



REWIRING AUSTRALIA • RESEARCH REPORT

How to unlock the flexibility in home batteries

What 407 Australian battery owners told us about how they use their battery and how we can make thousands more home batteries flexible.

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Executive summary

Australia has installed more than 500,000 home batteries since July 2025.

In May 2026, we surveyed 407 owners to ask how they use their home battery and how they feel about virtual power plants (VPPs).

FINDINGS

- Seven out of ten respondents have not joined a VPP, citing loss of control and a lack of trust.
- Of the minority who have joined a VPP, 60% have joined a wholesale VPP rather than a conventional VPP which just controls a battery during occasional events.
- Most (75%) of those on the wholesale VPP are satisfied with the experience, whilst on conventional VPPs as many are neutral (47%) as are satisfied (44%).

LESSONS

- Conventional VPPs are appealing to a minority who want to support their grid.
- Those motivated to save money are opting for a wholesale VPP.
- Conventional VPPs are not providing enough incentive (or value) to attract participants to mitigate perceived concerns of lack of trust and control, and are struggling to satisfy many of those who do join.

70%

of battery owners surveyed have not joined a VPP

60%

of those who did join chose a wholesale VPP

75%

of wholesale VPP customers are satisfied

SOLUTIONS

- 1 Simple tariff and VPP comparison tools are needed for consumers.
- 2 Protections are needed to ensure that these offers serve consumers.
- 3 To unlock more battery flexibility, we need a wide range of battery rewards, to appeal to varying consumer appetites for different degrees of flexibility.
 - Wholesale tariffs and VPPs with smart algorithms appeal to some households.
 - Conventional VPPs offer important dispatchable flexibility. Suitable for those willing to grant some control.
 - Sophisticated flexibility plans using time-of-use tariffs to incentivise flexible behaviours in different ways throughout the day.
 - Simple flexibility plans which, for instance, reward evening export or not drawing from the grid in evening peak.
- 4 Local network pricing can unlock more value. Price signals based on what your street or substation needs could pay battery owners and save network costs.

What is a virtual power plant?

A virtual power plant is a collection of batteries located in different places, connected to the same network, coordinated by a central controller to act like a single dispatchable power plant.

Introduction



Batteries are rapidly changing the economics of our energy system. The ability to absorb solar energy during the day helps reduce oversupply and, when they discharge to run your home in the evening, they reduce demand on the grid. In addition, the flexibility of batteries can be utilised further by exporting to the grid in the evening (not just running your house) and their rapid response time means that batteries can help stabilise the grid when demand is dangerously high or low. This functionality provides a valuable service to the whole system, potentially reducing spending on grid infrastructure costs.

The main approach to unlock these flexible capabilities at the moment is by connecting thousands of batteries to one central control to create a 'virtual power plant' (or VPP) which can fire up when called upon. The households are paid for signing up to take part and making their battery available for use. The Australian Energy Market Operator (AEMO) sees a central role for VPPs to harness home batteries and provide these services to the grid. By 2030, AEMO hopes that 30% of batteries are part of a VPP and by 2050 that should rise to almost 60%.¹

While the potential benefits to the grid are known, it is far from clear that consumers are interested in joining a VPP. Recent research suggests that just 10-24% of battery consumers have joined a VPP.² In this short report, we analyse the responses of 407 battery owners to a recent survey carried out independently by Rewiring Australia.

We find evidence that many battery owners do not trust VPP providers and are reluctant to cede control of their battery. The results lead us to suggest that, alongside VPPs, considering a more diverse range of approaches to incentives could help unlock greater flexibility from home batteries.

This report does not detail the full survey results which you can find summarised separately [here](#).

¹ AEMO (2026). Integrated System Plan for the national electricity market.

