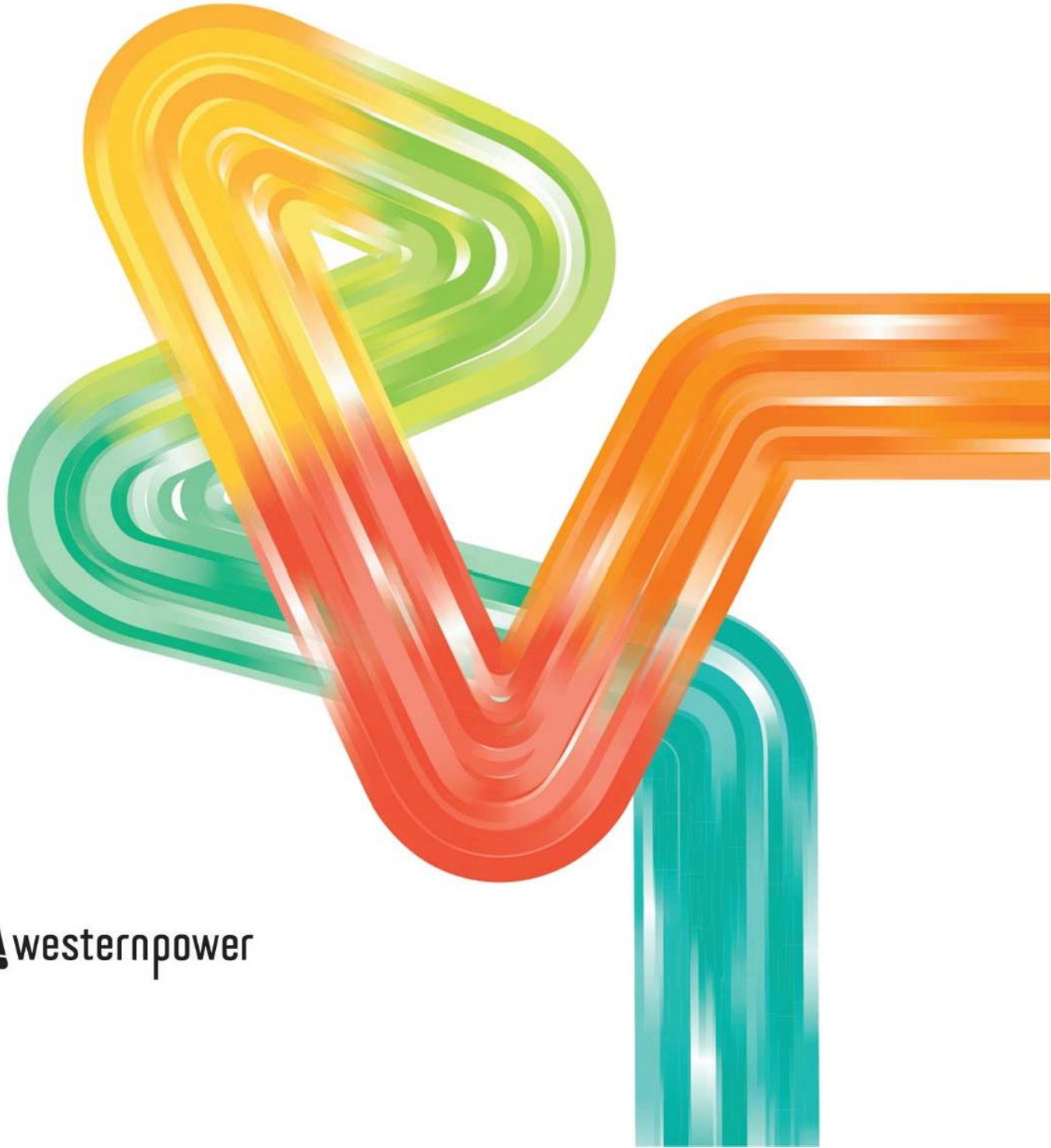
# Western Power

## Stand-alone Power System (SPS)

Customer Research Report

May 2022



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# Executive Summary

Western Power commenced the roll-out of Stand-alone Power Systems (SPS) in 2016 with a 12-month pilot to test the suitability of SPS technology across six rural properties in the Great Southern region of Western Australia. SPS is an alternative energy supply that uses renewable energy to address reliability challenges experienced by regional and remote customers. SPS is a grid-independent energy-generating system that consists of solar photovoltaic (PV) panels, battery storage, an inverter and a backup generator located in a restricted area on a customer's property.

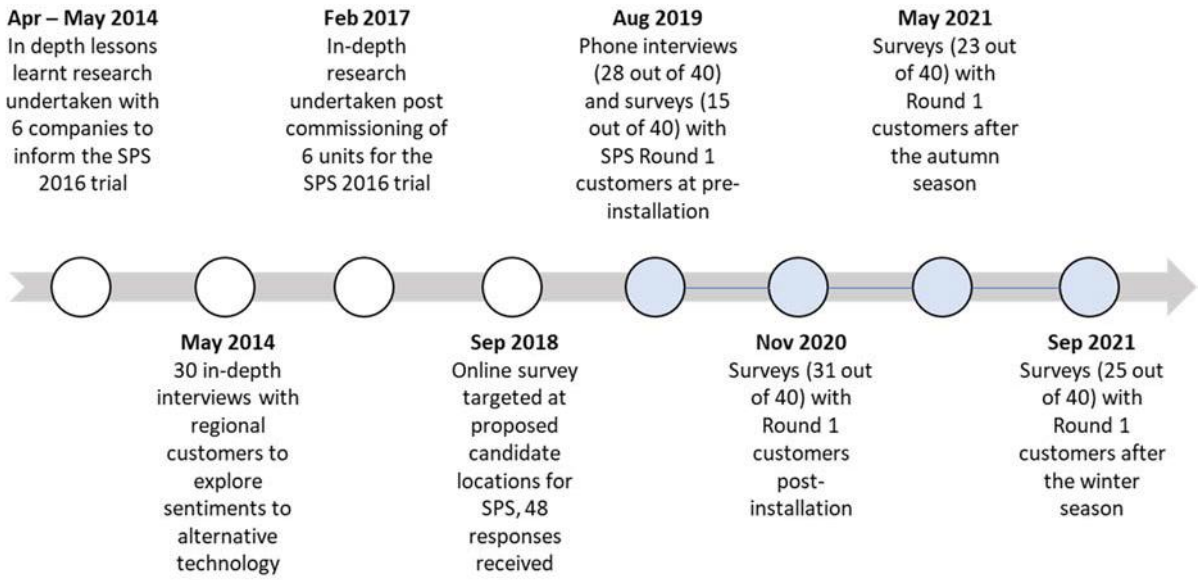
The pilot exceeded expectations by significantly improving power reliability to customers and led to the roll-out of an additional 52 units in 2020 across regional Western Australia (SPS Round 1). This was the largest deployment of SPS in Australia.

The SPS pilot and Round 1 required customers to opt-in to the project. Since the roll-out of the pilot and SPS Round 1, customer advocacy has supported legislative changes that have enabled Western Power to offer SPS as a standard technology offering to provide customers with electricity. As a result, customers no longer need to opt-in to receive SPS.

Western Power has since installed 36 units as part of its response to Cyclone Seroja and is scheduled to roll-out an additional 90 systems in 2022 (SPS Round 2). Modelling predicts that more than 6,000 units could be implemented over the coming decades, replacing over 23,000km of overhead powerlines.

## Customer Research

Western Power has undertaken extensive customer research before and during the roll-out of SPS to understand customer needs, responsiveness, and satisfaction with the new technology. The research undertaken is illustrated in the diagram below.



