

NSW DPE - Enabling the Transformation of the Energy Sector Paper Submission

Australia is in the midst of an energy transformation, observing vast growth in renewables, batteries and innovative technologies throughout the grid, and into our homes. We applaud the NSW Government leadership for putting the NSW energy consumer at the front and center of policy design. As it stands the consumer has much to gain from the energy transition.

The Australian Energy Foundation (AEF) is on a mission to ensure that no one is left behind in the energy transition. We are a respected, independent for-purpose organisation that provides simple, tailored and accessible energy advice and practical support to households, community organisations, sports clubs and businesses.

To achieve our vision, we work in partnership with all levels of society and have partnered with governments and industry for over 21 years. In the last five years, we have:

- educated, advised and supported almost 50,000 Australians to improve their energy use
- delivered close to 5000 home energy efficiency retrofits
- facilitated installation of 13MW renewables resulting in 340.2kt CO2e reduction.

Our response to the NSW Government consultation paper “Promoting innovation for NSW energy customers” has been formed on the basis of these conversations with communities. We believe the recommendations set forth will be critical to NSW Government delivering an affordable and reliable energy future for everyone.

Please refer below for a summary of the responses provided.

| Consultation Topic | AEF responses to questions | Page No. |
|---|----------------------------|----------|
| Issue 8: Distributed energy resources | 8e, 8f | 2 |
| Issue 9: Enabling flexibility and dynamic operating envelopes | 9a | 5 |
| Issue 12: Community batteries and emerging technologies | 12a, 12b, 12 e, 12f, 12g | 6 |
| Issue 17: Access to information | 17a | 8 |
| Issue 19: Definition of life support equipment for energy rebates | 19a, 19d, 19e | 9 |

We welcome the opportunity to continue this important discussion with the Department and would welcome the opportunity to meet to share our learnings from our innovative work.

Daniel Chadwick

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Australian Energy Foundation

Consultation Questions

Issue 8: Distributed energy resources

8e. What could be done to ensure vulnerable, low-income and other 'locked out' households are not disadvantaged by the energy transition?

1 in 4 Australian households or more than 240,000 Australians are experiencing energy poverty (spending 5% or more of net income on energy bills), particularly large, low-income families (KPMG 2017). This means that the basic energy needs of a household are unmet due to:

- Difficulty paying energy bills on time;
- Restricted energy use to the detriment of their health and wellbeing (e.g. not turning on heating or cooling when needed, increased alcohol consumption to cool down);
- Relatively low income and spend a high proportion of income on energy.

The AEF team are frontline workers addressing this issue. When they go to the homes of people experiencing energy poverty, they feel the cold, they see the mould, and they hear it when people are not buying their medication because they have to pay their energy bill.

The AEF is seeking to build on its extensive home upgrade program experience with vulnerable and low-income households to evolve both the service delivery model, and the financial model, to enable a scalable upgrades model that is accessible to low-income households and delivers long-term benefits for households, communities and the environment.

Homeowners

The most widely supported approach to supporting this cohort of homeowners is introducing a Managed Energy Services Agreement (MESA) to Australian households paired with low- or no-cost finance. Essentially, enabling households to fund their energy efficiency upgrades without fronting any initial capital. This model is [growing in popularity in the US](#), where in recent years, it has started to be delivered in residential settings.

Renters

Every Australian deserves a home which they can affordably heat and cool, this issue is particularly pressing for rental homes who are bearing the unfair share of the financial and health costs of inefficient housing. With the poorest of performing homes often leased by the most vulnerable.

Data from the Australian Bureau of Statistics indicate that renters are three times more likely than homeowners to live in a home without insulation (ABS, 2009). To address this issue, AEF recommends that the NSW Government adopts new rental standards which include:

1. Allowance for 3+ star heating and cooling appliances in all main living areas.
2. Adopting ceiling insulation standards of R4.1+ for all homes with accessible ceiling spaces.