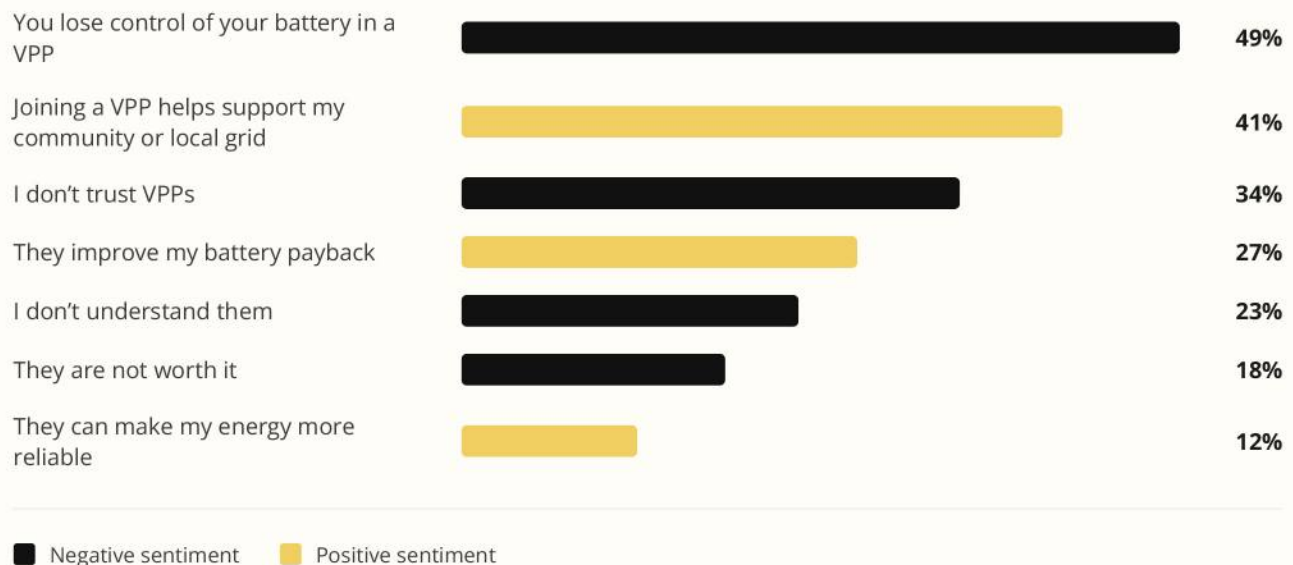
² ACCC (2026). Inquiry into the National Electricity Market report; Energy Consumers Australia (2026). Consumer Energy Report Card: Why households adopt batteries and why many aren't joining a Virtual Power Plant.

1

Most battery owners have not joined a VPP; they feel VPPs mean they would lose control

Most respondents (70%) who owned a battery have not joined a VPP. Half of those referenced concerns about losing control of their battery in a VPP and a third do not trust VPPs (Figure 1). At the same time, many understood that participating in a VPP could support the grid. But nearly a quarter of those surveyed said that they do not fully understand VPPs, suggesting that consumers need better information or education in order to take up these offers.

Figure 1: How those not in a VPP feel about VPPs



% of battery owners not signed up to a VPP · n = 284

LESSON

VPPs do not appeal to most battery owners at the moment — at least seven out of ten have not joined a VPP. This is due to a sense of loss of control, a lack of trust, and low understanding. If we are to unlock the flexibility in these batteries, we need to build consumer understanding and trust in VPP operators, and create more flexibility value propositions which incentivise flexibility without taking control.

2

Wholesale VPPs are twice as popular as conventional VPPs

There are two distinct types of commercial offer which are classed as VPPs: Most VPPs charge or discharge a home battery during grid 'events' and pay the owner (which we will call 'conventional VPPs'); the other type of VPP uses an algorithm personalised to the household to charge and discharge a home battery throughout the day to optimise the household's bill using the wholesale tariff (which we will call 'wholesale VPPs'). There are at least a dozen conventional VPPs; most are wrapped up in a wider retail tariff, while others simply run your battery during such grid 'events', regardless of your retailer. There is only one prominent wholesale VPP, Amber.

