



**MAC** Energy Efficiency Group



MAC Energy Efficiency Group

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9/10/2020

Department for Energy and Mining

[DEM.REES@sa.gov.au](mailto:DEM.REES@sa.gov.au)

Dear Sir or Madam,

**Re: Consultation Paper on proposed Retailer Energy Productivity Scheme (REPS) Activities, Credit and Targets**

MAC Energy Efficiency Group (MAC) welcomes the opportunity to make a submission on the Consultation Paper on proposed Retailer Energy Productivity Scheme (REPS) Activities, Credit and Targets released on the 18<sup>th</sup> of September 2020.

MAC is an independent quality assurance business that provides energy efficiency compliance training, consulting services and audits under REES, VEU, ESS and the EEIS. MAC currently works with three of the REES obliged Energy Retailers and multiple Activity Providers currently delivering activities under the REES. The team members of MAC have been involved with REES compliance (in various capacities) since its inception in 2009.

In this submission are detailed key adjustments that MAC deems consequential in the ability of stakeholders to continue to deliver successfully on the objectives and targets of the scheme in its current stage and beyond 2020.

If you have any questions regarding this submission, please contact me on 1300 020 381.

Regards,

A handwritten signature in black ink, appearing to read 'M. Hunter'.

Merrily Hunter

Managing Director

MAC Energy Efficiency Group



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## Executive Summary

This submission prepared by MAC Energy Efficiency Group (MAC) is in response to the Retailer Energy Productivity Scheme (REPS) Consultation paper released by the Department for Energy and Mining (DEM). In this submission MAC will provide feedback and recommendations on proposed activities based on its experience of fulfilling compliance services and collaborating with key stakeholders active in Retailer Energy Efficiency Scheme (REES) since 2015.

In summary, with respect to the touch points raised within the paper our views are the following:

- **Supportive of a 50% increase to Target conditional on activity productivity factors.** The proposed productivity factors would require to be revisited and increased for lighting and deeper retrofit activities (i.e. Air Conditioners, Hot Water, Batteries and TOU), without this, the cost to deliver the Scheme will increase and risk Retailers opting to pay penalty for Residential/PG targets.
- **Targets should be set and apportioned to Obligated Retailers promptly.** Significant work must be executed by participants to tender, procure, train, and set up operational channels before 1<sup>st</sup> January 2021 it is likely the delayed consultation will mean REPS activities may not commence until April 2021. Any increase now to the 20% cap on carryover in 2020 will assist obligated retailers in hitting their targets during that transition period which will allow the DEM to increase targets for 2021-2025.
- **Rental cap of \$500 to be removed for Priority Group.** This requirement creates unessential additional administrative work and acts as further barrier to residential participation. The sensitive nature of such information may raise concerns over consumer data protections if requirements entail providing rental tenancy documentation to confirm their status.
- **Mandatory co-contribution to either be removed or reduced to \$30 ex. GST per address to harmonize with NSW Energy Saving Scheme Home Energy Efficiency Retrofit Method.** Requiring payment of \$30 ex. GST per activity is an excessive contribution especially when activities are delivered in bundles making the average contribution \$90 ex. GST. In 2016, NSW introduced their customer co-payment model at a rate of \$90 ex. GST and subsequently reduced the minimum co-payment to \$30 ex. GST due to poor uptake.
- **Commercial Lighting needs to be decoupled from the NSW ESS Calculator to provide market certainty and continue to generate low cost energy savings.** NSW is currently phasing out their commercial lighting after the activity has been in the program since 2009. In SA, this activity has only been generating energy savings since 2015, with the latter at a different stage of its lifecycle. With SA adopting the ESS Rule and CLU Methodology, this activity has experienced a 40% reduction in abatement due to NSW related changes, a reduction in abatement results in a larger cost to customers.
- **Residential lighting to have the same product efficacy as per current gazetted values.** Residential lighting is a critical low-cost energy saving activity that delivers savings at a time that the SA energy market needs it most; when the sun goes down. Productivity factors to be recalculated to adjust the baseline to reflect true Priority Group Household purchasing patterns.
- **Affordability.** The new REPS Abatement values on key residential activities means that only 1 activity out of (29) could actually be delivered for free to Priority Group Households.
- **Hot Water (gas connected) activities to be revisited based on the low productivity factor offered for Gas Connected vs Non-Gas Connected properties.** Set as a single table regardless of connection status and assist customers in fuel switching. Many customers have gas connected and an inefficient hot water system, yet the productivity factors for gas connected households are substantially less than not connected. This will align with the SA Government's goal to reduce Gas load and 100% renewable energy.



- **Demand Response productivity factors should be revised to facilitate higher rebates making solar batteries and high efficiency air conditioners purchases more feasible.** Demand Response has continually been identified as a key issue, however the productivity factors for these activities scarcely contribute to the cost of products. Batteries and Air Conditioners have proposed REPS rebates equivalent to 5-10% of product and installation cost, which is insufficient to stimulate this activity in field. MAC estimates it would need to be approximately three times the proposed value for true market uptake as seen in other State schemes and in the successful uptake of REES Hot Water activities.
- **All activities should be extended to Commercial participants.** Update all activities to be permitted in business environments to increase the amount of activities available for commercial businesses and encourage deeper deemed abatement appliance upgrades.
- **Adjust the activity description for Refrigerated Display Cabinets (RDC) to be based on purchase instead of installation.** Consider switching RDC's to be based on purchase, this equipment is typically fitted out in the buildings, and subsequently forms part of the tenancy lease.
- **Introduce creation caps for Project Impact Assessment with Measurement and Verification projects.** Introduce creation caps on industrial led sector projects such as PIAM-V of 20-30k GJ per annum to avoid over creation.
- **Combine Time of Use (TOU) meters and tariffs with installations of In-Home Displays (IHD).** TOU tariffs should be coupled with an IHD and training for the householder. The productivity factor at present is too low to drive uptake beyond customers who would already be considering the switch. To avoid a negative customer experience, we recommend that this activity is delivered with an IHD and the productivity factor is increased to reflect the cost of doing this activity.

*Please note that the terms 'abatement' and 'productivity factor' have been used interchangeably.*



## Consultation Questions

1. Do you think the REPS targets for 2021-2025 should be set at similar levels to the REES 2018-2020 (3.3 million GJs per year), or increased? Explain your response.

MAC is supportive of increasing the REPS targets for 2021-2025 providing that the targets can be achieved with the prescribed activity mix. We recommend that Priority Group and Residential combined account for no more than 20-30% of the total target. When modelling the scenarios below, MAC reviewed the current market's ability to deliver REPS activities in both a compliant and cost-efficient manner:

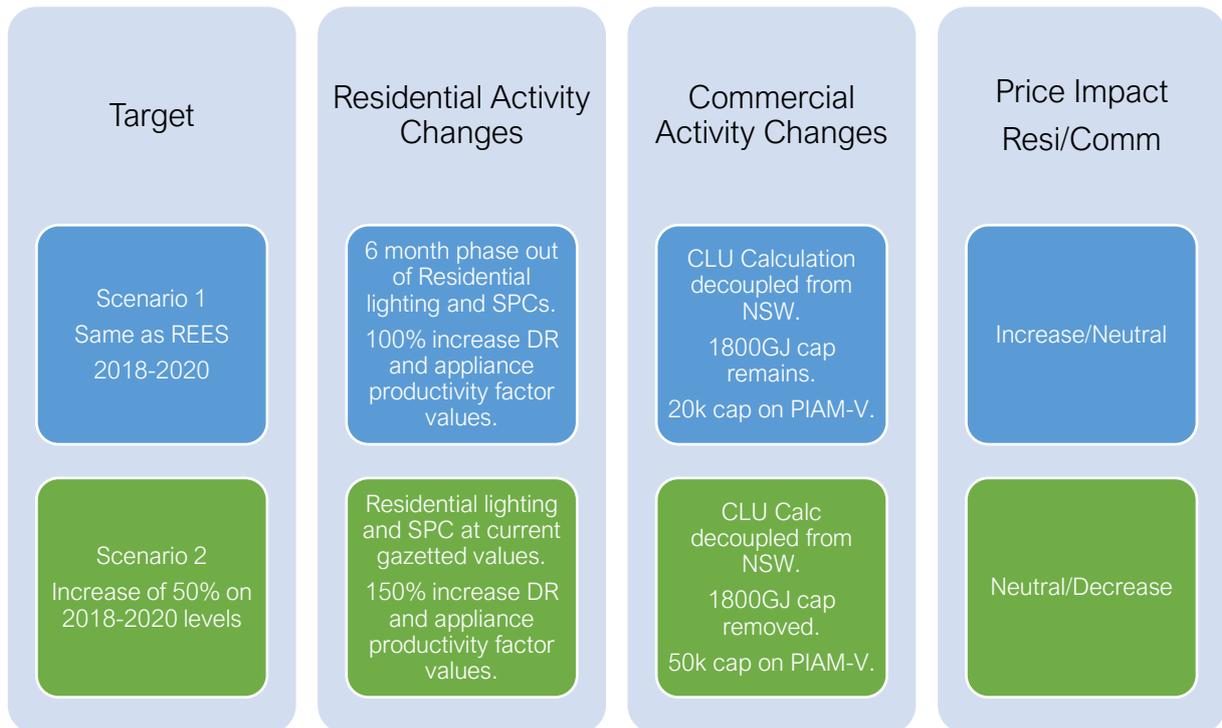


Figure 1: REPS Scenarios

DR = Demand Response

Scenario 1: Targets remain the same (Split: 10% Residential / 10% PG / 80% General)

This scenario assumes the following conditions:

- The 12 months phase out of residential lighting based on the new REPS' productivity factors.
- The productivity factors for appliances and DR activities are increased by a minimum of 100%.
- Commercial Lighting is to be decoupled from the NSW calculator and the 1800 GJ CLU cap is maintained.
- A 20k GJ cap on PIAM-V to avoid excess creation in future years.
- Price Impact: GJ pricing for residential and PG activities increase by 25% and general activities remaining at 2020 prices/rates.

This target scenario will present various challenges, however, is still achievable if changes are implemented accordingly. If the changes are not implemented, we forecast that prices will increase greater than the 25% listed and are at risk of Retailers opting to pay penalty rather than participate.

## Scenario 2: Targets increase by 50% (Split: 15% Residential / 15% PG / 70% General)

This scenario assumes the following conditions:

- The productivity factor on residential lighting to remain at current 2020 gazetted values.
- The productivity factor for appliances and DR activities increases by 150% from current REPS proposed factors.
- Commercial Lighting is to be decoupled from the NSW calculator and the 1800 GJ CLU cap is removed.
- A 50k cap on PIAM-V to avoid excess creation in various vintage years.
- Price Impact: GJ prices for residential and PG activities remain at the same as 2020 and commercial lighting rates slightly decreased by 10-15%.