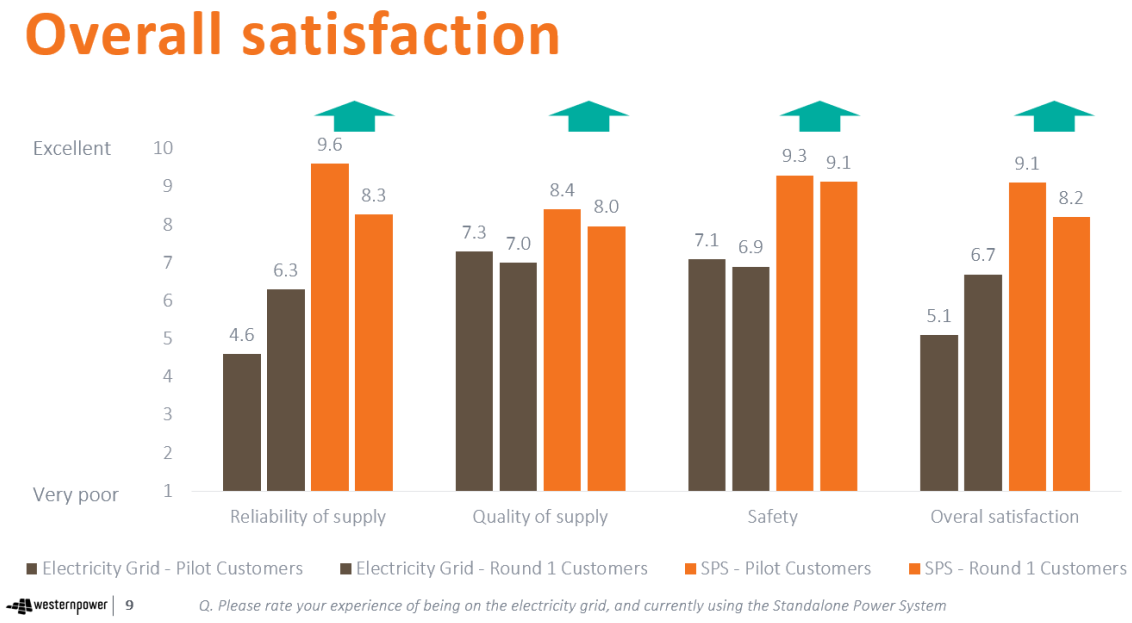

This report summarises the extensive customer research that has been commissioned by Western Power and outlines the key themes and considerations for the industry when implementing SPS. The key themes that emerged from the studies are:

- **Receptivity to SPS** – Customers at the end of feeder lines are often willing to connect to SPS because they believe it offers greater reliability of supply compared to being connected to the electricity grid, among other benefits. Some of the main concerns with SPS were who pays for the cost of installation and running the system, who will be responsible for maintenance, whether the system can provide sufficient supply for home and business needs, and how issues and faults will be managed.
- **Renewable energy** – Customers in the current studies were very receptive to renewable energy, with a third already using solar. More than half of the customers were aware of SPS and are very optimistic about the technology, seeing it as an investment in sustainable energy.
- **Community Education and Engagement** – Early education and engagement with customers enhanced receptivity to SPS, improved perceptions of the energy provider and was a key driver for satisfaction with the roll-out. It also provided clear communication channels to identify potential issues or concerns and manage expectations throughout the installation and operations phases of the roll-out. Regional and depot staff were seen as a critical conduit into local communities, given their awareness of local issues and personal relationships. They need to be engaged early to identify local issues, recommend potential candidates and inform the most appropriate approach to engaging the local community.
- **Information and communications needed** – Most customers initially look for information online about SPS through a search engine. Information needs to outline the benefits of SPS and address the most common questions and concerns. Customers wanted to see stories and case studies of similar households and businesses using SPS to understand what SPS looks like in practice.
- **Customer engagement and customer service** – Dedicated engagement officers were critical at the beginning stages of the projects to step customers through the sign-up and installation process. Once installed, customers wanted to know they could contact someone 24/7 in the event of an issue or fault and know a person would answer them and address the issue or fault quickly.
- **Customer Expectations and Satisfaction** – Managing customer expectations is vital at all project stages, from sign-up to operations. Some of the most common expectations were associated with the size and design of the SPS, the placement of the system on the property, the installation process, land access requirements, maintenance needs and the system's ability to deliver reliable electricity to meet current customer needs.
- **SPS Capacity** – Customer satisfaction with SPS depends on clear communication about the capacity of the system and the energy efficiency and behaviour changes that may be required to optimise the use of the system.
- **Sign-up and installation** – Making sure customers are well informed during the sign-up process and having staff they can speak to that are readily available, friendly, responsive, and follows through on commitments, increases their satisfaction with the process. Customers' buy-in to the project increased when they had a good experience with the contractor.

- **Negotiating size and location of the system** – Customer satisfaction increased when they were able to negotiate the location of the system before the installation process. Customer would like any issues with their supply rectified to ensure they can run all their appliances and equipment.
- **Operations and Maintenance –** Being clear about the roles and responsibilities of the energy provider and the customer in operating and maintaining the SPS is crucial to managing customer expectations and satisfaction with SPS. Customers need to understand how often contractors will require access to maintain the system, while the energy supplier and contractors need to understand land access requirements to minimise disruptions to the customer's homes and businesses.
- **Change Management** – Legislative changes may be needed to deliver SPS while maintaining the customers' safety and protecting the energy provider. The project's success is driven by motivated team members and strong top-down support. If SPS is a new technology for the energy supplier, internal awareness and change management will help gain buy-in to the technology and create the system changes needed to enable efficient project delivery.

The customer research undertaken has captured several themes and consideration that can be used by energy providers to shape the planning and implementation of SPS programs. These findings need to be considered in light of the specific needs and context of the target community and remain responsive to ongoing feedback.

Over the course of Western Power's SPS deployment, customer satisfaction has been measured to understand how SPS technology can improve the customer experience.



# Introduction

Stand-alone Power Systems (**SPS**) offer a cost-effective, innovative alternative to traditional poles and wires in areas of the network with low customer density and energy demand density. Those areas of Western Power's network will transition to a state known as the Autonomous Grid.

Western Power has matured its understanding of how SPS can be delivered as a program of work via the successful delivery of the projects (outlined in Table 1) and extensive customer engagement research programs.

**Table 1 – SPS installation pathway as of December 2022**

| Project | Number of SPS units forecast for delivery | Delivery period (FY) |
|---|---|---|
| Trial | 6 | Completed |
| Round 1 | 50 | Completed |
| Wooroloo bushfire | 2 | Completed (redeployed from Round 1) |
| Cyclone Seroja | 36 | Completed |
| Round 2 | 90 | In execution – 2021/22 |
| Round 3 | 300 | In planning – 2022/23 |

## SPS roll-out

In 2016, Western Power commenced a 12-month pilot to test the suitability of SPS technology across six rural properties in the Great Southern region of Western Australia. Customers were selected based on where they are located, the age and condition of the poles and wires feeding their property, the length of the spur to their property, and the cost savings potential for Western Power. The pilot exceeded expectations by significantly improving power reliability to these customers. The pilot's success led to the roll-out of an additional 52 units in 2020 across regional Western Australia, to Mullewa, Ellachbutting, Bodallin, Tambellup, and surrounds (SPS Round 1). This was the largest deployment of SPS in Australia.

Western Power has since installed 36 units as part of its response to Cyclone Seroja and is scheduled to roll-out an additional 90 systems in 2021/22 (SPS Round 2). Modelling predicts that more than 6,000 units could be implemented over the coming decades, replacing over 23,000km of overhead powerlines.

The SPS pilot and Round 1 required customers to opt-in to the project. Since the roll-out of the pilot and SPS Round 1, customer advocacy has led to legislative changes that has enabled Western Power to offer SPS as a standard technological offering to provide customers with electricity. As a result, customers no longer need to opt in to receive SPS.

As of May 2022, Western Power has delivered more than 100 SPS units across the Autonomous Grid.

## Customer research

The SPS roll-out has involved extensive customer research to understand customer needs, responsiveness and satisfaction with the new technology. Western Power has been conducting customer research and engaging with customers before and during the planning and implementation of SPS. The research undertaken aimed to understand:

- the level of customer interest in the new technology and the reasons for this,
- the support needed to take-up the new technology,
- customer satisfaction and experience of SPS at every step of the way,
- opportunities for enhancing the customer experience of SPS,
- learnings that could be applied to future SPS roll-outs.

The research undertaken is illustrated in the diagram below.

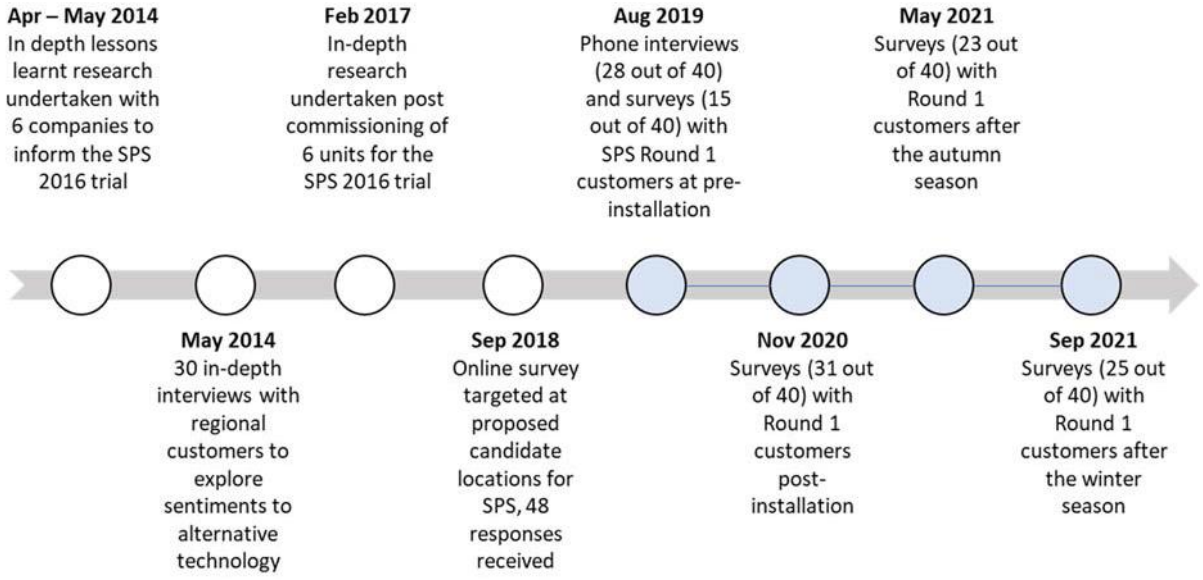



**Figure 1: SPS Customer Research Undertaken**

This report summarises the customer research that has been undertaken for Western Power's SPS roll-out and the key findings and recommendations that have emerged. The aim of this report is to assist others seeking to implement SPS or similar technologies to inform the planning and implementation of their project and their customer research and engagement.