All VPPs other than Amber had low numbers of participants among our respondents (≤ 10) resulting in samples from which we cannot draw meaningful conclusions. To address this, in the following analysis we have grouped all other VPPs ('conventional VPPs') together to compare with wholesale VPPs (Amber). This approach allows comparison of a wholesale-optimisation VPP on the one hand, with conventional VPPs which only occasionally dispatch your battery on the other.

Two examples of VPPs

CONVENTIONAL VPP

Origin has a VPP which you can join if you are on one of their retail plans and own a home battery. Origin charges and discharges its network of batteries to support the grid. Participants are paid \$1 for every kWh of electricity discharged by Origin in these events and will only export up to 200 kWh each year.

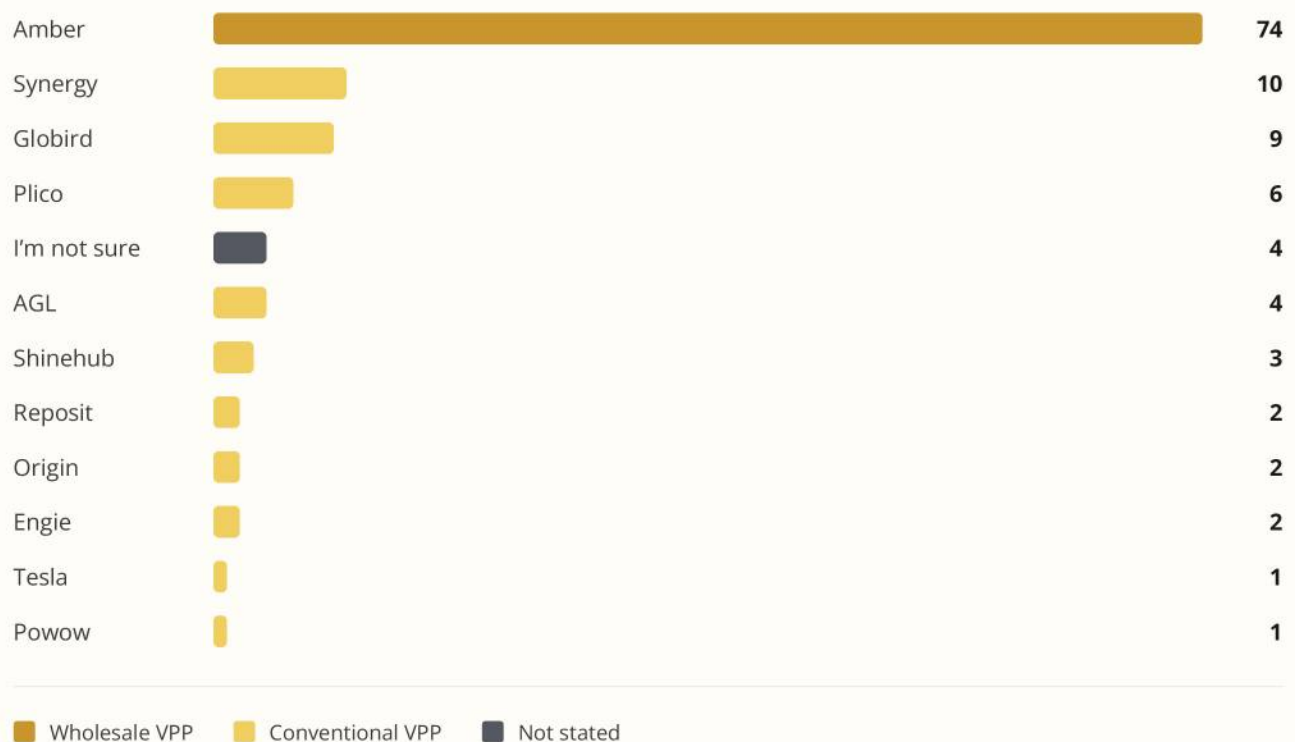
WHOLESALE VPP

Amber customers pay \$25 a month and receive full exposure to wholesale electricity pricing which changes every 5 minutes — this comes with risk as well as the ability to take advantage of price spikes and falls. Customers can also opt into its SmartShift VPP. In this case, a participant's battery is managed by a personalised algorithm every day based on the electricity price, solar generation and the participant's consumption and preferences. Participants can opt out of SmartShift at any time.