Both scenarios presented detail the minimum requirement to adjust the REPS residential productivity factors and decoupling from using the NSW Calculation tool with respect to commercial lighting. This is to provide market certainty on creation rates and values during 2021-2025.

With respect to the targets shared by the Obligated Retailers, MAC is concerned on the feasibility of achieving targets based on the proposed productivity factors and activity mix being delivered under REES. By reducing the abatement in the core activity mix; which constitutes approximately 70% of the residential and PG target achievement to date; Obligated Retailers may be unable to meet targets and thus pay penalty or opt to penalty without contracting any activity creation to Activity Providers.

At present, the activities listed in the consultation paper do not offer a substitute for the activities that are currently delivered at no cost to hardship and concession customers. Based on this, MAC believes the PG target should remain at its current level and that Residential targets should not exceed 10% of an Obligated Retailer's entire target. Each of the Activities proposed under the REPS and their corresponding productivity values have been analysed against the approximate cost to deliver to market. The below table summarises the activities that will be able to be delivered to residential customers and the value of 'contribution' required to participate.

**Residential Activities based on Customer Contribution Requirements**

Activity	Free	Low Cost <\$100	High Cost >\$100
<i>Residential Lighting L1</i>		✓	
<i>Residential Lighting L2 and L3</i>		✓	
<i>Standby Power Controller IT &amp; AV</i>		✓	
<i>Showerhead</i>	✓		
<i>Hot Water Upgrade</i>			✓
<i>Ceiling Insulation</i>		✓	
<i>Ceiling Insulation Top Up</i>			✓
<i>Air Conditioner (Ducted and Non)</i>			✓
<i>Building Sealing Activities</i>		✓	
<i>Secondary Glazing Retrofit</i>			✓
<i>Fridge / Freezer Purchase</i>			✓
<i>Dryer Purchase</i>			✓
<i>Remove and Dispose Fridge/Freezer</i>		✓	
<i>Install a Pool Pump</i>			✓
<i>Switching Electric HW to OPCL</i>		✓	
<i>Switching to TOU</i>		✓	
<i>Battery VPP connection</i>			✓
<i>DR Activities (not enough information)</i>			

This table demonstrates the risk now posed to Retailers in achieving key targets such as Priority Group Household targets that limited disposable income and capacity to pay. The abatement cuts to the Standby Power Controllers,

Residential Lighting, Downlights (reduced in 2018) and removal of IHDs mean that only Showerheads remain a key activity for Priority Group Households to participate in which is insufficient to achieve targets.

The REES has delivered a significant number of individual energy efficiency items as part of upgrades to households and businesses from 2015 to 2017. A selection of these is shown below in Table 3.

Activity	Households (non-priority group)	Low-income households (priority group)	Businesses
Energy saving lights	479,348	236,600	399,784
Energy saving showerheads	28,203	20,106	30,200
Standby power controllers	59,079	39,227	N/A
Energy efficiency hot water heater upgrades	2,487	395	N/A

Figure 2: Table 3 - Selection of items delivered 2015 to 2017

As identified in the REES Time Series Data<sup>1</sup>, lighting delivered the largest cumulative GJs to priority group households over all the previous 4 stages (2020 data is not available to include):

Residential Lighting (GSL & Downlight)	Stage 1 (2009-2011)	Stage 2 (2012-2014)	Stage 3 (2015-2017)	Stage 4 (2018-2020)
Activity Percentage	29.8%	17.1%	15.4%	34.3%
Activity mix ranking with respect to other activities	1 <sup>st</sup>	2 <sup>nd</sup> (1 <sup>st</sup> SPC)	1 <sup>st</sup>	1 <sup>st</sup>

Table 1: Cumulative PG Lighting Performance (2009-2019)

The Scheme is currently experiencing a similar or higher level of transitional changes since the last significant changeover (from Stage 2 to Stage 3), and due to this, there has been delays in finalising the regulatory and administrative framework for the REPS. Based on the potential delays in gazetted changes, it can be estimated that there will be reduction in delivered of activities in 2021, impacting the Obligated Retailers ability to meet targets at a 2020 level or higher. There was slow start to the new stage 3 back in 2015, this was identified in the Common Capital Independent Evaluation<sup>2</sup>:

<sup>1</sup> REES Time Series Data. <https://www.escosa.sa.gov.au/industry/rees/regulatory-reporting>

<sup>2</sup> Common Capital. (2019). *Common Capital Independent Evaluation on Past performance and future policy option for the Retailer Energy Efficiency Scheme (REES)*.  
[https://assets.eecca.org.au/library/Reports/REES\\_Independent\\_Evaluation\\_Final\\_Report-11-July-2019.pdf](https://assets.eecca.org.au/library/Reports/REES_Independent_Evaluation_Final_Report-11-July-2019.pdf)



Business activity	2015	2016	2017	Average
Lighting	16.8%	68.9%	75.8%	61.5%
Showerheads	20.3%	2.8%	1.4%	5.7%

Figure 3: Table 4 Contribution of business activities towards total energy savings

Any increase to the 20% cap on carryover in 2020 will assist Obligated Retailers in this transition period and allow the DEM to increase targets for 2021-2025. We are supportive of increased targets but only where there are sufficient and cost-effective methods available to achieve those targets.

At present the barriers proposed in the consultation paper relating to reduced or low productivity factors, caps on commercial lighting GJ creation, newly introduced activities or with small commercial interest from customers, mean that any notable increase in targets will result in an increase in costs.

In October 2019, MAC flagged in our response (along with multiple other participants) that the carryover target should be increased to 25-30% or removed altogether. We are now three months from the REPS commencing and over 100 people have lost their jobs due to the low 20% cap, poor consultation, and communication. We are in a recession and a pandemic now more than ever; people need jobs and households and businesses need energy savings. We are aware of Activity Providers with residential wait lists in the hundreds, people waiting to receive energy saving upgrades but being told they have to wait till 2021, all in order for Retailers not to carry 'too much' credit into 2021. We implore the DEM to urgently issue targets to Retailers and lift the cap to allow field workers to regain employment, allow Activity providers to run down their stock in preparation for 2021 and provide customers with the energy savings they so desperately need.

If targets are increased in 2021, the additional carryover will assist Retailers in the lag period between receiving the final consultation papers and activities then training up their field teams and operationalize the scheme. At present it is unlikely that field activity will commence prior to March/April 2021 due to an extended consultation process.

2. Recognising the REPS will introduce changes from REES, should the five yearly targets be 'ramped', with lower targets in early years?

Yes, in recognition of the extended consultation period for REPS and target setting, Retailers should be provided with a slow staggered approach to increasing targets. Any slow start and delayed ramp up will need to coincide with the introduction of new activities and removal of existing activity barriers such as 1800 GJ CLU caps and low productivity factors for DR and Appliance Activities.

3. Noting the REPS is funded by all retail electricity and gas consumers, what is an appropriate costs per year to the average South Australian household electricity bill?

This question is better suited for Obligated Retailers, however, the passthrough price is determined by the ability to effectively deliver on the targets set, in review of the low productivity factors proposed for residential activities in the consultation paper, the passthrough prices will substantially increase in the following year, unless the productivity factors can be increased thus incentivising the customer to invest in upgrading their appliances to DRED and higher rated energy efficient models.



4. Given the proposed REPS specifications and values, what are appropriate minimum proportions of the Energy Productivity Target that should be delivered through the Household Energy Productivity Targets and the Priority Group Household Targets?

During 2015- 2019, 70% of activities carried out in residential homes were through free retrofits (Lighting, Showerheads and SPCs). In this new REPS specification, two of those activities have had more than a 50% reduction in productivity factors.

All the new activities proposed with the exception of ceiling insulation require a significant customer contribution to cover the gap, which will increase the costs of GJ and reduce the capacity to deliver to targets. Based on this, we believe that an achievable target for Household Energy Productivity Targets is 10% and Priority Group Household Targets is 10%, resulting in a total residential target of 20%. If productivity factors are substantially increased on DR, appliance-based upgrades and residential lighting productivity factors retained 2020 levels, then the target could be increased to 30% (50 PG/50 Residential) without a significant increase to scheme costs.

The proposed 'Sub Target' for Priority Group households poses a key issue for affordability and risk that this demographic will be encouraged to take up third party finance options without the capacity to repay. The ACT EEIS Policy Team identified this same issue when reviewing their activities in 2019. They managed this issue by increasing the rebate by 33% (above already substantial rebates) to help close the funding gap.

Split incentives were identified by stakeholders as one of the remaining market barriers to energy efficiency, especially for low income households in rental accommodation. The EEIS does not specifically target split incentives, but split incentives apply for activities where a co-contribution from the landlord would be required. The majority of early activities delivered in the EEIS (lighting upgrades, door seals and standby power controllers) did not require co-contributions. More recent activities (heating upgrades) require co-contribution and approval of landlords, and it appears that these low-income rental properties are not receiving upgrades at the same level as owner occupied households. For example, less than 4% of the total households that received heating activities were rolled out in low-income rental properties, which may need it most. This barrier has been overcome for public housing renters by working with ACT Housing as the landlord, although this does not solve the barrier facing private renters.

Figure 4: Review of the Energy Efficiency Improvement Scheme, p.g. 8.  
[https://www.environment.act.gov.au/\\_\\_data/assets/pdf\\_file/0020/1221527/EEIS-Review-Part-1-Executive-Summary-ACCESSIBLE.pdf](https://www.environment.act.gov.au/__data/assets/pdf_file/0020/1221527/EEIS-Review-Part-1-Executive-Summary-ACCESSIBLE.pdf)

There is, however, an ongoing concern that some low income households might still be excluded from the scheme, while still bearing associated cost, especially as activities become "deeper", deliver a large amount of abatement, but require co-contributions and are concentrated on fewer beneficiaries. Therefore, some financial barriers remain, where co-contributions are required from low income households.

Analysis of co-contributions paid by households showed that priority households were offered a larger rebate (\$3,000 vs \$2,000) than non-priority households. This should help to address the barrier of lack of capital available to priority householders. However, this may not be enough to fully remove this barrier.