# Customer Research Studies

The following section summarises the customer research that has been undertaken for Western Power's SPS roll-out including:

- The name and year the study was conducted,
- An overview of the study including the purpose, methods, and participants, and
- The key findings of the study.

## Study 1 – Western Power (2014). Stand-alone Power Systems: Lessons Learnt Report.

### Overview of study

In 2014, Western Power researched lessons learnt from past SPS projects to identify considerations that Western Power could incorporate into the pilot program.

Multiple SPS projects that had been delivered across Australia and New Zealand were identified and published project reports were reviewed. In some cases, organisational representatives responsible for delivering these projects were contacted on the telephone or via email to explore their experiences and identify lessons learnt.

A total of six companies' experiences were considered, including Ergon Energy, Public Utilities Office, Horizon Power, POWERCO (New Zealand), Energy Safety Victoria, Bushlight Foundation.

The key questions explored were:

- How were the customers' expectations managed from what they thought they were signing up for; and what they received (e.g., what it looked like, sounded like, electricity output)?
- What behaviour change was required to adapt to the system?
- How was material presented to the customers (e.g., maintenance manual, behaviour change diagram, customer web interface, brochures)?
- How was the actual installation of the system managed, and what unexpected challenges arose?

### Key findings

The key recommendations for the design of the SPS roll-out are illustrated in the diagram below:


**Figure 2: Key Themes emerging from the Lessons Learnt Report**

The review identified the following key considerations and lessons learnt when rolling out SPS technology:

- **Stakeholder involvement –** Identifying and involving all key parties in the project as early as possible was seen as key to the successful roll-out of the SPS pilot. Regional and depot staff were seen as a critical conduit into local communities given their awareness of local issues and personal relationships. Regional and depot staff need to be engaged early as they can identify local issues and recommend potential candidates.

- **Managing customer expectations –** Working with customers to educate them about the SPS (what it will look like, where it will be located on their property, and how it will run, including its limitations) and setting realistic expectations are essential to the success of SPS and the relationships with the electricity provider.

  It was recommended that:
  - a mobile SPS unit would be beneficial to have as a 'shop front' to show customers what the systems look like and how it works;

    - consult customers about the design and placement of the system on their property and seek approval and sign off from customers, the contractor and electricity supplier before implementation;
    - set realistic expectations about the limitations of the system and required behaviour change to make it work at an optimal level;
    - maintain regular contact with customers to ensure they are comfortable with how the system works.

- **Customer education and communications –** Educating customers and the broader community about SPS and the potential benefits and limitations of the system can make people more receptive to SPS. The education process can be achieved by engaging stakeholders and the community and providing communications such as direct correspondence, community workshops, media reports and advertising. Communications should include information on the potential benefits and limitations of the system, FAQ, what to do in a loss of power, how to get support and provide feedback, and behaviour change requirements to become more energy efficient.

- **Customer support –** There are several things to put in place to ensure that customers are supported in transitioning to an SPS and are satisfied with the system. These include ensuring the customer is consulted and agrees on the design and location of the SPS infrastructure, providing 24/7 technical support, reasonable call-out times to fix faults, warranty for parts, easy to use maintenance manuals and adequate consumer protection mechanisms (such as training, accreditation, dispute resolution, and liability).

- **SPS supplier and service delivery** – Selecting and using suppliers and service providers that provide good quality systems, deliver the project to the highest standard, and represent the organisation in the best possible way are essential to the customer's experience of the project and the organisation. It is recommended that the organisation select a trusted supplier and service provider, has testimonials demonstrating past performance, and has worked with the organisation in the past, which will help achieve excellent customer experience.

- **Operations and maintenance** – It is essential to ensure that warranty, maintenance procedures and technical support are clearly stated in the suppliers' contract and that customers are fully informed of these terms.

- **Safety** – Safety standards need to be made very clear to customers to ensure that all parties are covered in the event of a safety breach or system breakage, especially for customers who choose to maintain the equipment themselves.

- **Wiring** – Some customers will need their houses/farmsteads rewired to support the SPS. This can be very costly to customers and must be identified and communicated as early as possible.

- **Bushfires** – During the bushfire season SPS enabled remote properties to continue running their water pumps without the concern of a power outage.

- **Liability and other legal implications** – The liability for damage to, or because of, the SPS needs to be made clear to customers. As with other infrastructure located on private property, the SPS legal liability for damage will need to be made clear to participants, if damage occurs to the system through either an accident or vandalism. An unexpected and expensive legislative issue arose for one provider who could not sell/store/deliver diesel and had to get a third-party provider involved.
- **Budgetary considerations** – It is important to allocate a budget to assist customers to take ownership of changes in electricity use to adjust to the supply of electricity provided by their SPS. An in-house energy audit and potentially an appliance retrofit is recommended to assist customers implement the required energy efficiency behaviour change. Given the remote locations of the SPS, the out-of-pocket expenses of topping up the generator need to be estimated and a claims process put in place, which is easy for participants to access. This would include the expected amount of diesel consumption, the cost of diesel and how far participants would have to travel to get the diesel.

## Study 2 – TNS (2014). Western Power Stand-alone Power Supply: A Customer Research Report.

### Overview of the study

In April and May 2014, TNS conducted customer research with 30 Western Power customers using in-depth interviews. The customers selected for the study were potential SPS customers, and most were business or hobby farmers living as couples or families.
The research sought to understand customers:

- receptivity to SPS and the factors that would influence this,
- communication channels that would best suit customers,
- the value that the remote customers place on their existing network and the benefits and challenges it creates, and
- customers' awareness of and attitudes towards renewable energy and Western Power.

### Key findings

As illustrated in the graphic below, approximately 40% of the respondents are open to SPS and can see the benefits. They mostly need reassurance in terms of viability (cost and electricity supply) and 40% are moderately open, favouring the idea but needing some convincing. Approximately 20% are closed to the idea of SPS, either due to situational factors or attitudinal factors.

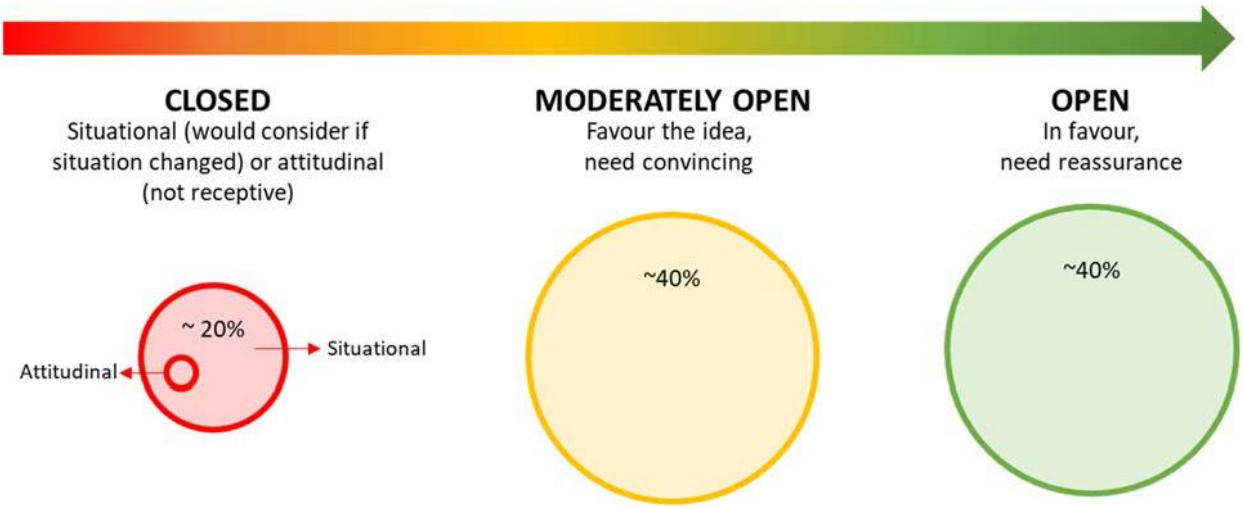



**Figure 3: Customer receptivity to SPS**

A summary of the key findings is outlined below:

- **Views on network connection** – Participants had a practical outlook on the costs and benefits of their electricity supply. For most, electricity supply was essential, but its delivery via the network was not. Sufficient, reliable, affordable electricity was the goal; the means of achieving this was secondary. A small minority who had previously been reliant on (older) generators before being connected to the network placed much more value on their network supply and were unwilling to give it up (due to the efforts they had gone to and the costs they had incurred during the process of getting connected). Most participants had poles and wires on their property and are aware of the safety risks. Most engaged in risk-minimisation through visually checking poles, creating and maintaining fire breaks and clearing vegetation. Farmers were also aware of the dangers of operating machinery near wires; therefore, the height of wires was also an area of concern.