In addition, we recommend that the NSW Government increase split system rebates to \$2,500, and commence rolling out this rebate in Western Sydney via a targeted campaign. Due to its inland position at the foothills of the Blue Mountains, the cooling impact of a coastal breeze is prevented. Which is resulting in a disproportionate number of extreme heat events (Australia Institute, 2022).

| Community outcomes | Environmental outcomes |
|--|--|
| Improve thermal comfort | Reduce energy consumption |
| Enhance health and wellbeing, particularly by reducing the exacerbation of existing medical conditions associated with extreme heat exposure | Reduce CO2 emissions |
| Reduce energy bills for heating and cooling homes which contributes to reduced financial stress | Progress towards a fully electric home, which can be powered by renewable energy |
| Reduced public expenditure on Medicare services | Empower low-income households to be part of the energy transition |
| Jobs stimulus associated with increased demand for split systems and installation services | |

8f. What can the government do to improve equity of access to the benefits of clean energy solutions?

Access to free energy advice

To ensure all Australians are part of the energy transition, households need to have access to energy advice which matches the communications preferences and circumstances of different types of households.

In partnership with Energy Consumers Australia (ECA) the Australian Energy Foundation is mapping the customer segment communications preferences (channels and messaging) for different initiative types, then identify suitable funding models for delivering these initiatives.

In our early findings we have identified that many energy consumers are missing out on the benefits of affordable and clean energy due to a lack of accessible information for their needs:

- People with low English literacy skills (LELS) are particularly prone to this issue (Ethnic Communities Council of NSW Inc., 2016) and are more likely to use a mobile device for translation services.
- Although many older Australian adults are frequent users of information and communication technologies, many still lack access, and the pace of digital innovation is yet to be inclusive of their needs. As such neither a mobile or web based platform has proven to be beneficial to these households, who have a strong preference for in-person or phone based consultation.

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We work in partnership with all levels of society and have partnered with governments and industry for over 21 years. In the last five years, we have:

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Concierge Service

As the NSW Government soon begins the release of the Empowering Homes and Solar for Low Income Households program to the wider NSW public, we believe that the proposed “Concierge Service” to help residents with more complex and unique matters requires human support.

Customers should be encouraged and supported to install solar systems and energy efficiency products that meet their objectives for economic and environmental outcomes. However, this process can be difficult to navigate alone. AEF help households in their decision-making process from making considerations for future consumption to understanding what is a fair market price for in-home batteries.

On behalf, of the NSW Government AEF can deliver our Energy Advice Services via a white labeled service whereby AEF provide NSW households with our energy advice consultations, informative guidebooks from hot water heat pumps to insulation, webinars and in person seminars.

This service presents an opportunity to alleviate the decision paralysis placed on NSW energy consumers, assisting them with making informed decisions to electrify their home.

Issue 9: Enabling flexibility and dynamic operating envelopes

9a. How can customers be encouraged to only install solar systems that suit their current consumption needs? What would be the most effective measure to achieve this aim?

Avg. rooftop systems are 8 kW, but this average is skewed by large commercial systems up to 99 kW - household systems would be smaller. Cannstar surveys from January have NSW residential systems averaging slightly over 5 kW.

Dynamic export limits (or dynamic operating envelopes) are a good method to address problems with local grids being occasionally unable to cope with solar exports while minimising annual curtailment of solar energy. With this solution as well as ongoing strengthening of local grids, there is little need to limit the size of solar customers can install.

Customers should be encouraged and supported to install solar systems that meet their objectives for economic and environmental outcomes. This includes considering future consumption – for example, they may intend to move from gas to electric hot water or charge a future electric vehicle at home during the day. Or they might install a larger system to physically offset household emissions in other areas such as flights.

AEF provide simple, tailored and accessible energy advice and practical support to households in making these informed decisions. We work in partnership with all levels of society and have partnered with governments and industry for over 21 years. In the last five years, we have:

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Issue 12: Community batteries and emerging technologies

12a. Are there any concerns about community batteries (or other similar DER innovations) from a system or customer perspective that should be considered as part of any future strategy or reform?

Previous trials of community batteries have often followed a “virtual storage” model, open for participation only to households that already have solar. This tends to exclude households which have already been locked out of the benefits of DER innovations.

The business model for upcoming community batteries should be more inclusive, allowing participation and direct benefits for a wide range of nearby residents including renters and apartment-dwellers.