Figure 5: Review of the Energy Efficiency Improvement Scheme, p.g. 13.  
[https://www.environment.act.gov.au/data/assets/pdf\\_file/0020/1221527/EEIS-Review-Part-1-Executive-Summary-ACCESSIBLE.pdf](https://www.environment.act.gov.au/data/assets/pdf_file/0020/1221527/EEIS-Review-Part-1-Executive-Summary-ACCESSIBLE.pdf)

This same issue was flagged in the Common Capital Independent Evaluation:



The future of the REES could involve a shift in focus towards a range of higher-cost, higher-energy savings upgrades, which for households could include hot water system and heating and cooling upgrades, as have been successfully adopted in the ACT Energy Efficiency Incentive Schemes (EEIS) by ActewAGL.<sup>23</sup>

And, by developing partnerships with community groups and no-interest loan schemes, the REES could also support deeper energy savings in low-income priority households through appliance replacement programs like those delivered by the ACT and NSW governments.<sup>24</sup>

Figure 6: Common Capital. (2019). Common Capital Independent Evaluation on Past performance and future policy option for the Retailer Energy Efficiency Scheme (REES), p.g. 26. [https://assets.ecca.org.au/library/Reports/REES Independent Evaluation Final Report-11-July-](https://assets.ecca.org.au/library/Reports/REES_Independent_Evaluation_Final_Report-11-July-)

ABS<sup>1</sup> income data from 2015 shows that 57% of low-income households rent their homes and only 5% own their own homes. With the aforementioned changes to productivity factors reducing the viability of activities in PG households and the financial limitations faced by low income households with minimal discretionary income available, it will be difficult to achieve a sub-target. A retrofit bundle that could have been offered to this group previously for free, with the proposed productivity factors our modelling demonstrates that this would require a minimum customer contribution of \$50 to help cover the cost gap faced by Activity Providers.

The ‘sub target’ and greater push for deeper retrofits in PG households will result in a substantial increase to scheme costs and likely cause Obligated Retailers to ‘opt out’ thus choosing to pay penalty over participation. To avoid this outcome, we recommend applying the same approach as ACT in substantially increasing the productivity factors in key deeper retrofit activities to reduce the funding gap and continue with gazetted productivity factors for residential lighting (and downlights) to ensure there is sufficient activity options for this demographic.

MAC understands that the DEM is concerned that any multiplier may undermine the integrity of energy savings reported under REES, so MAC suggests that they consider using a similar reporting tool to that which is used for Commercial Lighting. The report should require that capped GJ be reported in one column (up to 900 GJ) and the Gross GJ (the total balance exceeding 900GJ) is reported in a separate column.

Address	Activity	Qty	REES GJ	REES Credits (*2)	Total
1 SMITH STREET, SMITHFIELD	L2A1:ELV LED Lamp only	20	8.6	17.2	25.8

- Is the activity an appropriate activity to deliver through the REPS? Is it consistent with the proposed protocol for maintaining calculation methods, eligible activities and specifications (Appendix 1)?

MAC has provided commentary on eligible activities and specifications further [below](#).

<sup>1</sup> Australian Bureau of Statistics. (2017). Household Expenditure Survey, Australia: Summary of Results. <https://www.abs.gov.au/statistics/economy/finance/household-expenditure-survey-australia-summary-results/latest-release>



## Specific questions for new activities

6. Activities VPP1, APP4, HC2C, EV1, and WH4 require use of approved DR aggregators or approved VPPs. The specifications provide some criteria that the Minster should consider in approving these. What other criteria should be considered when designing the structure, approval and quality assurance processes for aggregators and VPPs?

MAC has no comment to provide.

## WH3 –Switching Electric (Heat Pump or Resistance) Storage Water Heater to Off-Peak Controlled Load (OPCL) Tariff (Solar Sponge) WH3 (Residential or Small Business Only)

7. For how long can consumers be assumed to be likely to stay on a controlled load tariff once they have switched and why?

The duration a customer will remain on a controlled load tariff (i.e. hot water) is dependent on a number of factors, such as:

- **How large the customer’s hot water storage system (heat pump or resistance) is.** A controlled load is not recommended to customers that have a small tank, as the tank may run out of hot water. A small system (less than 200L) such as those typically found in apartments, units or small houses would not suit this tariff structure.
- **If the number of occupants in the home change.** If the customer has an increase in the number of occupants, this may impact how long the hot water lasts. For example, if the property has a medium sized system (between 200L to 300L) and the number of persons increases to more than 3 people, there will be insufficient hot water to serve the property for the entire day.
- **System replacement based on suitability and location.** If based in a location where frost protection is required (such as eastern and south eastern SA including Port Augusta<sup>3</sup>), older models typically wouldn’t have this extra installed or are incompatible with this type of feature. As the system cannot defrost properly, the system is likely to fail earlier than its manufacturing lifetime and require replacement to most likely a more efficient or different type of system.

8. Should this activity be limited to solely residential households or should it also be available to SMEs and commercial enterprises and why?

Due to the volume of households with a smart meter, it should be open to all parties (including SMEs and commercial enterprises) in order to determine the viability of the activity, gain learnings on how this activity is best administered and if the productivity factor is accurate. As SMEs and other businesses sites would be used in greater capacity during the day, as a larger percentage of household residents would be at work (rather than at home), the solar sponge would lead to greater overall savings for these sites, as the solar sponge parameter is based on usage between 9:30 am to 3:30pm<sup>4</sup>.

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<sup>3</sup> Australian Government. (2013). *Heat Pump Water Heater Guide for Households*. Department of Industry. [https://www.energyrating.gov.au/sites/default/files/documents/HeatPumpWaterHeaterGuide\\_toWeb\\_0.pdf](https://www.energyrating.gov.au/sites/default/files/documents/HeatPumpWaterHeaterGuide_toWeb_0.pdf)

<sup>4</sup> SA Power Networks. (2020). 2020-25 Tariff Structure Statement Part A.



Table 17A-3: Controlled load tariffs\*

Network tariff	Status/ metering	Components	Measurement	Charging parameter
<b>Companion Controlled Load (hot water) tariffs</b>				
<b>Controlled load Residential and Small business</b>	<b>Closed**</b> Legacy meters (Type 5, 6)	Flat rate	\$/kWh	Based on usage - time clock is managed by SA Power Networks, and typically involves supply usage between 11:00pm to 7:00am and from 10:00am to 3:00pm. Priced at 50% of the single-rate prices
<b>Controlled load Residential and Small business</b>	<b>Default</b> Interval meter (Type 4)	Usage – Peak	\$/kWh	Peak Pricing for the hours per day not captured in the off-peak/solar sponge windows at 125% of the single rate price
		Usage – Off-peak	\$/kWh	Based on usage from 11:30pm to 6:30am (Central Standard Time) with randomised start time of at least one hour. At 50% of the single rate price
		Usage – Solar Sponge	\$/kWh	Based on usage from 9:30am to 3:30pm (Central Standard Time) with randomised start time of at least one hour. At 25% of the single rate price

\* For Type 4 meters, the time clock is managed through the meter by the retailer and the metering coordinator. For Type 5 meters, the time clock is adjusted manually by SA Power Networks.

\*\* Some customers may currently have a type 6 meter for general supply and type 5 or 6 meter for OPCL. Where the customer's general supply meter is upgraded to type 4, we expect the customer's OPCL type 5 or 6 meter would also need to be replaced and upgraded. In this instance, the customer would be reassigned from the OPCL legacy meter tariff to the default CL-TOU type 4 meter type tariff.

Figure 7: Table 17A-3 Controlled load tariffs (Source: SA Power Networks)

## TOU1 – Switch Household Electricity Plan from Single Rate Tariff to Time of Use (TOU) Tariff (Residential Only).

### General Commentary

MAC is supportive of the introduction of TOU based activities and Demand Response initiatives. To ensure the best customer experience in these activities, we recommend that they are delivered in conjunction with customer awareness and education initiatives such as the delivery of In-Home Displays for TOU tariff customers.

A consideration is the cost of installing a Smart Meter, some Retailers only charge \$60, others require you to appoint your own electrician which can be over \$100, yet the productivity factor being proposed is 5 GJ, with a high \$10 passthrough, this only reduces the cost by \$50, due to the low rebate, as discussed previously will result in poor customer uptake.

This activity should be combined with an In-Home Display requirement to ensure there is sufficient customer awareness and engagement on the impact of TOU pricing and their consumption patterns. IHD's typically work alongside an app which can allow customers to trigger alerts and notifications, or traffic light coding which will prompt the customer to shift use of certain appliances during peak periods. This will assist the DEMs approach to load shifting and help customers to adapt to TOU pricing better than an Obligated Retailer driving en-mass switch to TOU tariffs and smart meters for all customers.

It's worth noting that the Australian Energy Market Operator (AEMO) and SA Power Networks (SAPN) target is 50% smart meters rolled out by 2025, currently the SA market has less than 15% which will impact the roll-out of the new TOU based REPs activities.

<https://www.sapowernetworks.com.au/public/download.jsp?id=9508>





In the most recent Energy and Water SA Ombudsman Report, they stated that the second highest volume of complaints they receive outside of billing issues relates to meter installation and/or abolishment, having increased by 18% compared to 2017-2018<sup>5</sup>.

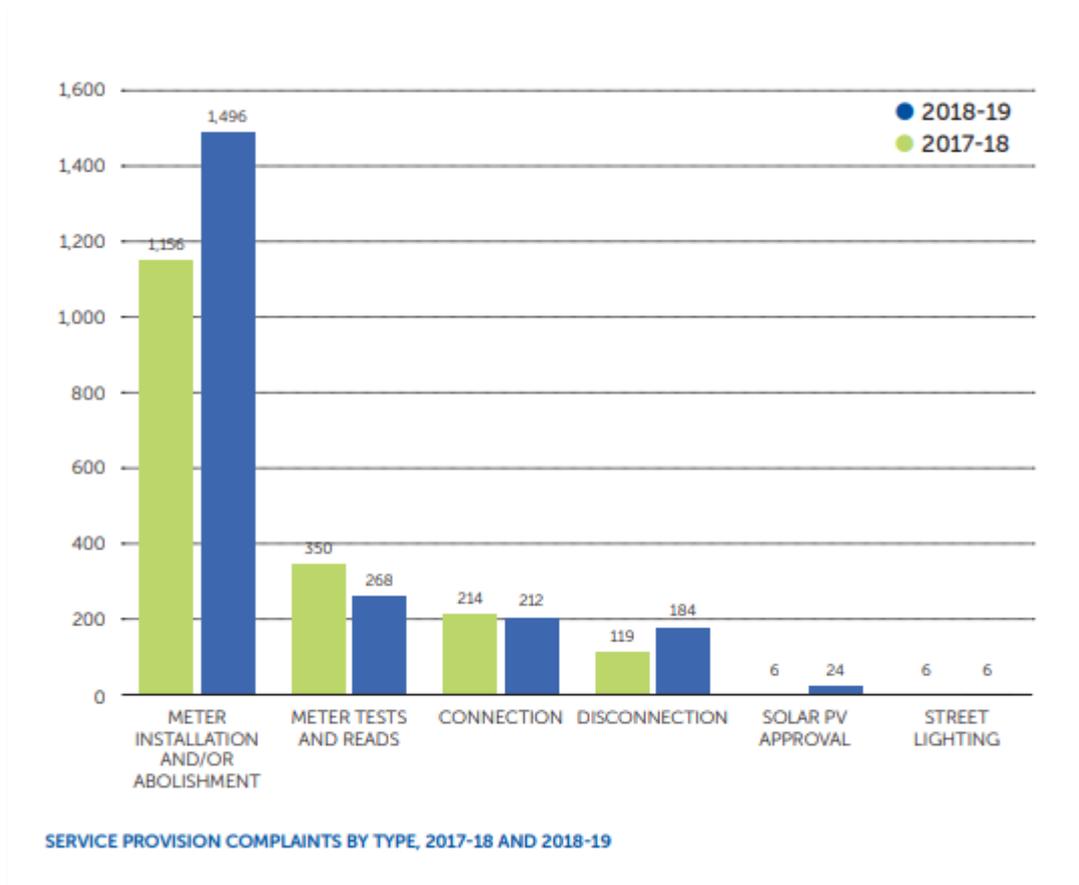


Figure 8: Service Complaints by Type, p.g. 30 (Source: Energy & Water Ombudsman SA)

If the DEM are proposing a smart meter rollout with the TOU tariff, it's critical that the customer experience is considered in the modelling. In order for the TOU load shifting to Solar Sponge incentive to work, customers must be made aware of the new peak periods and be prompted to switch their high consuming appliances to timers or manually at fixed times. The best way to do this is with an IHD to provide SMS and App notifications. To roll out IHD with a TOU and help cover the costs associated with installation, the productivity factor needs to be revised to reflect the needs of the SA Energy Market and base the incentive on the 'value' that this activity will provide. For that reason, we recommend revising the productivity factor to cover most of the cost of the smart meter installation which ranges between \$60-\$100. At present, the productivity factor offered is 5 GJ, it will need to be 10-15 GJ for this activity to gain the traction the Government and AEMO requires.