- **Renewable energy and SPS** – Overall awareness and receptivity to renewable energy was high, with all respondents favouring at least one form of renewable energy. Solar was the most popular option, followed by wind, while the respondents viewed other options as less advanced and potentially costly to maintain (such as cost of replacing batteries). A third of respondents had installed solar panels, and another third would install solar if they could afford the initial outlay. Those with solar altered their electricity usage to take advantage of daylight hours.

  The most appealing aspects of SPS were the independence it offered, perceived cost savings on electricity usage, and improved safety and reliability versus network supply. Aspects of most concern were cost of installation, running and maintenance, the sufficiency of electricity supply and responsibilities regarding maintenance.
- **Energy saving** – In terms of electricity efficiency, most participants employed at least a few (basic) energy-saving strategies, such as turning off lights when not in the room, switching appliances off at the wall and installing energy-efficient light globes. Respondents with solar power mentioned changing their behaviour to fit with this system, such as doing the washing

and running the pool pump during the day instead of at night. The main barriers to reducing energy use were:

  - A desire not to lose too much in the way of convenience, mainly when the weather is hot (40 degrees plus) and air conditioning is needed.
  - The operation of machinery for those running farms is essential and cannot change to save money on bills.
  - Children within the household have limited ability to be energy efficient.

- **Receptivity to SPS** – The main factors influencing receptivity to SPS were the potential for cost reduction and the desire for independence and self-sufficiency. The main barriers were associated with the perceived costs associated with installing and running an SPS and the amount of energy it could supply.
- **Information requirements** – Respondents require information on the viability of an SPS in terms of cost and supply capacity, maintenance requirements, technical details (location, size, restrictions on placement etc.). Most respondents initial search for information was done on the internet via a google search, followed by rural/local publications, manufacturers and installers, local electricians, and Western Power. Other respondents wanted to hear from SPS customers in similar situations to their own. Two-thirds of respondents were also willing to talk to a technical expert. A dedicated web page about SPS optimised for Google searches could be helpful for customers seeking information. Respondents also required more information about remote monitoring and energy audits (especially the costs of these two services).

## Study 3 – Western Power (2017). SPS Customer Research (pilot program).

### Overview of the study

Research was conducted with 8 customers (multiple household members) for the 6 units installed in the SPS 2016 pilot, following commissioning of the SPS units. The research involved online and telephone surveys in February 2017 with SPS customers shortly after the installation of their system to monitor their experience and satisfaction with the sign-up, installation, and operation of SPS and identify lessons learnt to assist with future rollouts.
Customers participating in the pilot were selected because of the network requirements as well as their willingness to share their experiences with the media and stakeholders. The following key findings represent the views of this sample of customers, who opted into the program and were willing to share their experiences.

### Key findings

Customers who participated in the SPS pilot program were interested and aware of emerging technologies in the electricity industry. Most customers understood the basics of the SPS system and why Western Power implemented the pilot program.
When asked to rate their experience on the electricity grid and using the SPS, the SPS outperformed the electricity grid on all metrics (reliability of supply, quality of supply, safety, and overall satisfaction) as shown in Figure 4.

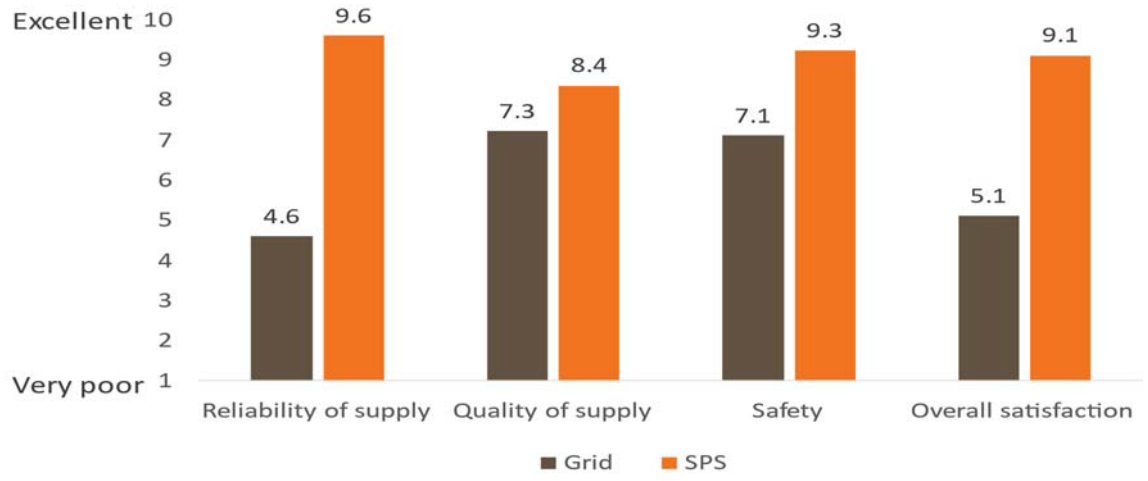



**Figure 4: Customer rating of electricity grid (pilot program)**

Figure 5 illustrates that customers rated their experience with the SPS highly across all other metrics, engagement, look of the system, location, maintenance, and managing issues (where 1 equal 'very poor' and 10 equals 'excellent').

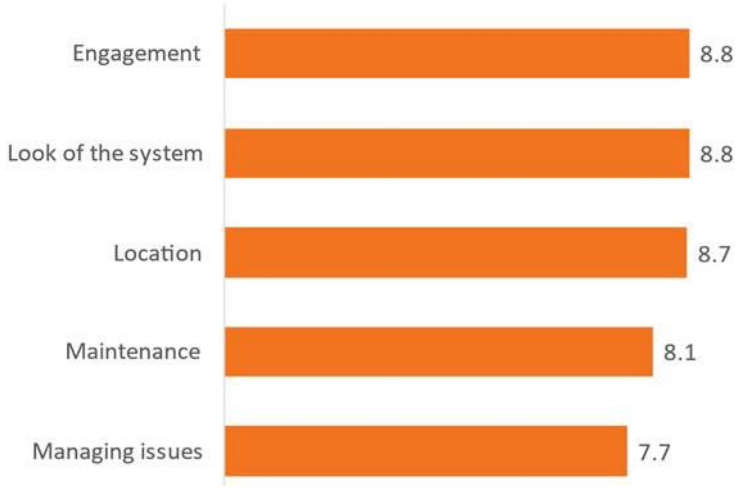



**Figure 5: Customer ratings of SPS (pilot program)**

Customers were pleased with the SPS project (rated 9/10 where 10 is "excellent"), even though they experienced some teething issues. One of the main reasons for customers' high level of satisfaction with SPS was the increased reliability in electricity supply compared to the grid, which was particularly evident when their neighbour's (connected to the grid) lost electricity and they had not. Some of the teething issues that customers experienced were larger SPS systems on their property than they expected, the size of the system not meeting the demand for electricity, multiple people interrupting customers to plan for, install and maintain the SPS, and a noisy backup generator. Overall, customers had not noticed the change from the electricity grid to SPS. Those who heard the generators at the beginning, after a short time, could no longer hear them.

**Engagement**

Engagement from recruitment to delivery was rated as 9/10 due to friendly and approachable staff. Western Power effectively managed expectations about timelines, the nature of the system, the amount and detail of communication provided, and commitments were followed through, which helped alleviate concerns customers had about SPS. Both customers and Western Power were surprised about the size of the system, however this did not detract from the overall experience of the pilot.

Most customers used an online dashboard created to help them access details about their SPS and electricity usage. Those who used the dashboard agreed they would continue to use it as they found the content valuable and interesting, and it was easy to use.

**Installation and initiation**

Customers experience of the contractor was the driving factor for their satisfaction with the installation process. It is important that future providers work closely with contractors to streamline processes before installation while maintaining all safety standards.

Western Power and their contractors visited customers to select the location of the SPS and gain customers sign off before installation. Western Power also requested to review most communications with customers to minimise miscommunication. This approach increased customers satisfaction with the location of the system and their buy-in to the project.

**Customer satisfaction and Word of Mouth**
Most customers were very likely to recommend SPS (63% rated 9-10 with 10 being very likely), with the remaining customers likely but with some reservations (39% rated 6-8).

