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To whom it may concern,

**RE: Increasing access to the home battery scheme for rentals**

The South Australian Council of Social Services (SACOSS) is the peak body for the community services sector in South Australia, with an interest in the efficient delivery of essential services to communities across the state. We thank the Department for Energy and Mining (DEM) for the opportunity to provide input into the issues paper relating to the provision of greater access to the home battery scheme for private rentals. The following submission answers some of the questions raised in the issues paper.

SACOSS is very supportive of providing access to technology such as solar PV and batteries to rental households to reduce household energy bills. However, we are also cautious about the implementation of an expanded battery program without fully considering and quantifying the benefits to rental households, as well as understanding the interaction of battery technology with future policy changes such as SA Power Networks time of use tariffs. It would seem that finding the optimal solution to maximise the benefits that the DEM is seeking would require significant management. We understand that there is a need in SA to provide additional support to the electricity network through the use of battery technology to manage demand peaks and solar troughs. How this can be managed at a household level is unclear, particularly with variations in energy behaviour that exist.

In addition, SACOSS urges the DEM to keep in mind the fundamental need to reduce energy costs for rental households and that perhaps there are more transparent and optimal solutions to meet this particular goal (for example, focusing on enacting minimum energy efficiency standards for all housing, particularly rentals).

**Question 1**

*What is the greatest barrier that is preventing tenants from accessing solar and battery schemes? How can this be overcome?*

Firstly it is not a clear or simple proposition for tenants (or indeed many households) what benefits would accrue with the installation of batteries with a solar PV system. In contrast, the benefits of grid connected solar PV are relatively clear for households. Solar PV generation can reduce the amount of electricity needing to be purchased from the grid, thus reducing household bills. The use of batteries with a solar PV system has many misconceptions and there is a general lack of understanding of the benefits of batteries with solar for an individual household.

The benefit of installing storage with a household PV system will also depend on the cost of electricity, the size of the PV system and battery, the feed in tariff (if any) available for exported generation, individual

household consumption and when energy is used in the home.<sup>1</sup> This in turn makes the evaluation of the cost benefit ratio by the individual householder complicated – no matter whether owner, landlord or tenant.

Grantham et al (2017)<sup>2</sup> assessed the viability of household battery storage systems based on one year of PV and load data from Lochiel Park in Campbelltown. Households at Lochiel Park have significant energy efficiency features and as the title of the paper suggests, they are low energy households. Therefore, data from this study may not necessarily correlate with benefits to renters who often live in housing that is not energy efficient. In addition, many of the households at Lochiel Park have existing PV and receive feed in tariffs that are higher than the cost of imported electricity, making export of energy to the grid more beneficial in some cases. In general, the authors found that there are diminishing returns and cost savings to be had for households as storage capacity increases. In addition, if storage capacity is high and the payback period is long, the battery may reach the end of its life, before the investment in storage is recovered.<sup>3</sup>

When a household chooses to install a battery system, working out the potential benefits and savings on energy bills is not transparent. In several cases as noted by van der Stelt et al<sup>4</sup> the investment cost of home energy storage is not economically feasible for end consumers, thus it is not surprising that the uptake of this technology for households at this time is minimal, even with a subsidy. The research by van der Stelt et al is also a ‘best case scenario’ with the assumption that feed in tariffs will no longer be available; and still energy storage was not considered an economically viable proposition.<sup>5</sup>

Even more challenging then of course is the uptake of battery systems for tenants who have no ownership over the home they are living in. In this case, the stated lack of obvious benefits to individual households still holds true and even more so if the landlord has no obvious reason or pay back to invest in a solar PV system with battery storage for a rental property. Ultimately, research shows that self-consumption of energy from solar PV and battery systems are a more attractive proposition with lower feed in tariffs and higher electricity costs. SA certainly has higher tariffs and for many people, feed in tariffs are also lowering, so conditions for batteries may be considered more attractive. Results from van der Stelt et al<sup>6</sup> indicate that self-consumption contributes to the largest energy savings when using energy storage systems.