Of the 30% of survey respondents who had joined a VPP, 60% chose a wholesale VPP (i.e. Amber), exposing their battery to the wholesale market (Figure 2). The remaining 40% had chosen a conventional VPP. Synergy operates only in Western Australia where wholesale VPPs are unavailable; Plico also mostly serves Western Australia.³ This further underlines the consumer preference for wholesale VPPs where these are available. Globird offers its VPP alongside a highly-incentivised time-of-use tariff; the popularity of this innovative tariff and VPP may signal a potential solution for unlocking more battery flexibility - we will return to this later.

Wholesale VPP customers differed from those participating in conventional VPPs in their motivations (Figure 3). Wholesale VPP customers see joining a VPP as a way to 'get the most out of their battery' (82%) and lower their bills (74%). Conversely, those on conventional VPPs see joining a VPP firstly as a way to support their local grid (59%) as well as to 'get the most out of their battery' (51%).

Figure 2: Specific VPP provider uptake



Number of VPP-signed-up owners · raw counts, not %

³ Five out of six respondents signed up to Plico were in Western Australia.

Figure 3: Reasons for signing up to a VPP



% of respondents · n = 123 VPP-signed-up owners

LESSONS

Battery owners are diverse and have different priorities and motivations for joining a VPP. There is a broadly held sense among battery owners surveyed that they want to 'get the most out of [their] battery'. But for some this is to cut their bills, while for others there is a desire to support their local grid.

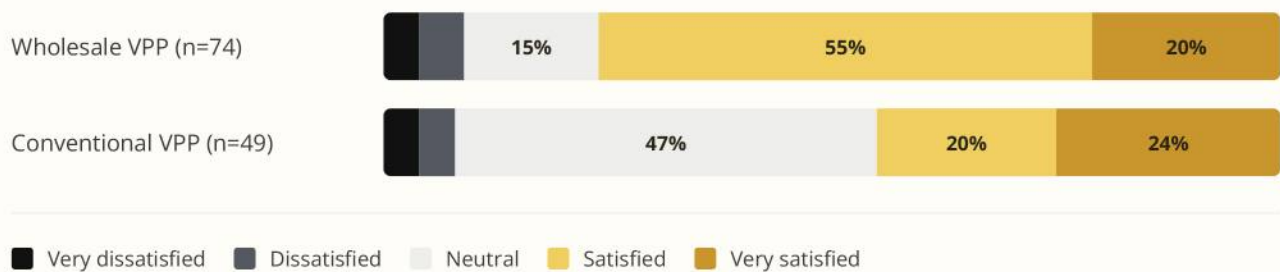
Among the respondents, two out of ten had joined a wholesale VPP and just one in ten battery owners had joined a conventional VPP. Those joining a wholesale VPP were more likely to prioritise cutting their bills compared to those on conventional VPPs who felt supporting the local grid was more important. The fact that those on conventional VPPs were not primarily financially motivated suggests that the value available in conventional VPPs is insufficient. It is not clear that wanting to support their local grid will motivate a sufficient proportion of battery owners to deliver the flexibility our system needs. Rather, the financial rewards or need to relinquish control may need to be adjusted to entice more owners to engage in active flexibility behaviours.

3

Wholesale VPP customers report higher satisfaction than those on conventional VPPs

Those on a wholesale VPP report much higher satisfaction than those on conventional VPPs. 75% of respondents on a wholesale VPP report being satisfied or very satisfied, compared to just 44% of those on conventional VPPs (Figure 4).