Word of mouth or the bush telegraph is an effective way to improve the community's positive views of SPS and Western Power. Some pilot participants were community leaders who actively promoted the project at social gatherings and through social media.

When asked what could be improved, most respondents said nothing, while others mentioned wanting to run all equipment/appliances, and one mentioned reducing the number of visits for maintenance.

**Barriers to delivering SPS**
The regulatory environment created some challenges for the project. Western Power advocated for changes to allow greater flexibility to deliver SPS to customers.

The internal processes were extensive, as SPS departed from Business As Usual (BAU) and contained regulatory and other legal risks. This resulted in many man-hours to move the SPS project to completion. Strong top-down support is required from the beginning to pave the way through existing BAU processes.

**People and Persistence**
Staff involved in the project across multiple teams within the origination were positive and worked together to achieve good outcomes for the customer and the State as a whole. Staff were persistent and willing to overcome hurdles, which was praised by all respondents and contributed to the successful first installation.

The key considerations for the design of the SPS roll-out are:

- Hire professional, friendly contractors who understand the importance of working with customers and the energy provider to achieve a positive outcome.
- Streamline pre-installation processes to achieve installation quicker while maintaining safety standards.
- Consider legal and regulatory barriers to roll-out and gain high-level support for the project to assist with navigating through potential challenges.
- Take advantage of positive word of mouth to enhance interest in SPS in local communities.
- Effectively manage customer expectations and deliver on commitments to enhance overall satisfaction.

## Study 4 – Western Power (2018). Regional Customer Research: Initiative 4 insights.

### Overview of the study

An online survey was conducted on social media with customers living near current SPS and proposed sites to understand regional customers awareness, attitudes, and amenability to SPS and the barriers that could impact a broad SPS implementation.

Fifty (50) responses were received, using a shorter version of the SPS customer research survey completed in 2014 (refer to Study 2), covering:

- Satisfaction with the grid
- Awareness of SPS
- Attitudes regarding SPS
- Amenability / receptivity to SPS
- Willingness to change behaviour

### Key findings

- **Satisfaction with the grid** – Customers overall satisfaction with the grid was an average of 5.9 out of 10. Their experience with the reliability of supply, quality, and safety ranged between 6-6.8 out of 10 with 10 being excellent (see Figure 6).

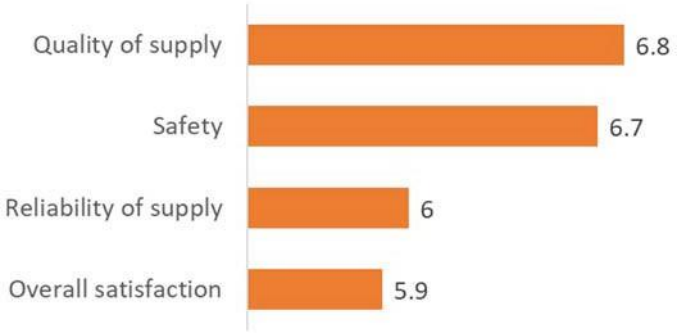



**Figure 6: Customer's near SPS satisfaction with the grid**

- **Awareness of SPS** – Most respondents had heard of SPS, with most getting their information from social media, followed by word of mouth. 90% supported Western Power using SPS, and 88% would keep an SPS on their property. Following hearing about SPS, 35% of respondents felt positively about Western Power, while 20% felt negatively.
- **Attitudes regarding SPS** – Respondents perceived several benefits of SPS, including improved reliability, removal of lines from properties and a more efficient method to supply electricity to remote customers. Respondents concerns with SPS included the ongoing cost and ownership of SPS, maintenance and response timeframes, and the system's reliability.

- **Amenability / receptivity to SPS** – Figure 7 shows that 80% of respondents thought going "off-grid" was appealing. 50% of respondents would consider paying slightly more for solar power than a generator, while 65% disagreed or strongly disagreed with paying somewhat more for more reliable power.

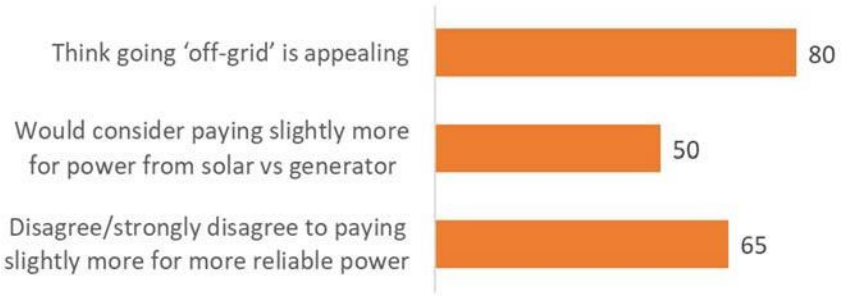



**Figure 7: Customer amenability/receptivity to SPS**

- **Willingness to change behaviour** – One-third of respondents were willing to have an SPS even at the cost of limited load flexibility, while one-third were unsure and one-third were unwilling. 50% of respondents were open to learning how they can change their behaviour to reduce their bills.
- **Perceptions to be addressed in pilot** – The following perceptions need to be addressed in the roll-out of SPS:
    - the perception that power will be cheaper,
    - systems can be self-managed,
    - customer will be isolated and left to maintain the system on their own, and
    - there are no connection costs.
- **Concerns** – The cost of installation and ongoing costs are the most significant concern for customers, followed by maintenance concerns, including the cost of maintenance, use of contractors who are unreliable/inefficient, and the ability to contact someone in the event of a fault or issue.

## Study 5 – Viv Warren Consulting (2019-2021). SPS Round 1: Customer Research.

### Overview of the study

The roll-out of the first Round of the SPS program by Western Power, following the 2016 pilot, presented a unique opportunity to conduct research to understand customers' experience of SPS on scale and use these insights to enhance their level of satisfaction at all stages of the project – sign-up, installation, operations, and exit (if applicable).
All customers who owned or leased a property with an SPS installed during Round 1 were contacted to participate in the research. A total of 40 customers who owned 52 properties were invited to participate. A maximum of 31 and a minimum of 23 customers participated in the interviews and surveys.

Telephone interviews were conducted before the installation of SPS to explore customers' awareness of the new technology, expectations, experiences, and suggestions for improvement. This rich, open exploration of customers' feedback helped to identify key issues and opportunities relevant to the project and opportunities for improvement.

Surveys were administered at key project milestones to provide a quantitative measure of customer satisfaction with the project. These included:

- Survey 1 (Jun to Jul 2019) – At pre-installation, immediately following the telephone interview.
- Survey 2 (May to Oct 2020) – At post-installation, within one month of having the SPS installed.
- Survey 3 (Mar 2021) – After experiencing SPS during Autumn 2021.
- Survey 4 (Sep 2021) – After experiencing SPS during Winter 2021.

The key questions explored in the surveys were:

- Overall satisfaction with Western Power,
- Customer understanding of the project and SPS technology,
- Customer satisfaction with the information and communications regarding SPS,
- Experience of the day-to-day operations of SPS and any issues or faults,
- Experience of customer engagement for SPS,
- Additional information needs,
- Suggestions for enhancing customer experience and the likelihood of recommending SPS.

Feedback from the research was provided back to Western Power in a timely way to enable proactive responses to any concerns, issues, and opportunities.

## Key findings

### *Pre-installation interview and survey 1*

- **Overall satisfaction with Western Power** – 87% of customers felt either positive or very positive about Western Power prior to installation of SPS, with customers believing they do a really good job despite outages and cost. Customers believe Western Power is quick to respond and that staff work day and night to rectify power outages. Customers noted that Western Power could improve the number of power outages experienced, aging infrastructure, fire risk, issues with land access and inability to contact people directly when there is an issue. Customers rated the electricity grid quite positively for overall satisfaction, safety of infrastructure, quality of supply and reliability of supply (average scores of between 6.3-7 out of 10 – where 0 is very poor and 10 is excellent).
- **Experience with SPS** – As shown in Figure 8, when customers were asked about their experience with the SPS project to date, average scores were high (7.9-9.1/10) for all areas (Initial contact regarding SPS, the sign-up process overall, the first site inspection process, the most recent site inspection process, first location suggested for the SPS, agreed location for

the SPS, information provided about the SPS, engagement with Western Power staff, engagement with contractors, handling enquiries and issues and overall satisfaction was excellent (9.1/10). Areas to improve (those with the lowest ratings), were the first site inspection process, the first location suggested for the SPS and engagement with contractors.

