



State of solar and batteries

Industry report

Evergen survey reveals Australian solar homeowners are ready to take on batteries with an appetite for energy innovation.



Introduction

In **November 2020**, Evergen released a survey to 57,000 energy consumers to better understand the state of solar and batteries across Australia. More than 3,000 responses were received Australia wide.

The responses painted a strong picture of renewable energy priorities for Australian homeowners. The results provide us with a snapshot of the demographics of respondents; solar and battery uptake, their appetite for energy innovations such as Virtual Power Plants (VPPs) and community battery schemes, and an understanding of their motivations.

According to the [Clean Energy Council](#), by the end of 2019 there were at least 2.3 million solar installations across Australia, equating to 23.5% of Australian homes with rooftop solar. In comparison, [Sunwiz](#), in April 2020, calculated that in 2019 there were around 73,000 household battery systems across Australia estimated that equated to roughly 7.9% of solar households with a battery.

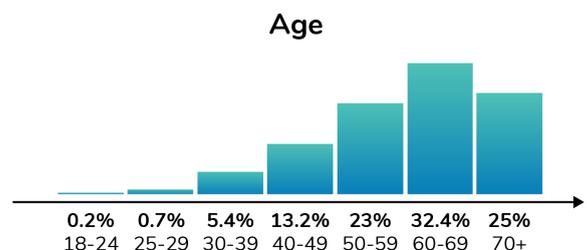
According to the [PVPS National Survey](#), growth with Australian solar industry has seen a greater than ten-fold increase over the total installed capacity of 1.3 GW since 2011, with the most capacity ever added during 2019.

What were the survey insights from Australian home energy consumers?

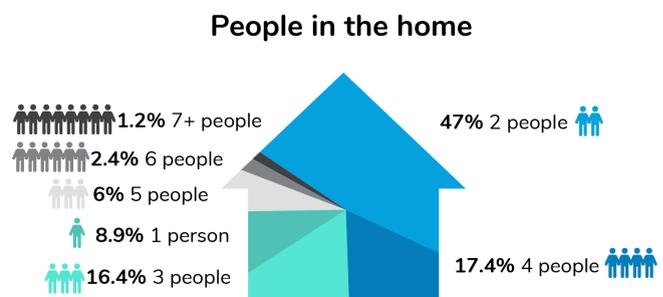
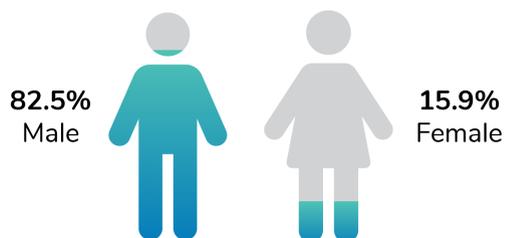
Demographics

The survey was sent to households who have had one or more previous interactions with Evergen. Of the more than 3000 respondents, 82.6% reported they had installed solar already, and 32.1% reported having installed a battery so we acknowledge that the survey respondents are identified as a largely engaged audience with renewable energy causes.

Respondents were overwhelmingly men in two-person households. Of the respondents, 82.7% were male, with 15.5% of the respondents female. Almost half (47.7%) of the respondents live in two-person households with 4-person households being the next highest represented at 17.3%.



When it comes to age, the respondents were predominantly older with 32.5% of respondents between the ages of 60-69, 25.1% over the age of 70 and 22.9% between the ages of 50-59. Totalling more than 80% of the respondents as above the age of 50.



Older males appear to be the predominant 'researchers' into renewable energy opportunities for their home.

These findings suggest it may be more cost effective to have solar when your household energy consumption is lower, or, there's an opportunity cost 'weigh-up' that many larger households are making in favour of things other than solar.