Figure 4: VPP satisfaction



% of respondents · n = 123 VPP-signed-up owners

LESSON

Most of the wholesale VPP customers surveyed were satisfied, but those on conventional VPPs were a mixture of neutral and satisfied. This suggests that they may not feel the VPP is achieving their goals, be that supporting their local grid, getting the most out of their battery or saving money.

Solutions

Consumers need support and protection

1

Simple tariff and VPP comparison tools for consumers.

Consumers are often time-poor and the range of available energy tariffs is enormous. VPP offers add another layer of detail and complexity. Simple tariff comparison tools already exist, such as Energy Made Easy or the Victorian Energy Compare, as well as many private versions. To address the lack of consumer understanding, comparison tools such as these need to quantify the financial outcomes from tariff or VPP offers in a clear and straightforward manner. They should estimate savings based on metered electricity data and incorporate some simple preferences (to allow for behaviour change based on a new tariff), providing qualitative descriptions about how each works. Overall, these tools should help consumers to understand both the costs and rewards as well as how they may have to adapt to make the most of a given offer.

2

Protections are needed to ensure that these offers serve consumers.

Second, to ensure that VPPs meet consumers needs and expectations, protections are needed.⁴ VPPs need to be clear about the value they offer to consumers, and they need to deliver what they claim. In conventional VPPs, it remains unclear how the value from dispatching batteries in events is shared between operators and consumers. This lack of transparency may contribute to the low trust among consumers.

⁴ As has been suggested elsewhere: Energy Consumers Australia (2026). Why households adopt batteries and why many aren't joining a Virtual Power Plant (VPP). ACCC (2026). Inquiry into the National Electricity Market report.

Battery flexibility is a scale

Batteries offer essential flexibility to balance the grid. Batteries provide instantaneous energy supply in response to high price signals to help manage sudden fluctuations in supply and demand, in a way that solar or wind cannot. However, flexibility does not necessarily require centralised control, more indirect coordination using price signals may deliver a collective flexibility response, as demonstrated by wholesale VPPs. The core problem of how to manage volatility and ensure a stable, reliable network could be managed through a combination of incentives to involve more batteries. For instance, AEMO already uses both direct control through VPPs and less direct coordination through price signals which individual batteries act on. To unlock greater flexibility, we must expose batteries to price incentives so they can access the rewards from soaking up solar, exporting when prices are high, and avoiding drawing from the grid when demand is high. But not every battery owner wants to sign up for wholesale tariffs.

When it comes to delivering flexibility, rather than a myopic focus on direct control through VPPs, policymakers and industry should take a wider lens which includes coordination. Instead of a binary distinction between VPP or no VPP, flexibility is a scale. Different levels of flexibility can be incentivised by different commercial offers. From self-sufficiency where a household stores solar and uses it in the evening at the low end, through occasional third party control via a VPP, to wholesale tariff exposure at the high end. Innovative, sophisticated time-of-use tariffs and simple export tariffs sit somewhere in the middle.

The current policy approach in which VPPs are the singular approach to unlocking flexibility, is only reaching 10%-30% of homes, a minority of which are choosing conventional VPPs. To unlock the flexibility of more home batteries we need a wider definition of 'flexibility'. This wider definition needs to include a range of commercial offers along the full scale of flexibility in order to serve the needs of a wider range of households. This varied range of offers will enable degrees of flexibility. Not all will be controlled directly, like a VPP, but the price incentives will coordinate behaviour and shape consumption and export across a greater proportion of home batteries.

THE SCALE OF FLEXIBILITY



3

To unlock more battery flexibility, we need a wide range of battery plans, to appeal to varying consumer appetites for different degrees of flexibility.

FOR EXAMPLE, A RANGE OF FLEXIBILITY PLANS COULD INCLUDE:

- 1** Wholesale tariffs and VPPs with smart algorithms appeal to some households.
- 2** Conventional VPPs offer important dispatchable flexibility. Suitable for those willing to grant some control.
- 3** Sophisticated flexibility plans using time-of-use tariffs to incentivise flexible behaviours in different ways throughout the day.
- 4** Simple flexibility plans which, for instance, reward evening export or not drawing from the grid in evening peak.