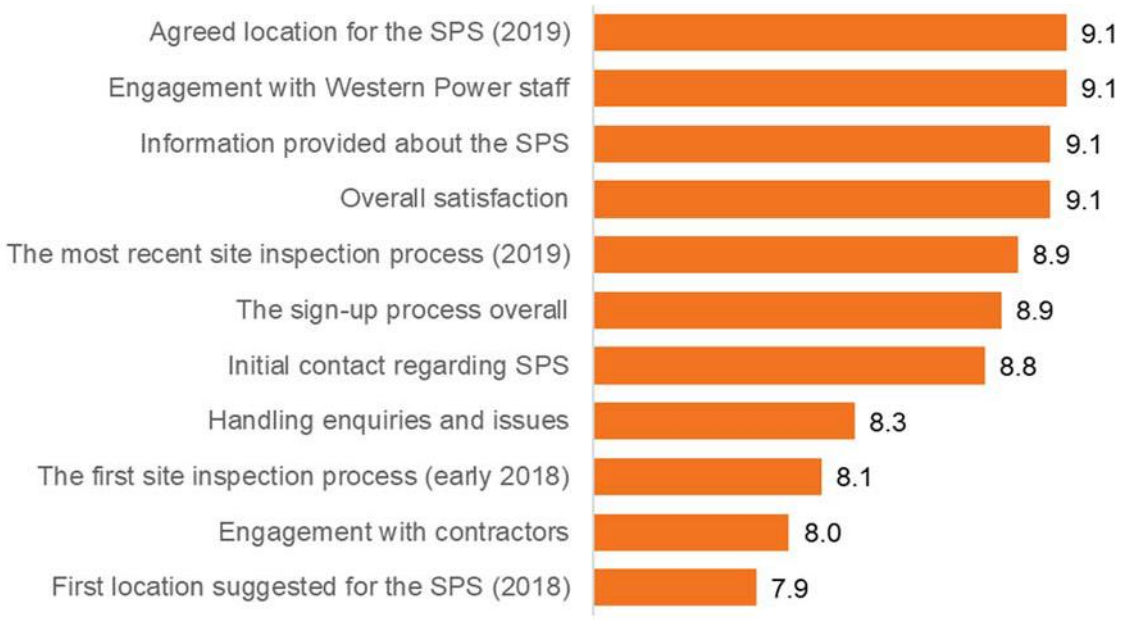



**Figure 8: Customers experience with SPS at pre-installation**

- **Customer expectations of SPS** – Respondents expected the SPS to perform as well as or in most cases better than the current network, including reliability, quality of supply, the safety of infrastructure and overall satisfaction.
- **Information and communication related to SPS** – Most customers stated that they understand the basics of the SPS system and why the project is being undertaken. All customers were satisfied with their understanding of SPS and felt that Western Power had provided plenty of information and answered all their questions. Strengths of the communication process were open and honest communication, meeting customers face-to-face, regular communication, keeping customers informed, following through on commitments and staff very friendly and personable. Some suggestions were to maintain the current level of contact with customers, notify owners and tenants of further works so they can be available, inform customers of the installation date, create communications to address information gaps (cost of SPS now and in future, monitoring of SPS, a process for reporting faults and emergencies).
- **Drivers for the SPS project** – Customers perceived the main driver of the project to be improved reliability, saving money, more sustainable energy and trial project to understand how to roll-out SPS in bulk.
- **The main reason for signing up to SPS** – Customers main reasons for signing up were improved reliability, removing poles and wires (and related risks), everyone else was doing it, using modern but familiar technology, environmental reasons (support greener energy), SPS

is the way of the future and wanted to get in early, independent from the grid, and no long-term commitment so worth trialling.

- **Customer concerns with SPS** – Customers main concerns were whether the SPS is reliable, whether it can provide the amount of power necessary, whether issues and faults be quickly rectified, availability of 24/7 contact and support, maintenance requirements and who is responsible for them, access onto the property, noise generated by the system and back-up generators, and the future cost of the system.
- **Sign-up process** – Overall, the sign-up process was successful and customers were satisfied with the process. They felt they had been kept well informed since initial contact and provided plenty of information. Staff were friendly, available, responsive, and followed through on their commitments. Customers praised the personal service and said it allowed them to learn about and accept the proposal to sign-up and confidently move through the process.
- **Site selection process** – Many customers were unhappy with the initial site selected for the SPS as it was undertaken without consultation by an external contractor, and the location itself was considered inconvenient or impractical. Customers noted contradictions between the contractors at the initial visit and in a follow-up visit by Western Power staff, which raised some concerns regarding the project. The site visit with Western Power was seen as much more successful, with the staff being noted as friendly, personable, and thoughtful. Customers felt respected and listened to, and they were able to ask questions and have them answered by Western Power, who provided plenty of information. This then led to selecting a more suitable site that best met the needs of the customer and the project.
- **Likelihood to recommend SPS** – Most respondents are likely to recommend an SPS to a friend or colleague (all responses were 5 or above on a 10-point scale from 0 – not at all likely to 10 – extremely likely). The conversations were mostly positive when speaking to others about the SPS and when others have spoken to them about SPS (80%).
- **Recommendations for SPS** – Customers made the following suggestions for SPS moving forward:
    - Create communications to address information gaps.
    - Continue to provide personal and ongoing communications after installation.
    - Provide a high level of customer service to deal with any issues or concerns that may arise.
    - Deliver reliable electricity and provide the required power.
    - Ensure the system can expand as required to meet future needs.
    - Provide 24/7 direct contact in the event of an issue.
    - Time the installation to prevent interrupting operations.
    - Continue to deliver on commitments made.

### *Post-installation survey*

A total of 52 systems were installed between May and November 2020. There was a total of 39 unique customers. Eight out of the 39 customers received multiple systems (two or three) across their properties. Customers who had multiple systems installed on their properties at the same time were sent a single survey. However, customers who had multiple systems installed on their properties weeks or months apart were sent a new survey for each installation. A total of 43 surveys were sent out to customers (both online and paper copy) within two weeks of having the SPS installed, and 31 surveys were completed.

The key findings of the post-installation survey were:

- **Overall satisfaction with Western Power** – Overall, customers were satisfied with Western power, with 78% feeling very positive or positive and only 6% were negative. When asked to explain the rating given, customers explained that they were happy to be transitioning away from poles and wires, were pleased with the service provided by Western Power throughout the installation process and were impressed that the organisation was moving towards greener and cleaner energy (solar). Those who responded negatively said they were not satisfied with the SPS, the generator was noisier and was required more often than expected, and that they had not received much communication in the last half of the project.
- **Experience with SPS** – When asked to rate their experience of the SPS, most ratings were high, indicating a good to excellent experience on most metrics (see graph below).

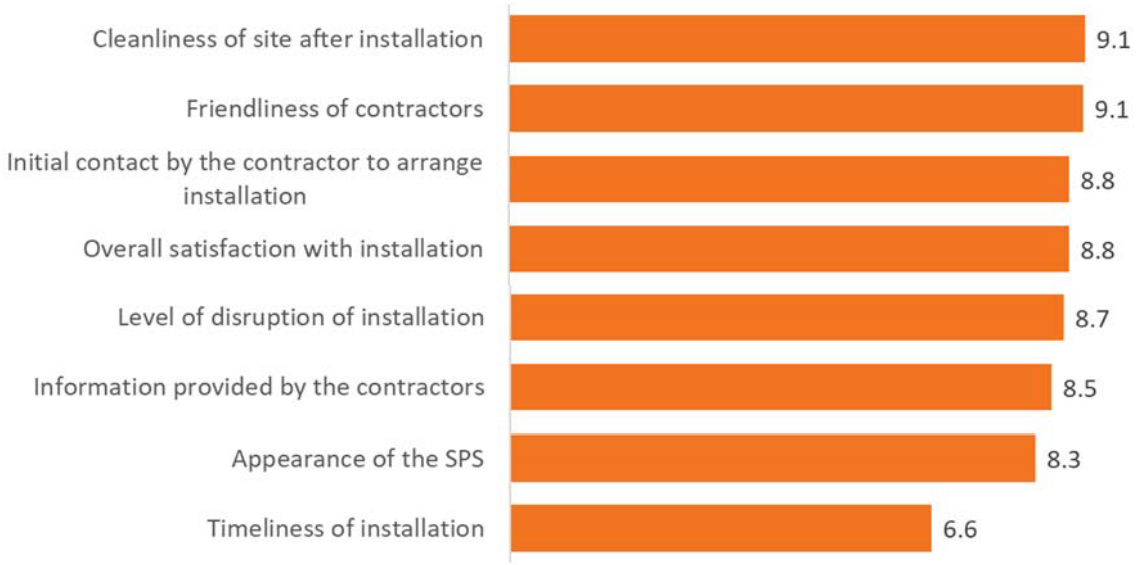



**Figure 9: Customers experience with SPS at post-installation**

The lowest score was received for timeliness of installation (6.6/10 – where 0 is very poor and 10 is excellent). All other scores ranged from 8.3 for appearance of the SPS to 9.1 for cleanliness of site after installation and friendliness of contractors. Opportunities to improve included: the need to set up a program for maintenance of vegetation, providing customers ample notice when Western Power or contractors will onsite, proper use of gates and awareness of livestock in paddocks, managing and communicating delays, negotiating the

location of SPS with customers and providing adequate information about the system and installation process whilst not doubling up on information/communications.