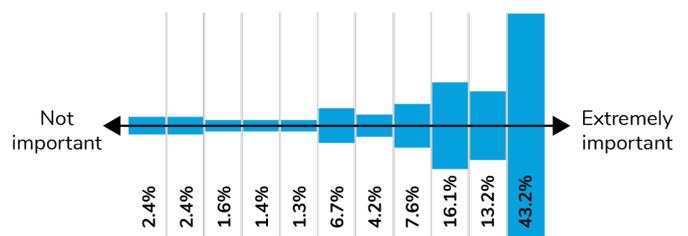
Considering that 44.2% of respondents had relatively small systems of 5-6kW, and 15.7% had even smaller systems of 3-4kW, we can assume

that having solar is an affordable option for older households considering their low household consumption, and cash in the bank (almost 30% had greater than 7kW while 65.6% had less than 6kW).

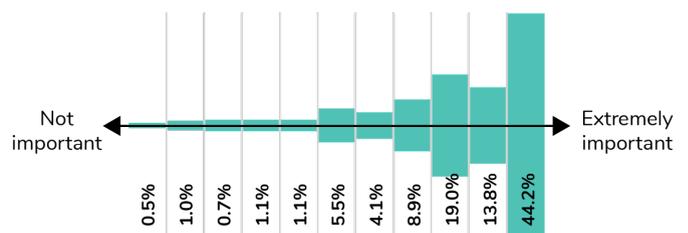
Purchasing priorities

Our survey revealed that respondents are highly motivated by three factors when researching electricity options for their home including **control**, **price** and **reducing their impact on the environment**. Some of the most interesting insights came from the questions around their energy consumption within their home. When asked how important saving more money, having more control and reducing their carbon footprint was, all three questions were responded to by being overwhelmingly concerned with **each of these**.

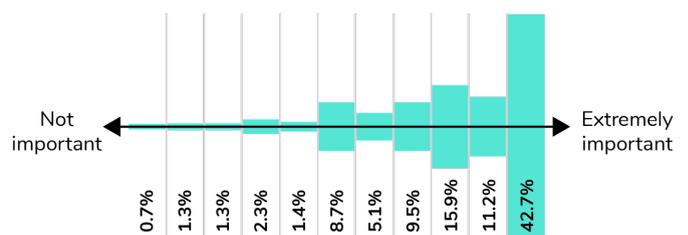
Want to reduce carbon footprint



Want to control electricity costs



Want to save money on bills



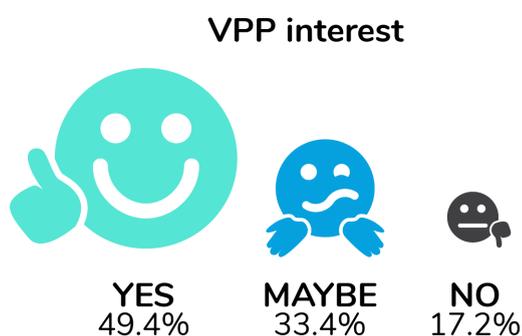
A large proportion, 86.2%, of respondents who did not already have solar said they were considering investing in solar or batteries within the next three years due to these priorities.

There was a low battery uptake across the group, but high-interest for when perceived ROI improves.

Of those respondents who did not have solar already installed, 86.2% said yes, or maybe to installing solar or batteries in their homes over the next three years. 68% of respondents with solar installed, have not yet installed a battery. For those that do have a battery installed, the most popular two brands reported were Alpha ESS and Tesla with both capturing just over 30% of the respondents. The next closest battery preference was LG Energy Solution at 9.1%.

Future of energy

Overall, the respondents indicated a strong appetite for innovative energy solutions. When we asked them about Virtual Power Plants (VPPs), although there was a lack of knowledge around what they are, there was overwhelming interest in learning more.



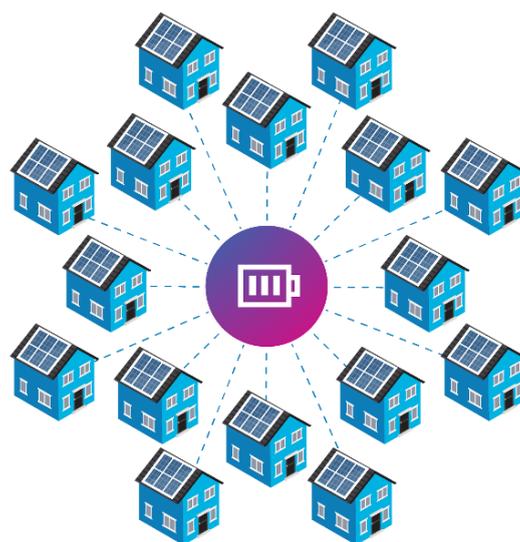
- 84.7% of respondents were interested in learning more about VPPs
- 142 respondents were already currently participating in a VPP
- A high level of interest in Community Battery Schemes, in fact, 1.3% higher than VPP trial interest
- A genuine interest in batteries, and increasingly so, as the ROI improves

