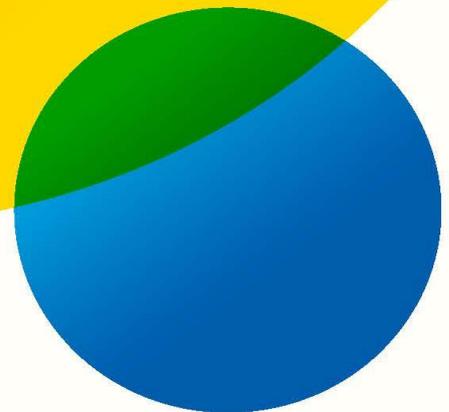


Simply Energy – Lesson Learnt Report

Date: December 2022



Acronyms

ARENA	Australian Renewable Energy Agency
DER	Distributed Energy Resources
ESS	Energy Storage System
MASS	Market Ancillary Service Specification
NEM	National Energy Market
SA HBS	South Australia Home Battery Scheme
SE	Simply Energy
VPP	Virtual Power Plant

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The views expressed herein are not necessarily the views of the Australian Government, and the Australian Government does not accept responsibility for any information or advice contained herein.

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1 Executive Summary

VPPx is an ARENA-funded project which commenced in March 2018 and has been working to build the first virtual power plant (VPP) that will integrate with a distributed energy market platform. The project is led by Simply Energy and involves a consortium of project partners including technology vendor GreenSync, Tesla and distribution network service provider SA Power Networks (SAPN). At completion at the end of March 2022, the VPP was hosting 1,363 home battery storage systems delivering between 3 and 4MW of flexible capacity to the South Australian (SA) electricity grid. The fleet size currently sits at ~1,540 home battery storage systems and continues to grow.

The purpose of this final Lessons Learned report is to account for the progress of the project from November 2020 to July 2022. It follows on from the previous lesson learned report published in October 2020.

The story of the last 20 months has been about consolidating the foundation of VPP customers who joined in the pilot and learning how to successfully transition them to an unsubsidised VPP offer once their subsidised benefits ended. Managing this transition has been challenging from a customer, marketing and even a technical perspective, this was further exacerbated by an unprecedented rise in wholesale prices in the market.

Our learnings are summarised as follows and explored in further detail in this report.

Theme	Learning
Managing the withdrawal of subsidies and transitioning from pilot to BAU has its challenges	Learning 1: Ensure that any new product supports more efficient back-end processing.
	Learning 2: It is critically important to make the transition to a new BAU contract seamless.
	Learning 3: Managing communications around benefits is important.
Don't discount how engaged customers are with the community concept	Learning 4: VPP customers see the overall program as a community endeavour and are very keen that this ethos is maintained.
Registering customers for the VPP and FCAS is challenging	Learning 5: Registering a battery onto our VPP fleet was highly manual, inefficient and prone to error
	Learning 6: Registering and updating fleet details on the AEMO FCAS register is onerous.
MASS Rule Changes	Learning 7: MASS Rule Changes must be carefully considered

2 Managing the withdrawal of subsidies

The trial period of the program where customers were supported by subsidies finished at the end of March 2022. This presented the program with a challenge - how to manage the transition of 1,300 customers who had been receiving an inflated value for joining a VPP over the last 2 to 3 years, onto a new 'business as usual' product?

For Simply Energy, the challenge was to manage the transition of customers onto new benefits and for some, new products, that delivered reduced benefits since they were no longer subsidised. During the process, Simply Energy identified several lessons that they will incorporate into the design, marketing, and communications of future offers for new energy solutions.

2.1 Learning 1: Ensure that any new product supports more efficient back-end processing

During the trial period of the VPP, the programme provided up to \$7 a day in credits which would appear on the customer invoice on either a monthly or quarterly basis. This resulted in most customers having a significant credit amount on each invoice. On a regular basis the credit amount would be transferred to the customers bank account if the credit was greater than \$50. However, this created unnecessary and onerous obligations on customer operations to manually deal with these money movements. An alternative approach was tested which required the customer to request a payout of their credit through an online form – but this put too burdensome an obligation on the customer and was subsequently abandoned.