There may be benefits for residents in SA who do participate in a Virtual Power Plant (VPP) program with incentives such as those offered by organisations such as ShineHub who operate on the wholesale electricity market and provide incentives for households to release power from batteries to the grid at times of peak demand and when spot prices reach a certain threshold. This type of program provides an incentive for households to earn additional income and does have the added benefit of potentially reducing price spikes on the wholesale electricity market. However, this still does not address the lack of incentives for landlords to invest in batteries and solar PV for rental properties, apart from landlords willing to invest for environmental reasons as noted in the issues paper.

Further research and information would be beneficial to ensure that both tenants and landlords are aware of the benefits that may accrue from installing batteries with solar, particularly with changes in tariffs structures that are set to occur in SA. As discussed by Boulaire et al<sup>7</sup>, benefits for households and for grid support can differ according to consumption patterns and the time that batteries are recharging. This will

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<sup>1</sup> Grantham, A., Pudney, P., Ward, A., Whaley, D., Boland, J. (2017) The viability of electrical energy storage for low energy households. *Solar Energy*, v155. pp.1216-1224. Retrieved from: <https://doi.org/10.1016/j.solener.2017.07.063>

<sup>2</sup> Ibid

<sup>3</sup> Ibid, pp.1220-1221

<sup>4</sup> van der Stelt, S., AlSkaif, T., van Sark, W. (2018) Techno-economic analysis of household and community energy storage for residential prosumers with smart appliances. *Applied Energy* v.209, pp. 266-276. <https://doi.org/10.1016/j.apenergy.2017.10.096>

<sup>5</sup> Ibid, p.275

<sup>6</sup> Ibid.

<sup>7</sup> Boulaire, F., Narumani, A., Bell, J., Drogemuller, R., Vine, D., Buys, L., Walker, G. (2019) Benefit assessment of battery plus solar for customers and the grid. *Energy Strategy Reviews*, v26. <https://doi.org/10.1016/j.esr.2019.100372>

change for each household, thus for optimal benefits to occur for households and the network, further research should be done in this area. Other options that could be considered in place of individual household batteries is a program of community owned batteries, which rental households have the option of benefiting from. SACOSS also recommends that the DEM look to work with the Australian Energy Market Commission are undertaking regarding split incentives for solar and battery systems, in particular modelling on buying out feed in tariffs in exchange for battery systems.

#### **Question 2**

*In your view, would a structured program or scheme, that increases benefits to landlords, incentivise landlords and tenants to install more solar and battery systems? If not, why not?*

As discussed above, it would appear that a structured state government led and funded program may be the only way to foresee any benefits to landlords. If the SA government wishes to incentivise this and provide some benefits to landlords as part of a grid support mechanism, then there is the potential for higher uptake of the home battery scheme. However, it's not clear from the issues paper what type of structured program is being considered. The benefits again would need to be made clear to landlords and ultimately benefits to tenants also need to occur in the form of reducing bills.

From the pilot program that was undertaken in Moreland, Victoria and noted in the issues paper, upcoming policy changes in the SA and national context do need to be considered carefully to avoid cross subsidisation or other unintentional impacts. It appears there are several lessons learned from this and other similar programs, particularly around tenants having the least agency in decisions relating to rental properties. Examples of solar for rental households like the solar for rentals trial notes that landlords must "agree to a fair rent increase with your tenant in return for their use of the solar system." The benefits of solar for the tenant would need to be transparent and as discussed in the previous question, this would be challenging to quantify with so many variable factors that come with the addition of batteries. Most of the examples provided in the issues paper relate to access to solar PV for rentals and not with the inclusion of batteries.

We are certain that the DEM will undertake a review of the VPP programs that have been implemented for SA Housing Trust tenants and this would appear to be instrumental in assisting to develop a broader program for rental households. SACOSS would encourage a thorough review of this program to include the projected, perceived and actual benefits that have occurred for residents before implementing a broader program for rental households.

#### **Question 3**

*In your opinion, would retail offers that provide fixed price billing for solar and battery systems, as well as energy usage, drive greater uptake of energy efficiency technology? If not, please provide further information.*

SACOSS does not have enough information to know if a fixed price billing system from retailers for solar and batteries would drive greater uptake, however if this were to occur it would need to be a transparent cost. In general, SACOSS is cautious of the inclusion of additional items on a residents' bill at a 'fixed cost', given projected reductions in wholesale electricity prices in SA, which should be passed on to consumers.