There is an ethical question here about whether extreme financial hardship customers and working families without smart appliances should actually be moved to a TOU tariff. Where customers have curtailed their energy usage to a certain point, moving them to a TOU tariff can put them in greater fuel poverty than they were originally experiencing. There needs to be some ethical analysis of a TOU meter to ensure that this is actually in the customers best interests and that they have the ability to load shift in the first place.

<sup>5</sup> Energy & Water Ombudsman SA. (2019). *Annual Report 2018-19*. [https://ewosa.com.au/assets/volumes/general-downloads/annual-reports/EWOSA\\_Annual\\_Report\\_2018-2019.pdf](https://ewosa.com.au/assets/volumes/general-downloads/annual-reports/EWOSA_Annual_Report_2018-2019.pdf)





9. For how long can consumers be assumed to be likely to stay on a ToU tariff once they have switched and why?

MAC has no comment to provide.

10. Should this activity be limited to solely residential households or should it be expanded to include SMEs and commercial enterprises and why?

MAC has no comment to provide.

11. What cross price elasticity of demand should we assume for electricity for SA residential customers and why?

MAC has no comment to provide.

12. Should a household that benefits from this activity be restricted from claiming credits under other tariff related activities, such as, the VPP, WH3 & WH4 to avoid double counting?

As per the proposed specifications, this activity cannot be completed if the customer is on a solar sponge rate under Activity WH3. If the customer wishes to set up a solar sponge tariff along with a Time of Use retail plan, the latter will need to be established first.

Depending on how the Retailers' intend to introduce both tariff rates and plans, we recommend that Activity TOU1, removes the requirement (4) as stated below so these two activities can be potentially be completed in tandem:

### 3. ACTIVITY ELIGIBILITY REQUIREMENTS

- (1) Included in this program are South Australian residential households.
- (2) Utility eligibility requirements also need to be fulfilled prior to commencement of the contract.
- (3) At the commencement of the contract, the electricity for the household plan must be metered using a Type 4 electricity meter or an equivalent smart meter approved by the Minister.
- (4) Activity WH3 has must not have previously been implemented for the electricity customer at the same premises.

Figure 9: Switch Household Electricity Plan from Single Rate tariff to Time of Use (ToU) Tariff; Residential Only (Source: ESCOSA)

Depending on the appliances and the usage patterns of the customer, they may be likely to claim credits under one activity or both, but they should have the option available to partake in both activities.

13. Should the size of the incentive be relative to the annual electricity demand of the household? Or should average South Australian demand values be used.

MAC has no comment to provide.





14. The modest credits for this activity assume productivity factors based on customer responses to price elasticity alone. Could higher credits be justified if the activity was conditional on a customer also signing up to an approved behavioural demand response program? If so, what approach should be taken to estimating the likely demand savings from such a program and why? What issues should be taken into consideration by the Minister in approving such a program?

Yes MAC is supportive of any TOU shift being accompanied by a behavioural program such as an IHD, we have provided greater detail on this further on in this paper.

### VPP1 – Connect a New or Existing Battery to an Approved Virtual Power Plant (Residential or Small Business Only)

15. Would it be feasible to require Approved VPPs that wish to obtain the credits to ensure all household load is shifted to battery power during peak times on a daily basis (up to maximum battery capacity)? If not, what assumptions are commercially and technically feasible as minimum assumptions for deemed demand peak demand reductions?

MAC is supportive of this activity and the incentivisation of a key load shifting appliance such as the Battery Energy Storage System (BESS) and Battery Systems (BS).

MAC encourages the DEM to revisit the original activity tables that proposed additional incentives specifically related to the installation of an energy storage system rather than just the connection of a battery to a VPP. Batteries will be critical in the transition for the SA Energy Market and with the Home Battery Subsidy being reduced, they are financially out of reach for many residents (further exacerbated by the recession and loss of income).

On September 10<sup>th</sup>, the SA Home Battery Scheme reduced its incentive from \$4k to a maximum of \$3k<sup>6</sup> off the battery and cost of installation. The introduction of a REPS rebate would be welcome in a market that is increasing looking for opportunities to maximise the Solar Sponge period and load shift.

A popular battery model is the Tesla Powerwall 2, the average cost of product and install is \$14k<sup>7</sup>. The rebate proposed to connect a system of this size (13.5 kWh) to a VPP network is only 103 certificates which would translate to a \$1030 rebate, and less than 10% of the cost. Even coupled with the Home Battery Subsidy, the gap is still 10k which is out of reach for most households. If the DEM is serious in its focus on shifting demand and responding to peak demand events, then Batteries is one of the best channels to do this, but this activity will need to see its productivity factor double or triple to gain real market uptake. For Priority Group customers, this option is still substantially out of reach even with a triple rebate. This activity will only be delivered in residential households and small business.

The ACT Government in comparison to SA are providing financial support of \$825 per kW (maximum of 30kW) for battery systems which is driving huge demand<sup>8</sup>.

<sup>6</sup> <https://homebatteryscheme.sa.gov.au/home-battery-scheme-subsidy-changes>

<sup>7</sup> <https://www.canstarblue.com.au/electricity/brands/tesla-powerwall/>

<sup>8</sup> <https://www.actsmart.act.gov.au/what-can-i-do/homes/discounted-battery-storage>





### How is the ACT Government helping?

Under the Next Generation Energy Storage program, the ACT Government is supporting up to 5,000 battery storage systems in ACT homes and businesses. The program is delivered through battery storage providers, which were selected by the ACT Government after a competitive selection process. These providers are [Evergen](#), [Solahart](#), and [SolarHub](#).\*

The current rebate is \$825 per kilowatt (kW) up to a maximum of 30 kW. A standard household with a 5 kW system would typically be eligible for around \$4,000 in support.

Providers will be able to provide more information on the support available for a specific system.

\*DISCLAIMER: The ACT Government is not endorsing these companies or their products. Anyone considering battery storage should exercise their own judgement.

Figure 10: Rebates (Source: Act Smart ACT Government)

We recommend that the DEM considers tripling the Productivity values for this activity and adjusting it to be based on the 'installation of a VPP connected battery' to drive market transformation.

### 16. For how long can consumers be assumed to be likely to stay connected to an Approved VPP once they have signed up and why?

Based on the VPP plans available in SA, the average term varies from no contract minimum, 6 months, 1-5 year terms. Benefits include financial credits and/or sign-in bonuses associated are applied across the term of the plan, quarterly bill credits, credits based on demand response events and subsidies towards the installation of battery<sup>9</sup>. The majority of participants in the VPP could be best described as 'early adopters', given the infancy of VPP offerings, it is difficult to determine how long a customer is likely to stay connected especially with many diverse options in market.

Given the various market options, it could be assumed that battery owners would churn to other retailers/providers to access different sign in bonuses or opt for a VPP with fewer restrictions, such as a cap on the DoD.

### 17. Should we restrict this activity to households or installations that have photovoltaic (PV) installations?

We do not support the proposal to restrict this activity to households or installations that have PV installed. At present the SA Energy Market has surplus solar PV generation, which is why a solar sponge tariff has been introduced. By adding a requirement to an activity that customers have to install more Solar (which with the introduction of a solar sponge tariff is no longer as cost effective as it once was) this will further exacerbate the problem of surplus supply.

### 18. What are the restrictions under which VPPs should be required to operate in order to ensure the best results for affordability, stability and sustainability of the South Australian electricity network?

MAC does not believe that at such an early stage and adoption of this technology, that there should be restrictions on how the battery is used (charging/load shifting). Customers would typically use their battery and discharge it during peak periods, however not all customers would behave the same due to different components such as work and lifestyle that may mean their usage is different. There are technical concerns with the number of discharge-recharge cycles and the maximum depth at to which they are discharged. Most lithium-ion batteries have a Depth of Discharge (DoD) of approximately 80-100% depending on the battery model. The lifespan of a battery is shortened the more frequently it is charged and discharged. If the battery owner regularly discharges

<sup>9</sup> <https://www.aemc.gov.au/news-centre/data-portal/retail-energy-competition-review-2020/vpp-offers-available>



their battery at a lower percentage, i.e. 50% it will last longer than a battery discharged at its maximum, i.e. the Tesla Powerwall 2 DoD claimed is 100%.

Most customers whom are participants in VPP programs are weary of how DoD can impact the overall lifetime of their battery, this was identified in the AGL in Stage 1 of their VPP, and customer savviness regarding the products was identified again in Stage 2.

Depending on the VPP provider the minimum energy storage capacity reserved for customers varies greatly. Simply Energy and Energy Australia will maintain 20% at minimum, thus the maximum discharge would be 80% (depending on the battery), Ausgrid will reserve a minimum of 10% in VPP events, and others such as Powershop and Origin do not reserve a minimum and can opt discharge the entire battery.

### 19. Should this activity be limited to solely residential households or should it be expanded to include SMEs and commercial enterprises and why?

All SME and Commercial Enterprise should be eligible to participate in this activity, the TOU tariffs aren't beneficial for commercial outside those that are eligible for the SME Controlled Load. If they are not large enough to qualify for the Wholesale Demand Response Mechanism (WDRM) there is a portion of commercial customers that are left at a disadvantage and will be seeking to reduce their energy consumption where possible. Another view on this is that commercial lighting will hit a saturation point over the next 10 years and start to decrease in popularity, there are not enough commercial activities to continue to deliver on a commercial target if they are set to increase. The DEM should be encouraging all activities to be undertaken in SME and Residential, remove the barriers to participation and let the market drive the uptake.