- **Experience of the day-to-day operations of SPS and any issues or faults –** Overall, customers were very happy with their experience of the day-to-day operation of the SPS. Scores ranged from 8.0 for quality of supply to 8.7 for the safety of SPS infrastructure (see graph to the right). Customers suggested making information about the amount of energy being generated readily available, ensuring the system provides enough power and so that all equipment and appliances can be operated and the generator is not needed too often, removing fire hazards such as grass around the system, reducing the noise of the generator. Only two people had experienced an issue or fault – one could not run equipment simultaneously so the generator came on too often, and the other was that the generator was too loud. One person had a faulty compressor which shut down the whole system but was immediately rectified by contractors. Those who had experienced surging and system shut down rated their satisfaction with how the issue was responded to as 10/10 excellent.

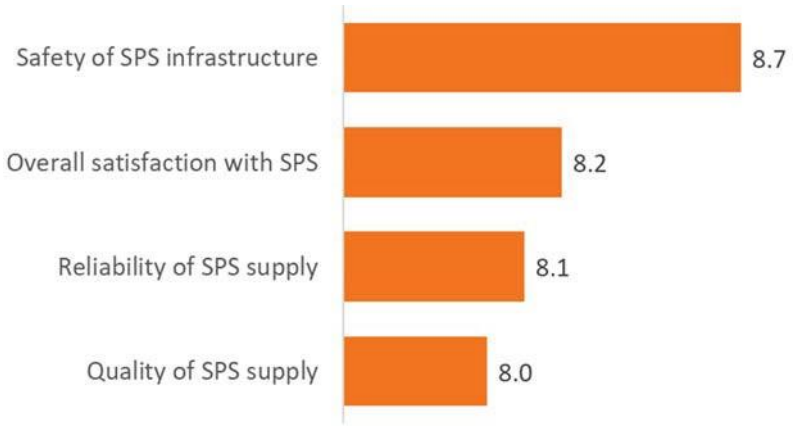



**Figure 10: Customers experience of the day-to-day operations of SPS at post-installation**

- **Experience of customer engagement for SPS** – When asked about the customer engagement process, the overall customer service rating was very high 8.7/10. The highest rating was 8.7 for engagement with Western Power staff and overall customer service, and the lowest rating was 8.4 for handling enquiries and issues. Issues noted were that contractors did not always inform customers when they were on-site.

- **Removal of poles and wires** – The majority of customers would like the poles and wires removed. Just over half said they would like them removed 'as soon as possible after SPS commissioning' (56%) and just under half would like the 'poles and wires to remain in place for a short period after the SPS commissioning' (44%). No customers would like the poles and wires to remain. Customers said the poles and wires were a hassle to have in the paddocks and a hazard if left when they are no longer needed.

- **Likelihood to recommend SPS** – Most customers were likely to recommend an SPS to others, with 83% of customers rating their likelihood as 7, 8, 9 and 10. Only one customer was unlikely to recommend an SPS, rating their likelihood as 2. The conversations were mostly positive when speaking to others about the SPS and when others have spoken to them about SPS (74% and 82% respectively).

- **Interest in energy efficiency** – Customers are mostly interested in solar panels, with 41% extremely interested and 14% very interested, and 7% already having solar panels. Customers are also interested in purchasing energy efficient appliances, 23% were extremely interested and 37% very interested, and 17% already have these. Most customers are receptive to energy efficiency initiatives, indicating they already engage in some initiatives.

### *Autumn and Winter Surveys*

A follow up logbook survey was conducted following Autumn and Winter 2021. 23 surveys were completed in Autumn and 25 in Winter.

- **Overall satisfaction with Western Power** – When asked how they feel about Western Power most customers reported feeling very positive or positive (72% in Autumn and 78% in Winter). Less than one quarter (18% in Autumn and 24% in Winter) were neutral and 4% negative.

  Customers provided the following explanations for their positive ratings:
  - SPS is a great initiative to service remote communities.
  - SPS worked well, saying supply was very reliable, they had never had a power failure and were happy with their setup, supply, and experience with Western Power.
  - SPS improved their electricity supply from the old system.
  - Customer service was good and initial problems were quickly responded to

  Customers provided the following explanations for their negative ratings:
  - There were issues with power supply, inconsistent power supply and workers did not always notify the owner when they were onsite.
  - Having ongoing problems and there has been no contact from Western Power.
- **Experience of the day-to-day operations of SPS and any issues or faults** – As shown in Figure 10**, o**verall satisfaction with the day-to-day operation of the SPS was 8.5 out of 10 in Autumn and 7.9 in Winter (where 0 is very poor and 10 is excellent). In both the Autumn and Winter surveys, the lowest score received was for the quality of SPS supply (8.3 out of 10 in Autumn and 7.9 in Winter), and the highest score received was for the safety of SPS infrastructure (9.2 out of 10 in Autumn and 9.5 in Winter).


**Figure 11: Customers experience of the day-to-day operations of SPS during Autumn and Winter**

Customers requested the following improvements:

- removing the old poles,
- reducing the reliance on generators,
- reducing the noise of the generators,
- improving the quality of supply provided by SPS, and
- better management of weeds in the SPS compound.

In autumn, seven people and in winter, eleven people had experienced an issue or fault related to SPS. The key issues or faults were related to:

- quality of supply (some customers could not run the equipment or appliances they wanted to when or for as long as they wanted to),
- constant surging or losing power,
- low batteries state of charge and no back-up generator,
- lack of sun meant a lack of power,
- lack of power on consecutive days,
- generator runs too often and is noisy, and
- generator sometimes does not close after charging the battery.

Satisfaction with how these issues were responded to ranged from 3 to 10 on a 10-point scale where 0 is very poor and 10 is excellent. Time taken to rectify the issue was the most significant factor driving customer ratings, with positive ratings for quick response times and negative ratings for longer response times. A lack of communication about changes to the SPS project also influenced customer rating.

- **Experience of customer engagement for SPS –** When asked about the customer engagement process, the overall customer service rating was very high 8.7 out of 10 in Autumn and 8.5 in winter. The highest rating in Autumn was for information provided about the SPS and overall customer service (8.7 out 10). The highest rating in Winter was for engagement with contractors (9.2 out 10).
- **Likelihood to recommend SPS** – Most customers were likely to recommend an SPS to others with, 74% in autumn and 79% in winter rating their likelihood as 7, 8, 9 and 10. In autumn 26% and in winter 16% of customers were neutral rating their likelihood a 5 or 6 (26%).
- **Additional information needs** – Customers asked for further information about the service charge and any increases to billing, update about the installation of batteries or generators, when poles and wires will be removed from the paddocks, how Western Power was feeling about the SPS, and whether it will become permanent.

## Summary of the Customer Research

| Study | Description | Key Insights |
|---|---|---|
| 1. Western Power (2014). Stand-alone Power Systems: Lessons Learnt Report. | **Apr – May 2012 (Qual)**<br>Interviews with 6 companies and review of 2 documents to identify lessons learnt for consideration in Western Power's SPS pilot. | The key lessons learnt were:<br>• Stakeholder involvement – Engage key parties early and local depot staff as a conduit into the local community.<br>• Customer Expectations – Explain what SPS looks like and how it works, including benefits and limitations.<br>• Education and Engagement – Use multiple channels to educate and engage customers about SPS.<br>• Customer Support – Provide support through the sign-up and installation of SPS and offer 24/7 support for issues and faults.<br>• Suppliers and Contractors – Choose suppliers and contractors you trust will deliver quality products and services and excellent customer service.<br>• Explain the details – Explain the details to customers – legal, liability, warranty, safety, maintenance, support, behaviour change. |
| 2. TNS (2014). Western Power Stand-alone Power Supply: A Customer Research Report. | **May 2014 (Qual)**<br>Telephone interviews with 30 regional customers to explore sentiments towards alternative technology. | • Many customers openly stated that the cost of electricity was an ongoing concern for their farm/business.<br>• For most, electricity supply was essential, but its delivery via the network was not.<br>• In general, customers were amenable to Stand-alone Power Systems, with approximately 80% at least partially open to the idea of having an SPS.<br>• All participants who were open to SPS still require reassurance about its viability, both in terms of cost and electricity supply capacity.<br>• The main drivers of openness to SPS were the potential for cost reduction and, above all, the desire for independence and self-sufficiency.<br>• The internet, via generic Google searches, is often the first port of call for information. There was interest in rural/local publications. Participants were interested in hearing from other customers in similar situations to their own who had an SPS. |