Going forward, Simply Energy was keen to take on these learnings and design the benefits for their unsubsidised offers in a way that better supported internal processing, as well as meeting customer needs. The new battery offer had a significant upfront benefit payment (\$2,000), with a clawback mechanism if a customer churned within 5 years. This made it easier to onboard new customers and customers would only require one transfer to their bank account. In addition, the new Buy Your Own (BYO) battery offer included significantly reduced monthly credits (\$20/mth) because it was no longer subsidised, so the instances of customers having a substantial credit and requiring bank transfers was reduced. This significantly reduced the workload of back-office teams.

2.2 Learning 2: It is critically important to make the transition to a new BAU contract seamless

Initially, Simply Energy planned to overhaul existing contracts with new terms and conditions, including the requirement to take up to a new VPP offer, which would require an existing customer to sign up to a new offer online or over the phone. Initial drafts of the customer letters were two pages and went into detail about the ARENA funding, the benefits of the VPP and old vs new benefits. Although it was good information, this was viewed as a particularly heavy read for the customer and not a positive customer experience.

After seeking further legal advice, Simply Energy was able to send an abridged letter to customers advising them of benefit changes and any variations to their existing contract, but customers did not need to take any action to receive the new VPP benefits. i.e. they did not need to re-commit

to a new offer. Within this letter, the new benefit arrangements for the rest of the program were stipulated. This later approach proved effective in managing customers' expectations, with the vast majority of customers deciding to continue with the program.

2.3 Learning 3: Managing communications particularly during the change of benefits is important.

During the period of customers exiting the subsidised benefits of the program and transitioning to a new benefits schedule from the end of March 2022 to July 2022, the impacts of the increase in wholesale energy prices began to be felt in the market. Managing customers' expectations of the program needed to be tightly managed.

At times, Simply Energy believed they overcommunicated with the customer, with letters detailing the VPP benefits changes occurring shortly before notifications of price rises. This confused and disorientated the customer. Although the extreme nature of the wholesale price movements was difficult to predict, in future, Simply Energy will seek to better coordinate these communications, repositioning the value of the VPP within the context of price increases.

Nevertheless, a positive outcome for both the customers' and Simply Energy was that the ARENA trial had demonstrated sufficient value from the VPP to enable the development of an unsubsidised, commercial product with identified benefits in time for this customer transition. In addition, Simply Energy's VPP offer continues to benefit customers and help to reduce the impacts of dramatic rises in wholesale energy costs.

2.4 Concluding comments

Despite some difficulties particularly in transitioning existing customers to the new benefits regime, the process for onboarding and managing new customers has improved. New BAU products have been designed with a benefit payment structure better aligned to the back-end processing and signing up for the VPP is becoming as easy as moving onto a new energy contract.

Much of the onerous paperwork that was once required from the customer during the VPPx Project (e.g. copies of invoices, certification of compliance, and specification on inverters) is no longer required for business-as-usual processing. Improvements have been made in operations with improved back-office information transfers between Simply Energy, installers and battery manufacturers and a simple online form texted to customers when they sign up.

3 Managing the program as a community endeavour

The community aspect of the project is viewed by participants as extremely important. VPP customers are highly engaged and want to know how they are contributing to the broader community. It was important for Simply Energy to maintain this link and work on evolving and deepening the VPP community ethos of the initiative.

3.1 Learning 4 VPP customers see the overall program as a community endeavour and are very keen that this ethos is maintained.

Simply Energy has developed a community newsletter (see Appendix A for details on the community newsletter) released biannually and regular updates are provided on Simply Energy's MyAccount App. VPP customers had an open rate between 60% – 63% over 3 emails, in comparison non-solar customers on the tracker service (which provides weekly consumption data) sits at 45%.

Customers are also extremely interested to know how their batteries are being used and contribute to the overall health of the grid. The more technically savvy want to see how often their batteries are charged or discharged for VPP activity, with some querying why charging occurred overnight and how their Solar PV production is leveraged during the day. Others queried why the battery was not used more, noting that Simply Energy was able to access the battery for up to 30 cycles a year. Simply Energy's perception was that customers were highly engaged and enthusiastic to be part of the program.

