participants were given dots and asked to select:

- Four top priorities within each outcome – Green
- Four top priorities across ALL outcomes – Gold
- Solutions that they strongly disagreed with – Red

The table below list the solutions under each outcome and the scores the solutions obtained from the dotocracy.

Participants were also encouraged to identify other solutions not put forward in the Nance paper. These new solutions were included in the votes for that workshop only, but were not taken forward to subsequent workshops, so were not included in the overall scoring, but were considered in developing final recommendations. These solutions have also been included in the table.

Solutions	Red	Green	Gold
Outcome 1: Electricity priced efficiently, including integrated climate policy			
Solutions identified in Research Paper			
S1.1 Irrespective of the mechanism(s) chosen, it is essential to minimise climate policy uncertainty. Stable climate policy is essential to efficient investment throughout the energy transition. This implies long-term consistency with Australia's international commitments.	0	34	29
S1.2 Manage the refurbishment, replacement or retirement of existing coal fired generators in ways that promote the consumer interest, public interest and the interests of affected communities.	1	35	15
S 1.3 Reconsider the extent to which decarbonisation costs are taken 'off market'	0	3	1
S 1.4 Accelerate reform of Australian east coast gas markets	0	5	2
S 1.5 More aggressively pursue the efficiency of retail markets	1	8	0
S 1.6 Promote greater competition where possible	11	3	0
S 1.7 Encourage shift of vulnerable households away from standing offer tariffs	1	10	1
S 1.8 Promote improved grid utilisation to lower unit prices	0	20	2
S 1.9 Carefully remove cross-subsidies with a focus on encouraging vulnerable consumers who would be better off to opt-in to smarter metering and more cost reflective tariffs.	8	10	0
S 1.10 Consider incorporating broader policy objectives into the National Electricity Objective.	1	21	6
S 1.11 Consider GST as a funding source to support vulnerable consumers	1	8	2
S 1.12 Implement agreed Consumer Impact Principles for tariff reform – including a specific focus on fixed charges`	0	14	0
S 1.13 Support the development of a vibrant Community Energy sector in Australia	0	41	7

New Solutions identified in consultations			
S1.N1 - domestic gas reserve	0	0	0
S1.N2 on budget measures for incentivising distributive/dispatchable energy	0	3	3
S1.N3 - price caps	0	2	1
S1.N4 - help people come off gas	0	1	1
S1.N5 - network write- downs passed onto consumers	0	3	0
S1.N6 - benchmark for fair tariffs (see home grown power plan)	0	0	2
S1. N7 - networks value local generation	0	3	2
S1. N8 - opt in peak pricing	0	1	0
S1.N9 - big business pay more for power and reduce impact on households	0	0	2
S1.N10 Big business reduce demand at peak times	0	0	0
S1.N11 network regulatory reform	0	4	4
S1.N12 QLD Gov reduce network price	0	8	0
S1.N13 Maintain stain ownership of wholesale	0	1	1
S1.N14 More competition in wholesale	0	3	0
S1. N15 - power purchase agreement for public housing solar	0	2	0
S1.N16 - More accountability of regulator	0	0	1
S1.N17 Change 6.1.4 of NER to allow network payments	0	0	0
Outcome 2: Informed and enabled consumers			
Solutions identified in Research Paper	0	0	0
S 2.1 Development of NEM-wide awareness and engagement programs to make it easier for customers to access the best options for their circumstances and improve customer confidence in the energy markets.	0	20	3
S 2.2 Targeting vulnerable customers who are not engaged with the energy market or support services.	2	36	16
S 2.3 Strengthen the relationship between vulnerable consumers, their advocates (e.g. community workers, financial counsellors) and energy retailers.	0	30	19
S 2.4 Improving the ability of advanced metering to provide more frequent billing and near real time consumption and cost information that can minimise bill shock.	3	15	10
S 2.5 Expand information and engagement beyond purely online resources.	0	18	6
S 2.6 Incorporate Behavioural Economics into policy considerations.	3	19	4
S 2.7 Requiring statements and bills to clearly separate market-based charges (retail and wholesale) from other charges, such as regulated network charges and policy costs that apply to all customers within a jurisdiction/network.	0	29	6
New Solutions identified in consultations			
S2.N1 - utility literacy program x 2	0	5	0
S2.N2 - home audit program	0	2	0
S2.N3 - broker to assist home owners	0	3	0
S2.N4 Regional energy hubs- can support greater engagement and advise on EE	0	3	1
S2.N5 Empowerment and wellness programs	0	2	1
S2.N6 Better bill transparency and terminology	0	4	0
S2.N7 hardship customers but on best deal	0	3	1