### APP4 – Connect a New or Existing Pool Pump to an Approved DR Aggregator (Residential Only)

#### 20. For what period of time and how many peak days a year is it reasonable to assume a DR Aggregator could switch of load, and why?

MAC has no comment to provide.

#### 21. For how long can consumers be assumed to be likely to stay connected to an Approved DR Aggregator once they have signed up and why?

MAC has no comment to provide.

### HC2C – Connect Existing HVAC to an Approved DR Aggregator (Residential Only)

#### 22. For what period of time and how many peak days a year is it reasonable to assume a DR Aggregator could switch of load, and why?

For an indication on the duration and number of peak events to occur annually, Queensland distributors provide the closest indication through the PeakSmart program which has been triggering various response modes over the last 10 years across AC units in both businesses and residences. Distributors' Energex and Ergon have a cash incentive program working alongside HVAC retailers, installers and residential/business customers to encourage the installation of air conditioner signal receivers. PeakSmart devices receive signals in order to reduce demand on the network, these events are typically caused when the network is over 3000MW or "Extreme" on the Current

Demand Meter. Based on 8 years of events captured by Energex<sup>10</sup> and peak demand in SA, we can estimate the average number of events per year is three and the events last just under 2 hours in each instance. In South Australia, peak demand is described as electricity demand that more than doubles on an average day, this typically only occurs on a few times each year on extremely hot days, it can be estimated that SA would have similar to what has occurred in Queensland.

Year	No. Events	Average Event Duration	Demand Response Mode
2020	1	2 hours	DRM2
2019	3	2 hours	DRM2
2018	6	2 hours	DRM2
2017	4	2 hours	DRM2/DRM3
2016	4	1 hour 40 mins	DRM3
2015	3	1 hour 30 mins	DRM3
2014	3	40 mins	DRM3
2012	1	2 hours	DRM2

Table 2: Energex PeakSmart Events

**DRM1:** Compressor off

**DRM2:** capped to operate at 50%

**DRM3:** capped to operate at 75%

### 23. For how long can consumers be assumed to be likely to stay connected to an Approved DR Aggregator once they have signed up and why?

There is limited publicly available information on how long a customer is likely to remain with a program such as PeakSmart in Queensland. With Energex and Ergon, the Terms and Conditions expressly state the signal receiver sent out to customers must be returned if they choose to exit the program, with the customer organising the removal and mailing of the device. The cost of the removal may deter the household or business from removing the device(s), especially if they have multiple devices on their premises. Only if the distributor chooses to cease the partnership with the customer, will there be no cost incurred with the distributor organising the removal of the device.

In summary, the duration the customer chooses to stay connected would be dependent on the following terms and conditions:

- **Are there any incentives for retailers to encourage customers to have an installer complete an installation of a DCR Signal Receiver or technology of the like?** Energex and Ergon have conversion incentives such as the 'PeakSmart Industry Incentive' which offers \$50 for each receiver installed, this will lead more builders, installers, retailers and the like to promote this offer coupled with the customer financial incentive.
- **Is there a financial incentive directly available to customers and how easy is it to access?** Energex and Ergon offer up to \$400 monetary incentive (depending on the size of the system) to residential and business customers whom meet their eligibility criteria and successfully connect. The monetary incentive offered must be sufficient, so it covers the cost of the installation of the device and the time and effort in registering the product, and still leaves some cash for the customer. With new

<sup>10</sup><https://www.energex.com.au/home/control-your-energy/managing-electricity-demand/peak-demand/peaksmart-events>



AC purchases, it could be assumed that HVAC retailers would be encouraged to provide this service at no cost to the customers to secure the sale of a DRED enabled AC device.

- **How compatible is the technology that is to be retrofitted and how can the customer access it?** The technology will need to be easily accessible and the customer will need to be able to check the compatibility of their device through an online portal such as website.
- **Is there a cap on the financial incentive?** Will there be a cap on the number of air conditioner units that can be claimed?
- **Minimum period the device must be installed?** With the incentive, if the device must be installed and remain active during a minimum number of peak demands and/or period of time, this would create more stickiness with the customer and how long they remain signed up.

#### 24. Should this activity be limited to solely residential households or should it be expanded to include SMEs and commercial enterprises and why?

This activity should be made available to both households and businesses, especially as both groups have access to these offers under a similar program.

Ergon and Energex through PeakSmart require tenants to seek out the approval and consent of the landlord/owner in order to participate in the program, which may deter the household tenants from pursuing this incentive. Households and business are eligible to have up to 5 air conditioners claimed, however if they have more than 5 units available the distributor can make a call on if to provide additional receiver devices.

If a SA Aggregator functions similarly and allows for more than 5 units on a discretionary basis, this would encourage a larger number of SMEs, with multiple air conditioner units to participate and access a larger incentive. Larger commercial buildings/businesses would be less likely to access an incentive of this kind, due to administrative tasks associated (i.e. approval and consent) and are more likely to apply for a grant or green scheme loan allowing for greater upgrade or retrofit opportunities as cost saving exercise.

### EV1 – Connecting an Existing EV Charger to an Approved DR Aggregator (Residential or Small Business Only)

#### 25. For what period of time and how many peak days a year is it reasonable to assume a DR Aggregator could switch of load, and why?

MAC have no comment to provide at this point in time.

#### 26. For how long can consumers be assumed to be likely to stay connected to an Approved DR Aggregator once they have signed up and why?

MAC have no comment to provide at this point in time.

#### 27. Should this activity be limited to solely residential households or should it be expanded to include SMEs and commercial enterprises and why?

MAC have no comment to provide at this point in time.

#### 28. Should we consider the possibility of using electric vehicles (EVs) dispatching electricity to the grid during critical peak times?

MAC have no comment to provide at this point in time.

#### 29. Should we assume that DR would only be activated during critical peak days? Or should we assume that DR would be used much more regularly?

MAC have no comment to provide at this point in time.



#### WH4 – Connecting a New or Existing Electric Heat Pump Water Heater to an Approved DR Aggregator (Residential Only)

30. For what period of time and how many peak days a year is it reasonable to assume a DR Aggregator could switch of load, and why?

MAC have no comment to provide at this point in time.

31. For how long can consumers be assumed to be likely to stay connected to an Approved DR Aggregator once they have signed up and why?

MAC have no comment to provide at this point in time.

32. Should this activity be limited to solely residential households or should it be expanded to include SMEs and commercial enterprises and why?

MAC have no comment to provide at this point in time.

#### General commentary on activity specifications

- Connecting a New or Existing Pool Pump to an Approved DR Aggregator APP4 (Residential Only)
- Connecting a New or Existing HVAC to an Approved DR Aggregator (Ducted and Non-Ducted) HC2C (Residential Only)
- Connecting a New or Existing EV Charger to an Approved DR Aggregator EV1 (Residential or Small Business Only) Connecting a New
- Existing Electric Heat Pump Water Heater to an Approved DR Aggregator WH4 (Residential Only)

There needs to be greater awareness on the approved DR Aggregators providing these services for residential households. There is not enough information nor productivity factor available in these activities to drive real uptake. MAC recommends that the DEM revisits these activities and recalculates the productivity factor required to drive consumer participation and cover the costs of installation.

There is also very little information regarding evidence and proof of energy savings in these activities which helps Activity Providers and Retailers to model the viability of rolling these activities out to market. We recommend that the DEM continues to work on these specific activities and re-introduce them at a later date.

- BSA1 - Install Insulation in an Uninsulated Ceiling Space (Residential Only)
- BS1B - Install Top Up Insulation in a Ceiling Space (Residential Only)

MAC supports these activities, as the productivity factor is at a level that is sufficient to drive uptake and can be delivered to both rental and owned residential properties. We recommend that this is expanded to include SME's to ensure thermal efficiency can be delivered in as many properties as possible.

Considering the findings from the Report of the Royal Commission into the Home Insulation Program<sup>11</sup>, if sufficient evidence can be shown to demonstrate work previously undertaken was non-compliant, then the

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<sup>11</sup> <https://apo.org.au/node/41087>

activity should be able to be 'claimed again' in order to correctly install the battens or carry out a complete installation for the customer.

A more streamlined approach could be to 'reset' this activity and allow all insulation installations that took place between 2009-2012 to be done again in 2021 (similar to the restart for activities under the Victorian Energy Upgrades program). This will ensure insulation installations are done correctly and in line with today's standard noting that it will be 10 years since the installation first occurred and all original deemed energy savings will have been realised.

- **Building Sealing Activities (Various) BS2 (Residential Only) and 5.5 Secondary Glazing Retrofit – BS3B (Residential Only)**

There is insufficient productivity factor value in these activities to drive uptake and with a mandatory \$30 ex. GST contribution for various door sealing and vent sealing activities, it is unlikely to have customer or activity providers participation.

- **Install an Efficient New Reverse Cycle Air Conditioner (Non-Ducted) HC2A (Residential Only)**
- **Install an Efficient New Reverse Cycle Air Conditioner (Ducted or Multi-Split) HC2B (Residential Only)**

While these activities are a key component of any energy efficiency scheme, the productivity factor is still not at a level that would encourage uptake by customers. The current rebates available range between 5-10% of the total supply and installation cost and this assumes a large \$10 passthrough (e.g. \$75 – \$150 rebate value), whereas other energy efficiency schemes offer between \$200-\$1000 for the same activity.

The requirement that only in-built demand response (as per AS 4755) AC units are eligible, rather than all AC units that have DRED adaptors available, significantly reduces the upgrade opportunities available within SA. This is a critical activity to help reduce peak demand consumption particularly during the SA summer, but at these nominal factor amounts, the opportunity cost of pursuing a rebate may outweigh any benefit received by the rebate.

As seen with hot water, for a product to have mass uptake, the productivity factor must be above 20%, which will require a x3 increase on the proposed productivity factor. In reviewing similar A/C DRED initiatives running in other states schemes, the SA offering is substantially lower which will ultimately impact the performance of the activity:

- NSW ran a very successful program and their split system air conditioner rebates range from \$200 - \$1000. This has since been switched to drive Business uptake offering considerably greater incentives.
- ACT EEIS is also running a successful A/C replacement program and generating rebates between \$1000<sup>12</sup> to \$1500<sup>13</sup> depending on hardship status.

The cost of a split system air-conditioner (fully installed) starts at \$1500. It is critical to close this financial gap for customers experiencing hardship and A/C is one of the appliances that can be a valid 'tenant' request for upgrade or installation which means there is greater opportunity for a rental led initiative.

HC2A (iii) - Installation of a new reverse cycle air-conditioner (non-ducted) without pre-condition

If this activity is vital to roll out in South Australia to help reduce the peaks of Summer, the productivity factor is a key driver in consumer price decisions. We recommend the productivity factors are increased in line with other States or this activity will continue as it has during Stage 4 with no market participation.