3.2 Concluding Comments

Simply Energy believes that linking the program to a community, reinforces solidarity amongst participants, reduces customer churn and improves overall engagement and enthusiasm for the program.

4 Registering customers for the VPP and FCAS

Onboarding and offboarding individual batteries onto the current fleet is highly manual, involving multiple parties. Furthermore, providing new fleet updates for FCAS registration with AEMO as customer numbers fluctuate also continues to be manual and time-consuming.

4.1 Learning 5: Registering a battery onto our fleet VPP was highly manual, inefficient and prone to error

Registering a battery onto the VPP fleet often involves multiple parties; the customer, the original equipment manufacturer (eg Tesla), an energy retailer and a software vendor (eg SwitchDin).

The typical registration process throughout the trial commenced after the installation of the home battery system. The Customer, in combination with the installer, captured the serial numbers from several items of equipment, eg. Tesla Gateway ID, Tesla Powerwall Serial number, plus confirmation of the installation date and all this information had to be emailed to Simply Energy VPP team.

Once the information was received it has to be verified by the Simply Energy VPP team, checking the customer details, address and electricity supply agreement, before it was then passed to the Tesla team for confirmation that the equipment can and is registered to our VPP fleet on the Tesla Platform.

Then the site information was issued to SwitchDin, our VPP software provider, so they could “claim” the device from Tesla and register the battery into our VPP fleet so that it was visible and controllable through the SwitchDin software platform.

The process had several constraints and relied heavily on the customer and the installer to commence the process. The majority of the process was manual and relied on secure emails.

For the new VPP products launched after the trial period, improvements have been made to the registration with reduced unique equipment identifying numbers required and a reduced reliance on the customer and installer. A simple online form sent to a customer via text message enabled the customer to input a single identifier required to register the battery onto our fleet. An instruction video was also produced and included on the form to show the customer where to find the relevant identifier on the battery system. More emphasis was also placed on installers ensuring that during the equipment commissioning process to ensure the battery was correctly registered onto the battery manufactures control and monitoring platform. Further enhancements to this process have enabled registration through the site address only, requiring even less input from the customer.

These improvements have been an important step in enhancing the customer experience and simplicity of joining a VPP program.

However, the processes around recording customer movement between VPP operators (or switching) continue to hamper the effectiveness of fleet management and market registration.

As the volume of VPP transfers in the market grows, there will be a requirement for more automated solutions to manage this process.

4.2 Learning 6: Registering the fleet via the AEMO VPP Demonstration program and updating the fleet details on the FCAS register is onerous

The FCAS register is a list of registered NEMs held by AEMO that records the assets within the VPP fleet that are providing the FCAS service. The process of registering the initial fleet was complex and time consuming, with much real-time testing required to prove the fleet could provide the requisite services to the market when it was required. This took a significant amount of time and investment as Simply Energy needed to wait for a grid disturbance when these circumstances would eventuate.

Numerous tests need to occur and documentation prepared. A snapshot is provided in table 1.

Requirements	Description
Device capability testing	Device capability testing was perhaps the simplest of the testing requirements as the manufacturer provided the testing results.
Application Form # 1	Enrolment in the Virtual Power Plant Demonstrations
Application Form # 2 Application for approval to classify a generating unit as an ancillary service generating unit and/or a load as ancillary service load in the NEM	AEMO FCAS Registration Form was required in some form regardless of whether it was an initial fleet registration, a change to the size of FCAS fleet capability or to amend the list of FCAS capable/eligible plant.
Fleet capability testing	Fleet capability testing was more challenging given that there was no simple way to simulate a frequency deviation across an entire fleet. A process of narrowing the frequency response deadband was undertaken for numerous short periods in an attempt to demonstrate that the fleet would respond to less severe frequency disturbances. This process lasted several weeks before a frequency change of a sufficient size was found to evidence the capability.
Appendix A ASL Plant details	Includes the plant (battery) details for the ancillary service load The form has 26 fields that needs to be completed.

Table 1: Testing Requirements

It is understandable that initial fleet registration, particularly as part of the VPP Demonstration Program, is complex and cumbersome as Simply Energy were one of the first aggregators to be registered and all the processes were new. However, we believe that the processes to update

the fleet registrations, as an aggregators VPP customer base grows, or shrinks as some customer churn, is overly complex and time consuming.