More than 60% of the respondents said they were not sure what a VPP was so it was not surprising that almost 90% were not participating in a VPP.

Of those who were participating in a VPP, 38.3% responded 'other' when asked which VPP trial they were a part of indicating some consumer confusion. The rest were distributed around AGL, Ausgrid, Reposit, Tesla, Members Energy and EnergyAustralia. And, when looking more closely at the VPP trials, 28.4% reported having been on the trial for between 4-7 months, and 22.7% reported to have been on one for more than a year.

There was a lack of knowledge in Virtual Power Plants, but an interest in learning more is high.

It is assumed that the 'unknowns' about a VPP is making for indecisive respondents. This overwhelmingly came through in the following question which asked them why they responded that way, where 'unsure' or 'don't know enough' were the most popular responses. One response mentioned that for their ages (70+) the cost of joining a VPP, (including installing a battery etc) was too high for them considering they we're already largely in credit on their power bills from solar alone. This suggests that targeting a middle aged or slightly larger family i.e. high consumption is where the biggest difference will be made.



A higher level of interest in Community Battery Schemes suggested a willingness to support localised, shared initiatives.

The final question we asked was around community battery schemes. 85.7% responded they might, or definitely would be interested in joining a community battery scheme. This is very slightly higher than those who would be interested in joining a VPP trial.

Governance

With regards to governance, respondents see state efforts towards renewable energy initiatives positively, Federal Government initiatives are viewed negatively and Local Council initiatives were largely viewed with ambivalence.



We asked what their view of the federal, state and local governments initiatives around clean energy were. Across all three questions (we asked one each for Local, State and Federal) the highest population of answers fell square in the middle of the scale, indicating some ambivalence towards their efforts. But the outliers for the State government tended towards the more positive end of the scale, while the outliers for the Federal government tended towards the negative end of the scale. Local government was very equally balanced in the middle with a spread of outliers on each side.

Conclusive consumer insights

Overall, there were four main takeaways from the survey findings.

1. There is an appetite for energy innovation with ROI focus

There is an overwhelming appetite for information around the paybacks and benefits for taking the plunge from solar only to solar and battery. Consumer education is vital to increase battery uptake for solar only homeowners, with a focus on value / ROI / payback benefits that includes VPP participation.

2. Battery storage is on Australian consumer's radar

Respondents indicate that battery storage is on their radar. Utility companies should be aware of behavioural changes in energy consumption and a willingness for customers to adopt new ways of doing things if the education and ROI is clear. Customers are willing to innovate should the incentives be there.

3. Education is key

Communicating the complexity of energy in simple terms is important for mainstream homeowners, beyond the early adopters, that might otherwise shy away from the technical nature of energy. This is critical for the mass adoption of batteries in decision making for new and older homes.

4. Evolving the audience is critical for wider adoption

Marketing messages should be tailored to a middle age homeowner audience until battery adoption opens up over the next 1-3 years. Education targeted to female decision makers should be considered. As identified in a recent group, although they are not the main point of contact/the main researcher, they are very much a part of the decision-making process.

About Evergen

Evergen is leading the charge using software to enable decentralised energy systems of the future. Founded in collaboration between AMP Capital and the CSIRO in 2015, Evergen has invested in some of the smartest, curious and most capable minds across the industry. Evergen now works with many retailers and network operators in Australia, in Europe, and Latin America. Evergen's mission is to kill a coal-fired power station in 10 countries by powering the transition to a resilient, renewable, decentralised energy system of the future.

For more information, visit <https://evergen.energy/>

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