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<sup>12</sup> <https://www.actewagl.com.au/support-and-advice/save-energy/appliance-upgrade-offers/heating-and-cooling-upgrade>

<sup>13</sup> <https://www.actsmart.act.gov.au/energy-saving/replacing-old-appliances>

Below we have used an example of popular sized unit that would be installed in a residential home. At \$1399 (a full breakdown is captured in the table below), this is still out of reach for many SA households. If the DEM intends to add a sub target to the priority group household target, this would create an environment where Hardship households are being encouraged to take out finance options to purchase appliances.

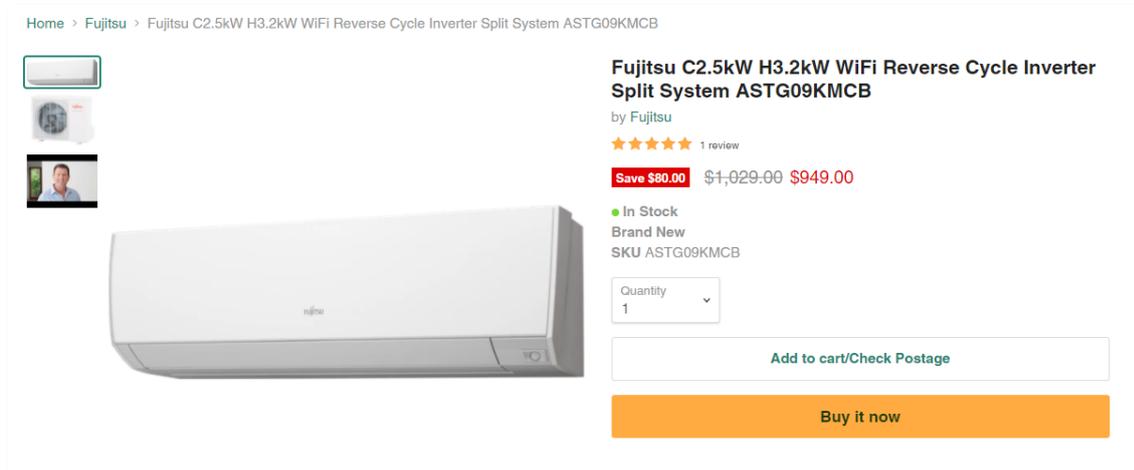


Figure 11: Fujitsu C2.5kw (Source: <https://www.airconditionerland.com.au/>)

Brand	Fujitsu	
Model	2.5kW Cooling 3.2kW Heating Split System	
Model No	ASTG09KMCB	
	Details	Total Inc. GST
ACOP Heating	4.7947	
AEER Cooling	4.742	
Energy Label/Star Rating Heating	4	
Energy Label/Star Rating Cooling	4	
Size of air conditioner	Ideal for bedrooms	
Normalised Energy Savings (GJ)	15	(Other parts of SA)
Rebate passthrough	\$10.00	
Total rebate passthrough		\$150.00
Purchase of unit and installation cost	(\$949 +600 install)	\$1,549.00
% Discount		9.6%
Total installation cost after rebate		\$1399

Table 3: Cost breakdown of a typical AC unit

As noted in The Boomerang Paradox, Part II: Policy Prescriptions for Reducing Fuel Poverty in Australia<sup>14</sup>:

“Around 10 percent of transactions completed by individuals with a personal income below \$20,000 pa are financed via some form of credit and 35 percent of all retail transactions worth more than \$500 are settled using credit cards or another form of household credit (Simon et al., 2009). Given most of the significant energy consuming appliances in the home are likely to cost more than \$500 (e.g. fridges, televisions, air conditioners)...” “...large expenses such as

<sup>14</sup>The Electricity Journal. (2011). *The Boomerang Paradox, Part II: Policy Prescriptions for Reducing Fuel Poverty in Australia*. <https://www.sciencedirect.com/science/article/abs/pii/S1040619011000339#!>

the purchase of furniture or whitegoods are impossible to manage without incurring debt if the income level does not allow for savings,”

According to ABS data released in 2017<sup>15</sup>, low income households represent 24% of all households in Australia with an average household income of \$31,200. From January to July 2020, Australian average household savings increased to 5% (due to COVID lockdown<sup>16</sup>), however, it would still take a low-income household nearly 12 months to save up to purchase, the smallest and cheapest air conditioner available under the REPS. Please note that 65% of low-income households are reliant on government pensions/allowances.

their own home, and therefore have much lower housing costs. Only 5% of low wealth households own their own home (either outright or with a mortgage), compared to 90% and 96% of middle and high wealth households.

Figure 12: Data point (Source: ABS)

Graph 1 - Proportion of weekly household spending on goods and services, by low, middle and high wealth quintiles, 2015-16

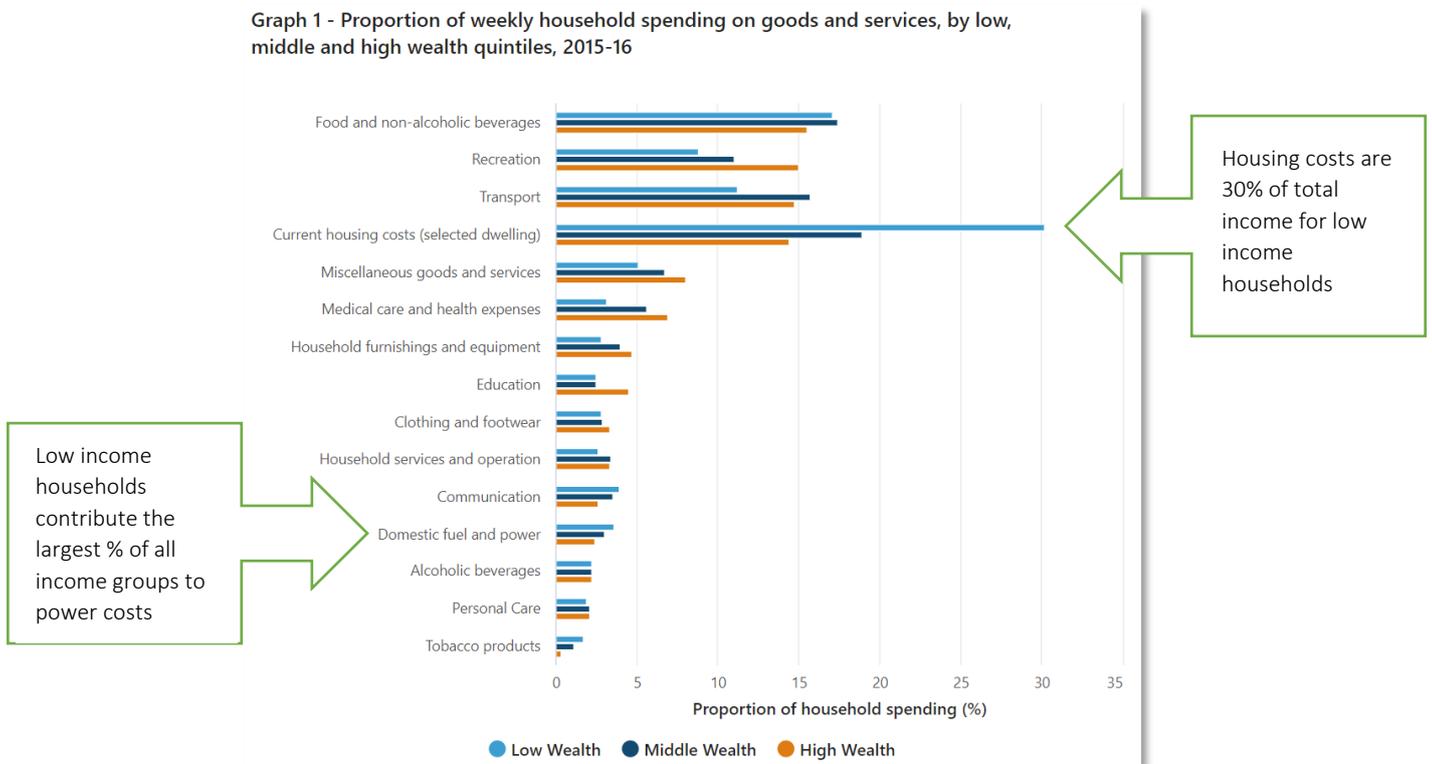


Figure 13: Graph 1 Proportion of weekly household spending on goods and services (Source: ABS)

We recommend that the DEM consider using a ‘carrot’ approach by applying a multiplier to productivity factor for priority group households to help cover the cost gap rather than a ‘stick’ approach of setting a ‘sub target’ for Retailers to meet, which may drive them to merely pay the penalty rate rather than the high cost of participation.

- Replace or Upgrade Water Heater WH1 (Residential Only)

Hot water will be an integral part of activities in REPS 2021-2025, as hot water is an essential service for households and businesses. The productivity factor for non-gas connected customers is equivalent to 20-25% of

<sup>15</sup> Australian Bureau of Statistics. (2017). *Household Expenditure Survey, Australia: Summary of Results*. <https://www.abs.gov.au/statistics/economy/finance/household-expenditure-survey-australia-summary-results/latest-release>

<sup>16</sup> <https://www.smh.com.au/business/the-economy/household-savings-climb-as-aussies-hunker-down-for-recession-20200821-p55o38.html>

the cost of supply and installation which is a substantial enough incentive to drive customers to taking up a more efficient model of appliance and bringing a high efficient HWS into price parity with a less efficient model. It has been successful to date because of this abatement value and will continue to deliver on activities.

It's important to note that even with a 25% discount, these products still cost thousands of dollars to install and therefore are purchased only when a system fails, and not on impulse. This means that they will only be a limited generator of REPS credits and only partially able to contribute towards a PG household target. Most low-income households are renters and therefore are not responsible nor the decision maker behind hot water purchases. Deeper retrofit activities such as these, are only practical in a homeowner environment, of which only 5% of low-income earners have home ownership status.

Connect a **gas** hot water system

Our offer includes:

- A free Rinnai Infinity 16 continuous flow system\*
- Australian Gas Networks (AGN) rebates for 2020:
  - \$500 rebate towards the installation of a new gas hot water service in an existing property (not a gas replacement or new build)
  - \$500 new connection bonus for properties connecting to gas for the first time and installing a new appliance (gas meter installed 2020)


+

+


Free Rinnai Infinity 16 hot water system\*
\$1,000 rebate from AGN\*
Free gas inlet

Call 1800 986 921 or contact us to get connected to gas

Additional installation charges may apply.