One issue related to the management of customer churn from one aggregator's VPP to another. Simply Energy found there was no established process or requirement for aggregators to relinquish their entitlement to include plant on their VPP fleet list, even if they were no longer the active Financially Responsible Market Participant (FRMP) for that site. This means that on submitting Simply Energy's updated plant list, numerous sites were identified by AEMO as being registered for FCAS with another aggregator despite the customer registering their site with Simply Energy for their energy needs. This increases the delay in an aggregator's ability to earn FCAS revenues from their expanded fleet, and ultimately this will lead to a reduced benefit being paid to customers.

Furthermore, every time, there are changes to the fleet composition (registered NMIs), an aggregator must pay a fee of \$2,175 to AEMO to update the list. Given the cost of updating the FCAS register, there is no incentive for small aggregators to deregister NMI's and assets from their FCAS fleet.

Also, when there is a requirement to increase the VPP fleet capacity, Simply Energy noted that the same level of verification and testing is required for such an upgrade as for registering of a new fleet, even when the technology used by the fleet (in our case Tesla Powerwall 2's) has not changed. Simply Energy suggests that if there is no change in the technology in use, there should not be a requirement to undertake such costly verification and testing measures for fleet expansions.

4.3 Concluding comments

Automation of the process of registration and deregistration would solve many of the problems, highlighted above. A portfolio management tool is due to be introduced by AEMO to attempt to manage FCAS registration and Simply Energy welcomes this initiative. Simply Energy also proposes introducing a new flat fee-based model whereby an annual fee is paid to AEMO that allows for a reasonable amount of updates to occur without AEMO incurring a substantial overhead. The fee should not deter smaller retailers from engaging in the process.

Also, Simply Energy suggest reviewing the impact on the integrity of the electricity network of additions to a VPP fleet size if it is not changing the technology used in the fleet. This review should consider revising the testing and verification requirements under these circumstances to reduce the time, cost and effort of VPP fleet capacity increases.

5 MASS rule changes

The possible amendment of the Market Ancillary Service Specification (MASS) to accommodate two new markets for very fast frequency control access services (FCAS) could impact the viability of FCAS revenue going forward.

5.1 Learning 7: MASS rule changes must be carefully considered

Simply Energy has closely followed each of the MASS amendments and provided feedback on each draft from the perspective of a residential VPP operator in the contingency FCAS market. It is our opinion that the market operator must continue to be kept informed of changes in technology and strike the right balance in accommodating existing (possibly exiting) market participants and the capability of emerging technologies.

There is a risk that some providers of new technologies could find future MASS requirements either too stringent or drastically different to other similar, more prevalent international markets, thus reducing participation in the market and the customer benefits that flow from this participation.

6 Conclusion

The program team are very appreciative of the opportunity to deliver the pilot and now transition the project to a business as usual, unsubsidized product.

The project has proven that there is value in alternative revenue pools such as FCAS that can be used to create a compelling, unsubsidized, commercial offer that attracts and retains customers.

However, for the market to gain traction further work needs to be done on:

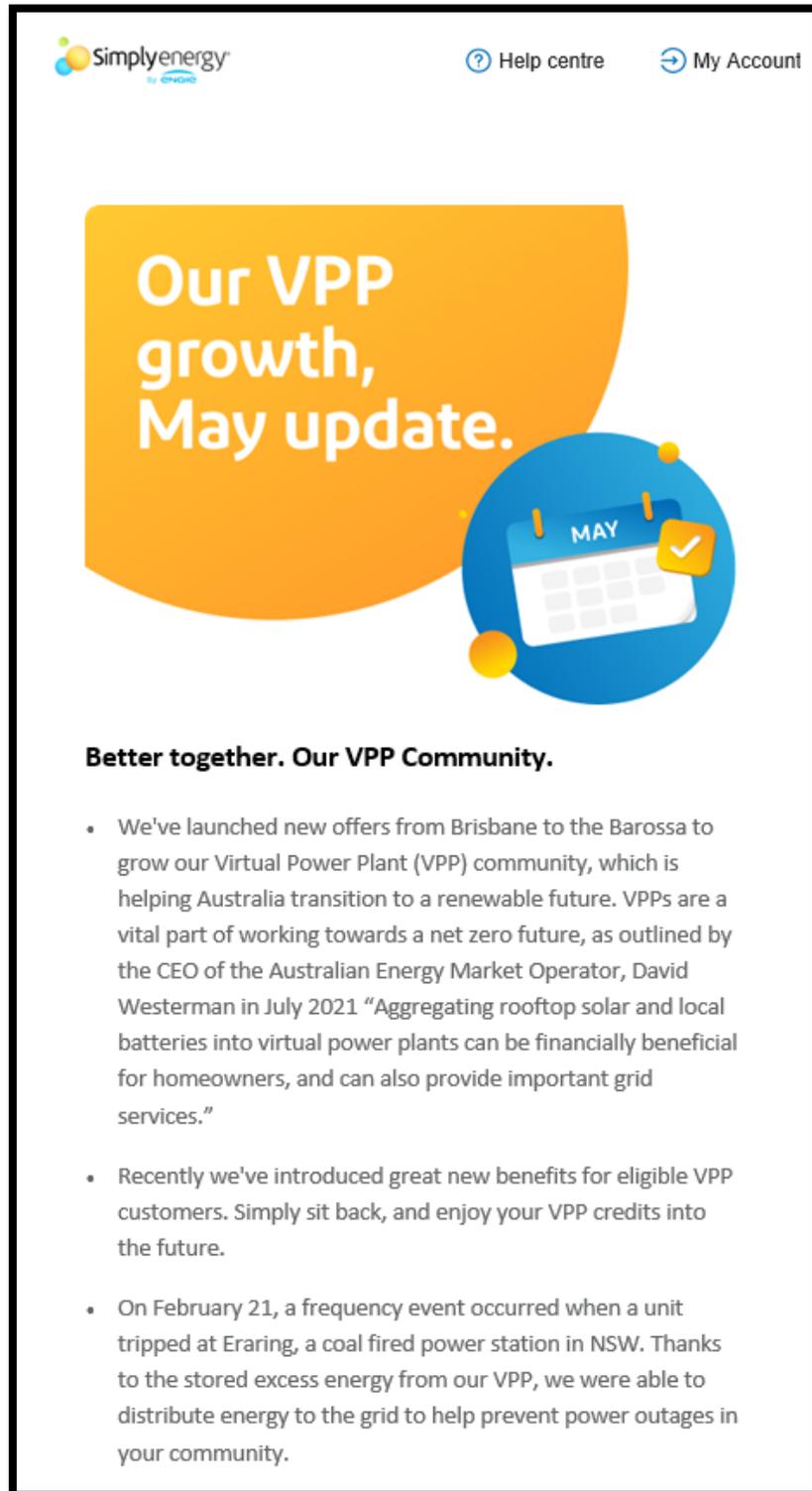
- Streamlining the AEMO processes around VPP registration, and fleet update for FCAS market participation.
- Rethinking the requirements for testing and verification for augmentation of NEMs. Does it need to be as rigorous and robust as the process for the initial registration of the fleet if it is expanding using the same technology?
- Managing the customer experience and expectations around subsidies, rebates, and general benefits.
- Stimulating more competition in the market, particularly for batteries that are accredited to provide FCAS services.

Simply Energy are keen to explore further opportunities to harness the power of aggregated distributed energy resources to support the energy transition and enable customers to get more value from their investments in new technologies.

Appendix A: Community Newsletter

The following image shows the community newsletter sent in May 2022 informing customers of the new refund process for the VPP program.

Part I



Part II



Tesla back up storage.

Recently, customers who set their minimum storage capacity below 20%, had their storage reset back to 20% by Tesla. On behalf of our community, we immediately notified Tesla and resolved this issue to ensure our customers have the flexibility to set their capacity at a level that suits them. It's all part of our VPP service.

Get more from your Tesla Battery.

Good news for our Tesla customers, for those thinking of moving to Time of Use (TOU) rates, we're planning to roll out our Optimiser to increase the benefits of your solar PV and Tesla Powerwall. The Optimiser function is designed to improve your self-consumption and help reduce your bill.