s2.N8 retailers make more effort to engage customers coming off discounts	0	0	1
S2. N9 Better education on why staying on the grid is good for community	0	2	0
S2.N10 Third Party Access to data	0	1	0
Outcome 3 - Energy consumed efficiently and productively	0	0	0
Solutions identified in Research Paper			
S 3.1 Overcoming landlord-tenant split incentives in rental properties (public and private).	0	34	10
S 3.2 Regulation of dwelling energy performance - minimum standards for rental properties.	0	39	23
S 3.3 Regulation of dwelling energy performance - disclosure for all residential buildings at point of sale.	0	17	3
S 3.4 Regulation of dwelling energy performance – tougher minimum standards for all new properties.	0	25	6
S 3.5 Supporting access to Distributed Energy Resources for vulnerable households.	0	18	4
S 3.6 Jurisdictions coordinating the development of NEM-wide awareness and engagement programs to make it easier for customers to access the best options for their circumstances and improve customer confidence in the energy markets (AEMC 2016a).	0	7	0
S 3.7 Coordination of state-based programs, incorporation of the implications of tariff reform and the pursuit of best practice.	0	7	0
S 3.8 Increased support for vulnerable households to access more efficient capital items.	0	27	7
S 3.9 Pursuing best practice in energy efficiency and productivity programs for vulnerable customers (including supporting ECA's Power Shift project).	0	18	0
S 3.10 On-going funding for effective energy programs that target vulnerable consumers.	0	28	8
S 3.11 A National Energy Efficiency and Productivity Agency.	0	12	4
New Solutions identified in consultations			
S3.N1 more subsidised loans for efficient products	0	1	0
S3.N2 - better urban planning	0	1	0
S3.N3 Tennant regulation to prevent renters being locked in to electricity retailer	0	1	0
S3.N4 Demand management target for retailers	0	3	3
S3.N5 Solar is included in minimum standard rental properties	0	3	0
S3.N6 solar and EE on all public and community housing	0	7	0
Outcome 4 - Robust Consumer Protections	0	0	0
Solutions identified in Research Paper			
S 4.1 Policies addressing the vulnerability of children to living in poverty as has been highlighted in ACOSS' Poverty in Australia 2016 Report - consistent with many disconnection case studies.	0	24	4
S 4.2 Expanded monitoring and consistent reporting of key indicators (Vinnies 2016, National Energy Affordability Roundtable 2013).	0	20	1
S 4.3 Nationally consistent approach to life support equipment (National Energy Affordability Roundtable 2013).	0	12	0
S 4.4 Pursuit of best practice consumer protections including concessions at a national level (National Energy Affordability Roundtable 2013, Vinnies 2016). NOTE A FEW PEOPLE MENTIONED OVERLAPP WITH CONCESSIOSN REVIEW IN NEXT SECTION	0	41	16

S 4.5 Policy focus on those customers identified through Payment Difficulties or Hardship initiatives that are unable to pay for ongoing consumption.	0	51	4
New Solutions identified in consultations			
S4.N1 No fault Insurance	0	0	0
S4.N2 Update consumer framework to take account of new technologies and services	0	1	0
Outcome 5 - All households have a capacity to pay their energy bills			
Solutions identified in Research Paper			
S 5.1 A national review of energy concessions (National Energy Affordability Roundtable 2013, AEMC 2016a, Productivity Commission, Chester 2013, Owen 2013) to assess opportunities to better target them to customers most in need (including extending supports to the working poor) and to harmonise their structure across jurisdictions, where substantive differences exist.	0	43	18
S 5.2 A national review of emergency payments (National Energy Affordability Roundtable 2013)	1	8	1
S 5.3 Improving adequacy of some income payments such as Newstart and Youth Allowance. (Vinnies 2016, ACOSS 2016)	0	45	21
S 5.4 Forging stronger links between concession payments and energy efficiency/productivity schemes (Chester 2013) and/or funding for Distributed Energy Resources.	0	30	2
S 5.5 Aligning research into energy affordability and vulnerability with the methodologies and publication of the ACOSS Poverty in Australia series.	0	13	2
S 5.6 Align policy, advocacy and research initiatives with corresponding housing affordability initiatives. Expand scope to include stronger integration with understanding of transport costs.	0	30	10
New Solutions identified in consultations			
S5.N1 Not for profit retailer	0	6	2
S5.N2 Energy as a public good /community citizenship	0	0	5
S5.N3 subsidies for solar come off budget and not off bill	0	1	1
S5.N4 scarp fossil fuels subsidies to support concessions	0	3	3
S5.N5 Universal basic income	0	1	0