Figure 14: AGL REES Offer (Source: <https://rees.agl.com.au/residential/hot-water-systems/>)

## 6. ACTIVITY REPS CREDITS

The normalised REPS credits from undertaking this activity is equal to:

Normalised REPS credits (GJ) = Productivity factor, as per the table below:

Activity Description	Productivity Factor	
	For a water heater installed to service an established class 1 dwelling that is not connected to a reticulated gas supply or a class 2 dwelling (new or established)	For a water heater installed to service an established class 1 dwelling that is connected to a reticulated gas supply
Install gas water heater with a rating of 5-stars or more	53	0
Install a gas water heater with a rating of 6-stars or more	58	5
Install a solar electric water heater	129	50
Install a solar gas water heater	146	66
Install a heat pump water heater	113	33

Figure 15: REPS WH1 Activity Credits (Source: ESCOSA)

As per the above rebate, under REPS a gas instantaneous system being installed in a household without gas connected generates **54.2 REES credits**, this is proposed to increase by 7% under the REPS to **58 credits in 2021-2025**. If you assume a high pass through value of \$10, this becomes a rebate value of **\$542** which is roughly **25%** off the cost of the supplied and installed system.

If that home was already connected to gas and replaced their inefficient hot water system with the exact same one as the example above, their productivity factor and rebate value would be only **5GJ (\$50 rebate)**.

The added complexity of ensuring a customer is connected to gas or not connected to gas has a startling reduction in the GJ available and cuts out a substantial portion of the market.

In ACT under the EEIS, if a customer installs a solar heat pump, they are eligible for \$750 as a general residential customer and \$1200 if they are priority group customer, regardless of whether they are connected to gas or not. The ACT EEIS recognizes the need to close the cost gap and offers nearly double the rebate for priority group households.

Gas storage or instantaneous hot water system	Eligible hot water heat pump.	\$750 discount on costs of installation.	
		\$1200 discount on costs of installation if concession card holders.	

Figure 16: Rebates (Source: ACT EEIS)

These additional roadblocks and reductions in abatement based on a customer’s connection status, adds additional barriers to participation and reduces the amount of REPS that this activity could generate in metropolitan areas.

MAC recommends that the DEM uses a single value for calculating REPS (non-gas connected values) and hot water installations are treated the same regardless of a customer gas connection status. Households struggle to meet the costs of replacing a hot water system when it fails, so when it comes to a large appliance purchase every dollar counts and a customer is more inclined to purchase a cheaper inefficient product to reduce the upfront costs, as opposed to an efficient model that is expensive to purchase but has lower running costs. A single high value of abatement provided across all hot water categories will allow for greater market participation and greater impact on reducing energy savings. MAC also recommends that the DEM permit this activity to be conducted in SME environments, at present it is only permitted in residential households.

- **Replace an Inefficient Showerhead with an Efficient Showerhead WH2 (Residential or Commercial)**

The key issue with showerhead activities under the REPS is with the mandatory contribution, a residential customer will be paying \$33 for a showerhead that they can purchase at Bunnings for \$10-15 which doesn’t make economic sense. Furthermore, a residential customer will be required to pay the same amount as a business, however, a business is eligible of unlimited upgrades and a residential customer is only eligible for a maximum of 3. Showerheads are the 3<sup>rd</sup> largest generator of energy savings in the residential and priority group households and will continue to play a crucial role in the delivery of those targets. MAC recommends a single, once off fee of \$30 is applied for all households for all activities they chose to do in that environment (if the DEM chooses to continue with customer contributions as opposed to our earlier recommendations to remove this component).



- Install an LED General Purpose Lamp L1 (Residential Only)
- Install an LED Down-light Lamp or LED Down-light Luminaire L2 (Residential Only)
- Replace Halogen Floodlight Luminaire L3 (Residential Only)

Residential lighting is a vital activity not only for priority group households and renters but for residential customers in general. It has historically been the largest certificate generator in this target category. To remove it by reducing the productivity factors to such a level that it is no longer cost effective in market based on flawed baseline logic that assumes general residential installs LEDs at the same rate as Priority Group customers is disregarding the fundamentals of the REES and REPS activity mix.

Lighting is a key energy saving activity, one that saves energy during high demand periods (3pm – 9pm) is being reduced to such a point that it cannot be delivered in market – is contradictory to an energy productivity schemes targeting TOU energy savings.

The efficacy levels put forward of the new Standard and HE LED products are not yet on the market, which means that stock will need to be designed, tested, sourced and shipped to Australia before this activity takes place. That is on the assumption that the price for this new technology product doesn't increase – if it does – activity providers will also have to contend with a higher cost product with only half the abatement rate – which will cause this activity to cease in market.

**Standard LED means an integral LED lamp with initial efficacy of not less than 140 lm/W (non-directional lamp) or 115 lm/W (directional lamp)**

**High Efficiency LED means an integral LED lamp with initial efficacy of not less than 155 lm/W (non-directional lamp) or 130 lm/W (directional lamp)**

These are low-cost energy savings that can easily be delivered in rental properties and low-income households. Matt Forster, one of the consultants that worked on the Independent Evaluation, stated at the DEM Webinar on the 1st October 2020 that the abatement levels were reduced by 54% in lighting due to the additionality concerns of LEDs, however, he did not believe that this was the same in general households as in low income households and suggested that this demographic would not necessarily select a high technology item over a low cost product. For this reason, we propose that the DEM revisit the productivity factor values proposed for residential lighting (including downlights), specifically for Priority Group households and returns them to 2020 gazetted levels.

Based on the consultation paper released in June 2020 the productivity factor for residential lighting should actually be multiplied by a factor of 7.6 to reflect the time of day that the energy savings occur. Instead abatement has been halved assuming additionality. It is still in 2020 the largest certificate generator in residential and with the new activities proposed in 2021 under REPS, the reduction in abatement in this key activity stream will see a gap in the market that cannot be filled by alternative low cost activities – only high customer contribution activities.

We recommend that the DEM revisit the proposed 'baselining' for residential lighting (downlights and normal lights) and re-evaluate the financial constraints that many PG households find themselves in that removes the ability to pay x3 the price for the highest technology product. There is still substantial amounts of activities that can take place and if the 'sub target' is upheld the cost of the PG delivery will already be substantially increased, maintaining the abatement rates in this activity or managing a staged phased out approach will be a far more cost effective approach.

Item	Cost (approximately)
LED 7W A-Bulb	\$5
Average paid to Installers per light to install and complete the evidence requirements	\$6 - \$7
Overheads: recycling, training, insurance, transport, administration and risk	\$5
Total cost of delivery	<b>\$17</b>
Current 2020 REES abatement	1.41





Assumed Price per GJ for Residential	\$14
Activity Providers earnings per light fitting	\$19.74

Table 4: Cost stack for residential lighting

By halving the abatement to **0.601** REPS and assuming that the cost of the new technology product required to meet the HE bulb requirements does not increase, the overheads and costs remain the same but the AP is now being paid **\$8.41** per light fitting, which is not enough to cover the costs. This will mean that even if this activity is made 'FREE' to priority group customers, they will actually have to pay the shortfall of \$11 per light OR the price per certificate will need to double to cover the gap.

This same scenario is what transpired when the abatement of downlights was halved back in 2018. The market ceased to offer the activity (which then inadvertently impacted the delivery of IHDs) as it was no longer viable to deliver and customers did not want to contribute such a large cost gap. The problem in this case is these abatement cuts will force all customers to pay for an activity regardless of whether it is mandated.

We know that lighting is a critical activity for low cost energy savings, but it is also a critical energy saving activity, generating savings at a time that the SA energy market needs it the most, when the sun goes down.

In summary, without a steady transition from REES to REPS with a cap imposed on activities many activity providers are finding themselves in a position where they have excess stock and no ability to install it before the new REPS requirements come in which will render their stock ineligible for installation next year. No transition period has been allowed nor consultation and sharing of the true baseline numbers behind this 'abatement' change.

▪ **Commercial Lighting Upgrade CL1 (Commercial Only)**

MAC is supportive of the continuation of Commercial Lighting activity and the proposed productivity factor increase and encourages the DEM to seek funding to develop their own SA based calculation tools to ensure the continuation of this activity and to provide market certainty – rather than be dependent on another State Government's tools.

We recommend that if the DEM chooses to increase targets, the cap of 1800 GJ is removed for CLU creation. If it is not removed, activity providers may choose to put their commercial lighting activities through the PIAM-V model which can be expensive to administer and audit.

At present, REES relies on the NSW ESS lighting calculator to determine abatement and when NSW makes a change they consult with their (NSW based) participants for a minimum of 6-12 months before that change takes place to help them transition. The DEM views that NSW calculator changes are not a DEM initiated change to the Scheme and therefore they do not have to consult their SA participants on these changes. NSW only provides access to consultation documents to Accredited Certificate Providers (ACP), thus REES participants whom don't actively operate in NSW, are unable to gain access to any documentation until it formerly released by IPART. This has caused significant financial impact to participants in the REES and stakeholders would like to see greater consultation of changes to productivity factors in future.

Any change to abatement in the commercial lighting activities whether it be NSW initiated or SA, needs to be consulted on and assessed to see if that abatement reduction is reflective of where the DEM see their REPS progressing. Commercial lighting activity is critical in the delivery of low-cost energy savings and the NSW ESS is at a different stage of their scheme and phasing it out. This year IPART have planned a 50% reduction in commercial lighting abatement meaning that prices will jump as much as 30% in the REPS market to adjust to this change.

It is important for the viability of the REPS that the DEM seeks funding to decouple their program from the NSW calculators and develop their own. They are in a fundamentally different energy market than that of NSW and need to recognise that changes being made in other states are not necessarily reflective of changes needed in their own scheme. Precisely at a time that load shifting and demand response activities in a commercial space are of increasing importance.



Over the last three years, the costs of REES have increased substantially, not due to lack of competition amongst providers but directly due to the SA commercial lighting currently delivers approx 70% of the target in SA. The SA commercial lighting program uses a combination of the VEU and NSW product registries but ultimately relies on the NSW calculators to determine how many certificates are generated on a job.

The problem is that the SA energy market is in a vastly different place and the commercial lighting program in NSW is mature, it has been running for 10 years now (with over 78 ACP's) and is nearing saturation so they are taking steps to phase out commercial lighting as an activity during 2021-2030. Whereas SA only started their CLU program in 2015 and with only 7 service providers (and with 900GJ caps on jobs), they have barely scratched the surface of the Commercial Lighting Upgrade opportunity.

Due to its reliance on the NSW calculator, SA CLU program has had already experienced nearly 40% in abatement reductions (in only 5 years of operating) due to NSW related changes. In July 2021, that is set to reduce by a further 50% due to the phase out steps NSW is taking.

- Install Standby Power Controllers – Audio Visual (AV) SPC1 (Residential Only)
- Install Standby Power Controllers – Information Technology (IT) SPC2 (Residential Only)

This is a low-cost energy saving activity that can easily be undertaken in a hardship and rental household without need for landlord permissions nor a customer contribution. It is necessary for the affordability of the scheme and to have activities available for the low income and rental sectors. The productivity factor should be returned to the current gazetted rates specifically for this purpose.

The halved rate and current installation rates averaging one SPC per home, does not cover the cost of the product and installation. It will require a customer contribution, regardless of whether the customers are PG or Residential, thus reduce participation in this activity and likely force its removal from the program as manufacturers will no longer build and supply the product.