A simply easier updated refunds process.

More simply great news: we've refined our refunds process so you can receive your VPP Credits automatically, each month, without having to contact us. This means we'll stop sending you a refund SMS from 1st June 2022, and refund your VPP credits whenever your account balance exceeds \$50.00, within the first 5 business days of your invoice being issued.

If you prefer, you can still [request your refunds online](#) any time you have a credit balance.

Part III

Thank you.

Thanks for being a part of our VPP community, and supporting us as we work towards a net zero future.

Thanks, Simply Energy.



Help & Support

Help centre
Faults & emergencies
Hardship policy

My account

Pay my bill
Contact us

To learn more about how Simply Energy collects, uses and discloses your personal information simply visit www.simplyenergy.com.au/privacy.

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Simply Energy (ABN 67 269 241 237) is a partnership comprising IPower Pty Ltd (ACN 111 267 228) and IPower 2 Pty Ltd (ACN 070 374 293).

[Unsubscribe](#)

Appendix B: VPP Marketing Campaign

The following image shows the VPP marketing campaign aiming to encourage customers to sign up for the program.

Eligibility

- you have an existing Tesla Powerwall 2 installed at your property
- you have a smart meter, or willing to get one installed
- you have installed a solar system with a minimum of 3kW
- you have an available, continuous and reliable internet connection
- you are able to satisfy all of the eligibility requirements including a credit check

FAQs

How will Simply Energy access my battery?
We may occasionally manage your battery through a software system. When we do this, we may charge, discharge or maintain energy in your battery to support the grid. But, we will always retain your back-up storage capacity in the battery for Tesla Powerwall 2s this is usually set to 20%.

How much energy will you use?
Our priority is to ensure that customers benefit from joining our VPP community. For our existing VPP customers, last year we utilized less than 100MWh of energy per customer battery, which is equivalent to less than \$60 based on our current market rates. This reflects our strategy of accessing the frequency support (FCAS) markets, which typically require only small burst of energy to help support the grid.

How do I receive my credits?
Once you have signed up to the Simply VPP BYO Plan, we require some information about your battery to register you in the VPP fleet. This information can be provided online and only takes a few minutes. Once the details are provided the registration process typically takes a week or two, after which we provide the upfront credit and you begin supporting the grid through the VPP.

Terms & Conditions
Offer available from 25/01/2022. Your bonus credit will be calculated as a 10% rebate over the 1 year benefit period and will be credited to your account per calendar month on a pro-rata basis. T&Cs available at www.simplyenergy.com.au/terms-vpp

You could be simply \$1,500 better off with your existing Tesla Powerwall.

Join Simply Energy's Virtual Power Plant and receive up to \$1,500 bonus credits over 5 years.

It's great that you're already on board with solar panels and a Tesla Powerwall. Now you can join our Virtual Power Plant (VPP) program and really make the most of your solar and battery system. Best of all, it's 100% carbon neutral energy and you'll be supporting the grid while you get rewarded. **Simple as that!**

Receive a \$300 credit when you sign up.

Receive \$240 bonus credit annually over 5 years.

It's simple to sign up.

Step 1: Sign up to the Simply VPP BYO Plan at www.simplyenergy.com.au/simply-vpp-byo or call us on 1800 290 773.

Step 2: You'll receive a welcome email outlining your plan benefits & how to provide your battery gateway serial ID so we can register your battery.

Step 3: You will receive an SMS confirming your sign-up credit which will be applied to your next bill.

Benefits of a VPP

- Store excess energy**
When your solar system generates more than you can use, your battery stores this excess energy for you to use in the evening when the sun goes down.
- Share excess energy**
Our priority is to ensure you always have enough stored energy in your battery to meet your needs. When the grid is under stress, the VPP will share the stored excess energy with your local community. You'll always benefit from monthly VPP credits to your account.
- Support the grid**
Battery storage and VPPs do more than simply enable you to save money on your energy usage and earn bill credits. These smarter, more sustainable energy solutions mean you'll also be helping take care of your community and environment by supporting the grid.

The following image shows the VPP marketing campaign regarding the new VPP battery offer