12b. What technical and regulatory changes that have not already been addressed, should be considered to enable the full value of community batteries and other DER solutions to be unlocked?

Tariff reform should be considered to enable the full value of community batteries to be unlocked. For example, Local use Of System (LuOS) charges should be accommodated.

12e. What are the barriers for developing and implementing a community battery project, and then connecting and operating the battery?

Projects to install community batteries located in front of the meter (i.e. within the grid rather than on customer premises) are complex. Many parties are involved, and business models are complex. A simpler project is to install a solar battery in a community building owned by local government, such as a sports center. With blackout backup, this site can act as a refuge for locals and their pets during a prolonged grid blackout, as well as reducing pressure on resident council rates and delivering benefits to the grid such as enabling more rooftop solar in the local area.

12f. What other emerging solutions could enable locked out demographics to participate in the energy transition and benefit from clean energy solutions?

Until now, renters have been largely excluded from direct benefits of clean energy solutions. One emerging solution is Environmental Upgrade Finance, such as the Solar Savers program. The loan is paid as a charge on council rates, enabling low-cost finance. It also gives landlords freedom to sell the property without being stuck with the loan.

If renters volunteer to cover the landlord’s finance repayments, perhaps landlords could be compelled to allow the upgrade to proceed unless they can supply a valid reason not to.

12g. Are there any other ways the NSW Government can support broader rollout of community batteries and other promising DER solutions that can enable locked out demographics to access the benefits of clean energy solutions?

Behind-the-meter batteries should be considered for grant fund where they deliver exceptional community benefits. For example, a solar battery at a local council-owned sporting facility in a location prone to grid blackouts. This can provide multiple benefits to nearby residents, including acting as a community refuge during a grid blackout.

Issue 17: Access to information

17.a What kind of information, or which topics, do customers find most challenging or confusing to find information about in relation to smart meters, DER and/or other energy technologies?

Within the rapidly changing energy market, around one-third of Australian households and businesses are not confident about their ability to make choices about energy products and services (ECA, 2021).

Yet, Australians understand the benefits of household renewable energy, particularly long-term savings on living costs. But consumers are overwhelmed by product options, and lack the confidence to navigate their roles as energy consumers and generators. As the energy market continues to rapidly shift, it is challenging for everyday people to keep up to date with the choices available to manage energy bills, and the tools and services available to do so.

This means that many Australians fall victim to high-pressure renewable energy sales tactics, and energy debt is piling up - despite falling prices average debt for gas and electricity rose 12% from \$897 in 2019-20 to \$1,000 in 2020-21 (AER, 2021).

As the NSW Government soon begins the release of the Empowering Homes and Solar for Low Income Households program to the wider NSW public, we believe that the proposed “Concierge Service” to help residents with more complex and unique matters require human support.

The Australian Energy Foundation (AEF) provides simple energy advice that Australians can trust. Over the last five years the AEF has guided close to 50,000 households through the process of purchasing renewable energy, giving them the comfort and confidence to select the right installers and product for the needs of them and their families.

On behalf, of the NSW Government AEF can deliver our Energy Advice Services via a white labeled service whereby AEF provide NSW households with our standard services including energy advice consultations, app and website chat, guidebooks, webinars and in person seminars.

This service presents an opportunity to alleviate the financial stress placed on NSW energy consumers, assisting them with decreasing their electricity bills.

Issue 19: Definition of life support equipment for energy rebates

The Australian Energy Foundation (AEF) was awarded a grant from Energy Consumers Australia (ECA) in 2020, to conduct research into Life Support Customers. Through this research, AEF sought to identify ways Life Support Customers could be best supported by the energy industry they rely on, including identifying any changes to energy regulations that will ensure positive outcomes for them.

To get a comprehensive understanding of the issues at play, AEF engaged with three tiers of stakeholder groups: consumers, industry, and consumer advocacy groups, to ensure the research methodology was co-designed with their input and that solutions aligned with Life Support Customer needs they identified. To access the customer voice,

AEF partnered with electricity distributors from different states (including NSW) to engage life support customers via online surveys. 4,000 Life Support Customers participated in an initial survey, of which 3,600 consented to have their responses analysed for this study. 550 participated in a follow-up survey, and 500 consented to analysis for this study.