- Purchase a High Efficiency New Refrigerator or Refrigerator-Freezer APP1A (Residential or Commercial)
- Purchase a High Efficiency New Freezer APP1B (Residential or Commercial)
- Purchase a High Efficiency New Clothes Dryer APP1D (Residential or Commercial) and
- Remove and Dispose of an Unwanted Refrigerator or Freezer APP2 (Residential or Commercial)
- Install a High Efficiency Pool Pump APP 3 (Residential Only)

These are great initiatives however, much the same as the Air Conditioner proposal the productivity factors are too low to drive market transformation. Customers who are already committed to purchasing these products will do so and receive the cash discount/incentive from the REPS. A 10% discount of the cost of supply and installation is not enough to drive consumer purchase decisions to a more energy efficient model and results in a case of 'additionality'.

- Install a High Efficiency Refrigerated Display Cabinet RDC1 (Commercial Only)

This is a viable activity and may work in a commercial environment for the smaller RDC units, the larger units range in price from \$8-\$10k and the productivity factor is equivalent to less than 10% of the cost which much like the air conditioner incentives, will not drive greater market uptake, it will merely benefit those already committed to purchase.



MAC recommends that it would be reasonable to change this up to reflect that the majority of businesses lease their equipment not buy outright. If this activity was adjusted to be based on 'Purchase' it could drive leasing companies to purchase units of greater efficiency and lease them out en-mass to their business clients.

This way there is a greater spread and rollout of efficient appliances in a commercial environment without the large overhead of asset purchases as a barrier to participation.

- NABERS Building Demand Savings NB1 (Commercial and NABERS Rated Residential Buildings Only)

The requirement for a building to have an existing NABERS rating will mean that there is very little uptake of this activity. There are less than 100<sup>17</sup> commercial buildings in South Australia with an existing NABERS rating and once you apply the REPS minimum requirements, that more than halves.

This will mean very few will participate in this activity.

- Commercial and Industrial Demand Savings (PIAM&V DM) CD1 (Commercial or Industrial Only)

We are supportive of the introduction of PIAM&V, however due to the introduction of industrial sectors and observing the over-subscribed 'Productivity Scheme' from 2018, we recommend that these activities are capped at 20k GJ per year to reduce saturation and locking out of the SME market.

PIAM-V projects fluctuate and generate large volumes of certificates in some years and less in others, it is not a predictable or reliable method for generating a fixed volume of certificates to deliver under annual targets in a non-tradable market. Price volatility and abatement changes in SA create a great deal of uncertainty for activity providers that are reliant on long consultation periods for changes etc. In order to encourage PIAM-V projects in SA we recommend allowing annual creation methods and setting a cap on creation rates so as to not saturate the market in specific vintage years.

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<sup>17</sup> <https://www.nabers.gov.au/ratings/find-a-current-rating>



## General commentary outside of consultation questions

### Cost transparency

*“The regulations will make explicit that the new requirements for disclosure and transparency of scheme costs will not include any information that will publicly identify specific activity providers.” “The REPS proposals include requirements to improve scheme cost transparency by requiring obligated retailers to annually submit costs and offer information to ESCOSA for at least 80 per cent of the eligible activities.”*

In response to the above statement, there is no further detail provided on what scheme cost information will be requested by ESCOSA. Obligated Retailers as well as their activity providers will need to know what this entails moving forward.

For example, do Retailers need to provide a breakdown of any or a combination of the following:

- Product
- Marketing
- Resourcing (both installation and office)
- Technology and equipment
- Insurance and the like, etc.

By requiring parties to provide this information, this may potentially remove any qualitative differences between the activity providers, as it will reduce the deliverables to a dollar value. In order to remain competitive with their counterparts, any service or quality differentials will be removed in favour of retaining the lowest cost possible, which the unintended impacts could include:

- **Increasing the level of non-compliance:** achieving compliant activities requires more resources and efforts. If Retailers ask for costs to be reduced, this will result in activity providers pairing back their service in order to remain price competitive.
- **Deter product innovation:** manufacturers will shift efforts from developing market leading products to focussing efforts on price competitive products which are typically those developed to meet minimum specifications only.
- **Lack of competition:** if the lowest cost activity provider is selected, this will ultimately reduce the number activity providers that are able to compete for work.

Overall, the REPS experience for customers will be reduced to a low value product and service offering.

### Priority Group ‘\$500 per week rental’ eligibility

The Rental Cap on priority group households being set at \$500 is may present significant administrative issues and privacy concerns, there is currently no further instruction as to how the customer is to demonstrate this without requiring providing a copy of their Tenancy Agreement. Lease Agreements can include sensitive information such as financial income, employer details, and so on.

If requirements dictate that the customer is to provide evidence to support that they fall within the margins of the cap, this may appear alienating and invasive by the participant. There are also many circumstances where share-housing takes place to assist tenants to access a property in a metropolitan area sitting above the cap, thus tenants that would otherwise be considered priority group will not be eligible.





The average cost of a home in South Australia's metropolitan area is \$477,500<sup>18</sup> with an average rental yield of 5% which translates to approximately \$459 per week in rent. There are also considerations of rental assistance and how this may impact the customer's eligibility.

This additional participation barrier will not only reduce uptake or create concern with customers that want to take part in these activities (i.e. not wanting to detail verbally nor provide proof of their rental status through a lease to a plumber, electrician or doorknocker) it will also create a high risk environment for the handling of sensitive customer data vs a low risk of a high wealth customers undermining the co-contribution requirements.

### Co-contributions

MAC supports the current objectives which set out to reduce both household and priority group energy use, with both sectors being critical to the overall success of the Scheme objectives. However, we recommend that the contributions and administrative rules are made the same for both targets due to practical administration and not discriminating e.g. requiring one household to pay because they own and another not to because they rent.

MAC recommends that contributions are removed for all residents participating in REES and suggest that the 'free issue activities' in the scheme will be nearing saturation point which encourages activity providers to offer deeper retrofits, where contributions occur organically rather than being legislated.

If the DEM are set on their approach to introduce customer co-contributions, MAC recommends that they take note of what transpired in NSW when they introduced co-contributions to the HEER scheme in 2016 at \$90 ex. GST<sup>19</sup>, within 12 months this was removed and replaced with a \$30 ex. GST<sup>20</sup> contribution due to the impact it had had on customer participation. MAC notes that in the last consultation round involving 18 market participants, 50% of the submissions did not support co-contributions being brought into residential activities for various reasons. It's important to note that these 50% of respondents comprise of 90% of the market share of REES. It is important that the DEM reviews these objections and considers the impact of introducing an unsupported initiative that the majority of participants believe is not in the best interests of the Scheme.

### Issues with DREDS

Activities APP4, HC2C, EV1 and WH4 require the use of a Demand Response Enabling Device (DRED) which is either retrofitted or in-built into the appliance.

In 2018, these devices were trialled by AGL in NSW across different air conditioners produced mixed results. These issues that will be better described below, remain critical in the deployment of these activities and still remain present today. AGL documented these issues in depth in their NSW Demand Response ARENA Knowledge Sharing Report<sup>21</sup>, some of which include:

- Customers experienced difficulties identifying the model number of their air conditioner and at times, accessing the information on the name plate was not safely accessible. As a result, determining the

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<sup>18</sup> <https://www.sa.gov.au/topics/planning-and-property/buying-and-selling/researching-a-property/median-house-sales-by-quarter>

<sup>19</sup> <https://www.ess.nsw.gov.au/Home/Document-Search/Guides/HEER-Method-Guide/HEER-Method-Guide-V3.1>

<sup>20</sup> <https://www.ess.nsw.gov.au/Home/Document-Search/Guides/HEER-Method-Guide/HEER-Method-Guide-V3.3>

<sup>21</sup> AGL Energy Limited. (2018). *NSW Demand Response ARENA Knowledge Sharing Report*. Australian Renewable Energy Agency. <https://arena.gov.au/assets/2017/12/nsw-demand-response-report-agl.pdf>





customer's eligibility then became difficult, as the customer was less likely to provide this information and no longer proceeded with the trial.

- Retrofitting DREDS on existing air conditioners uncovered many issues relating to compatibility, reliability, feasibility and cost. Due to the complexities presented, the time spent at customer sites was significantly more than estimated and presented an increased cost and also inconvenienced customers. Air conditioner units older than 5 years were not used in the trial as they presented compatibility issues with the DREDS used (Wattwatcher).
- AGL identified difficulties in recruiting customers despite offering an upfront \$300 reward and a \$30 incentive for a peak event through its '*Managed For You*' Load Control campaign, with customers were unwilling to hand over control of their appliance.
- Approximately 40% of customers that signed up, had an AC unit that was not compatible with AS4755, and had to be excluded from the program. With the customers that were eligible, installing the DRED was not a 'plug and play' process. Depending on the brand, different adaptors were required, even within the same brand there were different adaptors to use depending on the AC model.



## Conclusion

Without sufficient activity productivity factor values and reducing barriers such as caps, eligibilities and connection status' the DEM will be unable to increase the targets of the REPS without substantially increasing the costs to deliver this program, or worse, multiple retailers choosing to pay penalty.

The penalty price has only increased by a nominal 18% which does not allow sufficient room for activity providers and obliged retailers to increase the certificate price to cover the shortfall created in the PG and residential retrofit activities, this creates a fundamental risk to the viability of the program and obliged retailers 'opting out'.

Due to COVID-19 and resource constraints within the DEM that has slowed consultation we find ourselves in a situation where we are 90 days out of the commencement of the scheme and Targets have not been set, activities and productivity factor has not been confirmed, Activity Providers have had to let go of the majority of their field staff due to the 20% cap and lack of certainty and most importantly, customers are not getting energy savings at a time of great need.

Once targets are set for retailers and activity specifications are confirmed, there is still the work of contracting providers, developing staff training and rolling out training to field crews, hiring staff, sourcing stock, building marketing, changing business operations. All of this needs to take place before 1<sup>st</sup> January 2021. This is why the market participants have been pushing the DEM for faster feedback and better consultation.

We recommend that the DEM increase targets, introduce their new DR activities (after they have revised the productivity factors) and maintain the abatement on residential lighting. We also recommend that the DEM invest time over the coming 6 months to developing an SA state centric tool for calculating commercial lighting activities to provide market certainty and give the REPS the best chance of success over the coming decade.

We at MAC remain supportive of the REPS and are encouraged to see the transition from Energy Efficiency to DR and ToU incentives. The REPS could prove to be a valuable vehicle for this energy market transition providing that the productivity factors are set in a way that entices a customer to upgrade their appliances and take up these initiatives. During 2021 – 2025, South Australians will be experiencing a recession and seeking to reduce overheads and save money where possible. If the REPS can help them on that journey and cover that financial gap in upgrading their assets and appliances to DRED and EE designed technologies, we believe this will be a government program success story and one that all States will be watching.



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