#### **Question 4**

*Would a statutory scheme provide certainty to landlords and facilitate a greater uptake of energy efficiency technology in rental properties? What would it need to take into account? How could such a scheme best be established in the South Australian regulatory context?*

SACOSS acknowledges this consultation is centred on obtaining input into the viability of a structured scheme to incentivise landlords and tenants to install solar PV and battery systems. However, we believe it is

important to reiterate our previous submissions to the South Australian Government recommending the implementation of mandatory minimum energy efficiency standards for existing housing (rental properties).<sup>8</sup> Establishing minimum dwelling energy efficiency standards for private and public rental properties was also a key recommendation from the Low Income Energy Efficiency Program (LIEEP), the GV Community Energy Report, and ACOSS' joint submission on the *Trajectory for Low Energy Existing Homes July 2019 Consultation paper*.<sup>9</sup> SACOSS agrees with ACOSS that mandatory energy efficiency standards, where landlords are able to access existing tax deductions to meet associated costs, are the best pathway for improving the energy efficiency of rental properties.

At this stage, SACOSS considers the implementation of a statutory scheme would be premature in the absence of further evaluation of any tangible benefits for rental households. SACOSS agrees that with the statement in the issues paper that, 'there would need to be a high degree of confidence that residents will derive greater benefit than the costs of annual payments' prior to developing such a scheme. SACOSS also considers the creation of a statutory scheme to facilitate a greater uptake of batteries in rental properties, may not necessarily achieve this outcome or lead to certainty for either landlords or tenants. For example, the Retailer Energy Efficiency Scheme (REES) is a statutory scheme structured to support the implementation of energy efficiency measures for low income households (which SACOSS welcomes). It also stands as an example of a statutory scheme that is not operating to wholly achieve its intended objectives due, in part, to selective implementation by retailers. Whether such a scheme would be best implemented through state based electricity legislation, residential tenancies legislation or housing legislation is unclear. Thus, a thorough cross-sectoral consultation would be needed to assess the operational viability of such a scheme in each sector.

In conclusion, SACOSS is supportive of access to technologies such as solar PV for rental households to reduce energy bills, however we urge the DEM to consider carefully the benefits to rental households with the inclusion of batteries as well. We understand that additional solar added to the national grid at this time, without including storage capacity is not ideal. However, if the DEM wishes to provide this type of household program with the main aim of providing grid support, this should be stated and transparent. Any benefits that can accrue to tenants and landlords should be clear before such a program is introduced. It may be that benefits to rental households could be better met through other programs and initiatives, such as targeting implementation of energy efficiency standards in all housing developments or high energy costs associated with water heating. Having said this, SACOSS does not wish to discourage effective management of the clean energy transition at the household level, only that households should not carry the cost of this transition.

Thank you in advance for consideration of our submission. If you have any questions in relation to this submission, please contact Maureen Boyle at [maureen@sacoss.org.au](mailto:maureen@sacoss.org.au) or 8305 4233.

Yours sincerely,



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Chief Executive Officer

<sup>8</sup> Refer to SACOSS, Submission to the Housing Safety Authority on the *Housing Improvement (Prescribed Minimum Housing Standards) Variation Regulations Review*, 20 September 2018  
[https://www.sacoss.org.au/sites/default/files/public/documents/Submissions/Utilities%20Submissions/180919\\_SACOSS\\_Submission%20to%20Housing%20Safety%20Authority.pdf](https://www.sacoss.org.au/sites/default/files/public/documents/Submissions/Utilities%20Submissions/180919_SACOSS_Submission%20to%20Housing%20Safety%20Authority.pdf)

<sup>9</sup> ACOSS, Response to Trajectory for Low Energy Existing Homes July 2019 Consultation paper, 14 August 2019  
<https://www.acoss.org.au/wp-content/uploads/2019/09/Joint-Submission-to-NEPP-Trajectory-for-Low-Energy-Existing-Homes-Consultation-Paper.pdf>