19a. Are customers and energy retailers aware of new, energy efficient or emerging life support equipment that are not eligible for the NSW LSR?

AEF analysed over 1,692 surveys from NSW consumers to identify information and support needs that were synonymous with other consumers across the National Electricity Market who use Life Support machines. In addition, AEF sought to identify specific needs and challenges experienced by consumers in NSW. Most customers (over 70%) use Positive Airway Pressure machines.

Just over 5% use oxygen concentrators and 4% use Air Conditioning Systems (for medical reasons). Altogether, there were about 21 types of life support equipment used by customers in the NSW jurisdiction. Many of these do not qualify for NSW LSR as shown below.

| Type of Life Support machine required* | % Response rate | Does machine currently qualify for NSW Government Life Support Rebate? |
|--|-----------------|--|
| Continuous positive airways pressure respirator (CPAP) | 70% | Yes |
| Oxygen concentrator | 5.4% | Yes |
| Air conditioning system for medical reasons | 4.1% | No |
| Bed/Chair lift | 3.4% | No |
| Refrigeration for insulin | 2.9% | No |
| Nebulizer | 2.7% | No |
| Emergency response system (e.g. panic button) | 2.6% | No |
| Wheelchair | 2.6% | No |
| Heart remote monitoring equipment | 1.9% | Yes |

| | | |
|---|-------|-----|
| VPAP / BiPAP | 1.9% | Yes |
| Kidney dialysis machine | 1.3% | Yes |
| Ventilator for life support | 0.9% | Yes |
| Feeding pump | 0.5% | Yes |
| Intermittent peritoneal dialysis machine | 0.44% | No |
| Air mattress / air pump / alternating pressure mattress | 0.15% | No |
| Air purifier / Reverse osmosis machine | 0.10% | No |
| Crigler Najjar syndrome phototherapy equipment | 0.05% | Yes |
| Deep brain stimulation equipment | 0.05% | No |
| Cochlea processor | 0.05% | No |
| Augmentative and alternative communication | 0.05% | No |
| Epilepsy monitor | 0.05% | No |

*data from 1,692 NSW consumers

19d. How often should the NSW Government review its list of approved life support equipment?

Consultation with the regional medical board is essential to determine the optimal review period. As a first step, AEF recommends refining Life Support terminology at the outset by replacing the term 'Life Support Customer' with terminology that focusses on the needs of the customer and the resulting energy needs – not the condition. Language such as 'households with high energy needs' or 'connection guarantee consumer' would then capture consumers that have certain equipment or energy needs, but that do not identify with current 'Life support Customer' classifications. This reframing of terminology then allows different tiers of energy needs to be captured.

Consultation with regional or national medical associations is important for many reasons, including to:

- Refine the 'life support' terminology. AEF recommends replacing the term 'Life Support Customer' with terminology that focusses on the needs of the customer and the resulting energy needs – not the condition. Language such as 'households with high energy needs' or 'connection guarantee consumer' would then capture consumers that have certain equipment or energy needs, but that do not identify with current 'Life support Customer' classifications. This reframing of terminology then allows different tiers of energy needs to be captured.
- Develop new criteria to define prioritisation of service to consumers using life support equipment according to their energy and health needs. Possible guidance on this process could be how the National Disability Insurance Scheme recognises the different values of support services by using a range of classifications and criteria to differentiate dependencies and needs of medical equipment.

- Determine the optimal review period for approved life support equipment

19e. How can medical declarations that support a customer's need for life support equipment be automated to reduce the burden on impacted customers?

Most NSW consumers identified the concession / rebate reapplication process as being an unnecessary, costly time-consuming requirement. Consumer feedback indicates that costs frequently outweigh the benefit of the concession or rebate itself, deeming the support redundant. For many consumers on the register, the condition is long-term and so is the need for medical equipment. AEF recommends streamlining concessions to reduce burden of reapplication. This could include having a one-off concession application form, or at least, extending the reapplication period beyond the two-year cycle.

AEF could support NSW Government by undertaking a consumer journey mapping and process mapping exercise to optimise consumer experience.