Those exposed to wholesale tariffs will use smart algorithms to respond to price signals in small ways all the time, while retaining full override control at all times. Conventional VPPs will play a role, rewarding some households for responding to occasional price spikes; but to appeal to a wider cross section of battery owners, these will need to consider sharing more value with households, how to build trust, and clearly communicate the local benefits. Sophisticated time-of-use plans which vary throughout the day will encourage those with batteries to shift loads away from the evening and into the middle of the day. Simpler battery plans, like a daily evening export tariff or a reward for reducing grid energy use could allow other consumers to opt into a lower degree of flexibility alongside their main tariff and retain control of their battery.

Innovative flexibility plans

New flexibility plans are beginning to emerge. We need a greater variety of options.

- Globird is a relatively new retailer offering a sophisticated time-of-use tariff which combines different incentives: Three hours of free power at lunchtime, high evening export tariffs, a reward for not importing from the grid in the evening, an optional VPP.
- At the simpler end, Flow Power offers a simple evening export tariff and AGL's Peak Energy Rewards is incentivising reduced demand when the grid is stretched.

These tariffs are set and reliable, compared to an unpredictable wholesale tariff. Customers must schedule their own appliances and battery over the day to take advantage of the tariff.

Local pricing will reward batteries and cut costs

Most of the VPP and battery reward tariffs at the moment are based on responding to the needs of the national grid, not the local network. However, what is needed locally may not be the same as what is needed nationally. Furthermore, answering the needs of your local network adds another source of income for battery owners, in addition to serving the wholesale market (transmission grid).

Electricity tariffs do not currently reflect the real time needs of the local network where we live. The closest we have are fixed 'network tariffs' the distribution networks charge to retailers. These tariffs follow a fixed weekly pattern which, while they increasingly vary by time of day, don't vary dynamically depending on the weather or state of the network. The local networks set up private agreements with providers to supply local flexibility when it is needed or spend money on big batteries. As a result, very few of us at home (or our batteries) see or feel these signals in our retail tariff. Home batteries can't help more than they do already without timely information (and incentives).

4

Local network pricing: can unlock more value. Price signals based on what your street or substation needs could pay battery owners and save network costs.

Local pricing from networks could be used more dynamically and effectively to stimulate behaviour, such as to charge or discharge a battery, locally within our communities. Using price incentives through a market is a less direct approach than contracting one big battery or aggregator to deliver on demand. And once the market is established, we can expect that a relationship between price and response will emerge. Enabling every battery to access these incentives broadens the pool of available flexibility, adds a source of income for batteries, and is likely to reduce the need for centralised controlled response. Taking advantage of home batteries which are already installed, saves buying larger grid support batteries or other network stability infrastructure saving money for all grid users.

Appendix: Research approach

In May 2026, Rewiring Australia carried out a survey of battery owners to understand what is motivating people to install batteries and how they are using them. The objective of the survey was to understand people's experience of purchasing and living with a battery and their attitude towards VPPs.

597 people responded between 11 May and 4 June 2026. Methodologically, this was an exploratory study, not rigorous representative polling. The sample was self-selecting based on those who responded to broad outreach via email and social media. Respondents mostly live in freestanding houses (89%) which they own (98%). They span all age brackets and income levels but are concentrated among the older and more affluent brackets. This is not entirely surprising given that homeowners with disposable income are more likely to be able to invest in batteries or other energy appliances.

The findings reported here are based on a questionnaire which covered a range of battery questions. The full findings from that questionnaire are reported [here](#).

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Citation: Rewiring Australia (2026). How to unlock the flexibility in home batteries.

Rewiring Australia

Australia's First Nations have lived with the energy of sea, sky and land for more than 60,000 years. We respect their enduring connection to Country, and we aspire to build an Australia that lives up to it — powered by the sun and wind above us, and wiser for the knowledge that has been held here longest.

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