| Study | Description | Key Insights |
|---|---|---|
| 3. Western Power (2017). SPS Customer Research (pilot program). | **Feb 2017 (Quant)**<br>Surveys with 8 customers (multiple household members) for the 6 units installed in the SPS 2016 pilot, following commissioning of the SPS units. | • Customers rated their experience of SPS from recruitment to delivery as very high (9 out of 10, where 10 is excellent).<br>• Reliability was the key driver for satisfaction with the SPS.<br>• 63% of customers used an online dashboard that provided details about SPS and their electricity usage. Of those who used it, it was rated highly for content and user-friendliness.<br>The key learnings identified were:<br>• Select service providers with customer service quality and experience.<br>• Streamline pre-installation processes and maintain safety standards.<br>• Consider legal and regulatory barriers to rollout and gain high-level support for the project.<br>• Use positive word of mouth to enhance interest in SPS in local communities.<br>• Effectively manage customer expectations and deliver on commitments to improve overall satisfaction. |
| 4. Western Power (2018). Regional Customer Research: Initiative 4 insights. | **Sep 2018 (Quant)**<br>Online survey targeted at proposed candidate locations for SPS to understand regional customers views on SPS. A total of 50 customers responded. | • 65% of customers have heard about SPS, with social media being the primary source followed by word of mouth.<br>• 90% of customers supported Western Power using SPS and 88% said they would support an SPS on their property.<br>• The perceived benefits of SPS were improved reliability, removal of lines from their property and more efficient methods to supply electricity to remote customers.<br>• The concerns were with cost and ownership of the system, maintenance and response timeframes to faults and reliability of supply.<br>• 50% would consider paying slightly more for power from solar versus generator and 65% disagreed with paying slightly more for more reliable power.<br>• One-third of customers would be willing to have an SPS even if it meant limited load flexibility, one-third were unsure and one-third said they would not consider this. |

| Study | Description | Key Insights |
|---|---|---|
| 5. Viv Warren Consulting (2019-2021). Stand-alone Power Systems (SPS) Round 1: Customer Research.<br><br>*This research has tracked Round 1 customer experience from pre-installation, to post-installation, and following use of the system through each major season (Autumn and Winter).* | **Aug 2019 (Qual and Quant)**<br>Pre-installation interview with 28 out of 40 customers and survey 1 with 15 out of 40 SPS Round 1 customers prior to installation of their SPS units. | • There was a high level of satisfaction with how this project is being undertaken.<br>• Customers rated their experience with SPS (sign-up, site selection and information and engagement) an average of 8.1 to 9.1 on a range of scale of 0 to 10, where 10 is excellent.<br>• Customers expect SPS to perform better than the grid in terms of reliability, quality of supply, and safety.<br>• The majority of customers felt that they had a good understanding of SPS and the project.<br>• Customers main driver for signing up for an SPS was that they wanted improved reliability of electricity supply, and the poles and wires would be removed.<br>• Customers main concerns with SPS was its ability to deliver reliable electricity, sufficient supply to meet customer needs, and how quickly faults or issues would be resolved.<br>• Customers believe that thorough engagement is crucial to the success of future SPS rounds.<br>The suggestions for improvement were:<br>• Provide personal and ongoing communications after installation, 24/7 direct contact in the event of an issue and a high level of customer service to deal with issues that may arise.<br>• Deliver reliable electricity and sufficient power to meet customer needs and ensure the system can expand to meet future needs.<br>• Keep the price of SPS same or lower than currently paying for electricity.<br>• Time the installation to prevent interrupting operations. |

| Study | Description | Key Insights |
|---|---|---|
| | **Nov 2020 (Quant)**<br>Post-installation survey with 31 out of 40 SPS Round 1 customers following installation of their SPS units. | • On a scale of 0 to 10 where 10 is excellent, customers average rating for their experience with the installation of the SPS was between 6.6 for 'Timeliness of installation' and 9.1 for 'Cleanliness of site after installation' and 'Friendliness of contractors'.<br>• Customers average rating for their experience of the day-to-day operation of the SPS was very high (between 8 and 8.7). Customers average rating for overall customer service is 8.7.<br>• Only two customers experienced an issue or fault with the Stand-alone Power System. One couldn't run equipment simultaneously and found the generator noise too loud and the other was a faulty compressor that was rectified immediately.<br>• Most customers would like the poles and wires removed, as soon as possible after SPS commissioning or a short period after. No customers would like the poles and wires to remain.<br>• Customers were very interested in solar panels and in purchasing energy efficient appliances. |
| | **May 2021 (Quant)**<br>Autumn survey with 23 out of 40 SPS Round 1 customers after experiencing the SPS during the autumn season. | • On a scale of 0 to 10 where 10 is excellent, customers average rating for their experience of the day-to-day operation of the SPS was between 8.3 for 'Quality of SPS supply' and 9.2 for 'Safety of SPS infrastructure'.<br>• Customer's satisfaction with the reliability, quality, safety, and overall day-to-day operation of the SPS increased in Autumn 2021 compared with post-installation. Levels of satisfaction with the SPS is much higher than being connected to the electricity grid as rated by the customer at pre-installation.<br>• Customers average rating for overall customer service is 8.7. The lowest rating was 8.5 for 'Engagement with Western Power staff' and 'Engagement with contractors' and the highest was 8.7 for 'Information provided about SPS'.<br>• Seven people (30%) experienced an issue or fault with the Stand-alone Power System. The faults included units not having the capacity to run all equipment, power cutting out and lights flickering, low batteries and no backup generator, noisy generator. |

| Study | Description | Key Insights |
|---|---|---|
| | **Sep 2021 (Quant)**<br>Winter survey with 25 out of 40 Round 1 customers after experiencing the SPS during the winter season. | • On a scale of 0 to 10 where 10 is excellent, customers average rating for their experience of the day-to-day operation of the SPS was between 7.6 for 'Quality of SPS supply' and 9.5 for 'Safety of SPS infrastructure'.<br>• Customers average rating for overall customer service is 8.5. The lowest rating was 8.1 for 'Handling enquiries and issues' and the highest was 9.2 for 'Engagement with contractors'.<br>• Eleven people (44%) experienced an issue or fault with the Stand-alone Power System during the winter months.<br>• The faults included lack of power on consecutive days, power cuts when specific appliances/equipment are used, power cuts when all equipment/appliances are on, surging and flickering of lights, and the generator often running, noisy or not closing down. |

# Key Themes and Considerations for Industry

The key themes and considerations emerging from the customer research are summarised below. Energy providers need to consider the themes and considerations emerging from customer research in light of the specific context in which an SPS program will be implemented, including how receptive the community is to SPS, the particular characteristics and needs of the community, and the legal structure in which it will operate.

## Receptivity to SPS

Understanding customers' receptivity to SPS can inform how to engage stakeholders and communities and gain buy-in and support for the project.

### Views on current network

Customers at the end of feeder lines are often willing to connect to SPS because they believe it offers greater reliability of supply compared to being connected to the electricity grid. They also identify a range of other benefits that may come when removing poles and wires, such as reducing risk by removing obstructions on their land and reducing fire risks.
Most customers wanted the electricity lines and poles to remain in place for a short time until they could experience the SPS as a reliable alternative, and then they preferred to have the old poles and wires removed altogether. Commitment to removing aging infrastructure is also likely to appeal to customers and enhance their receptivity to SPS.
The research shows that information about SPS needs to focus on the enhanced safety of SPS (as a result of removing poles and wires) and increased reliability of supply compared to being connected to the grid. Customers felt that these benefits provided an opportunity to enhance their lives and businesses.

### Views on renewable energy

The customers in the current studies were very receptive to using renewable energy, with a third already using solar. More than half of the customers were aware of SPS and are very optimistic about the technology, seeing it as an investment in sustainable energy. The research suggests that renewable energy is important to rural customers and could be a driver for signing up for an SPS.

### View on SPS

Customers viewed SPS as a modern yet familiar technology, with solar well known and most having generators on their properties. Many customers could see the benefits of SPS, providing a reliable supply of electricity independent of the grid. They believed it was the way of the future and wanted to be involved in the early stages.

Some of the concerns with SPS raised by customers were:

- who pays for the cost of installation and running the system,
- who will be responsible for and how much will maintenance cost,
- whether the system can provide sufficient supply for home and business needs,
- the noise created by generators,

- the reliability of contractors,
- the need to change energy behaviour,
- how issues and faults will be handled.

The most critical information to communicate to potential candidates is the viability of SPS, both in terms of costs and electricity supply for their specific requirements.

## Community Education and Engagement

Community education and engagement was a critical part of the success of SPS. Early education and engagement with customers enhanced receptivity to SPS, improved perceptions of the energy provider and was a key driver for satisfaction with the roll-out.

### Connection to local staff

Regional and depot staff were seen as a critical conduit into local communities, given their awareness of local issues and personal relationships. Regional and depot staff need to be engaged early to identify the local issues and recommend potential candidates. Local staff are also more readily available to meet face-to-face, which was important to customers.

### Customer and community engagement

Identifying and involving customers and the community early in the roll-out of SPS to increase awareness of the technology and build relationships, improved receptivity to SPS and sign-ups. It also provided clear communication channels to identify potential issues or concerns and manage expectations throughout the installation and operations phases of the roll-out.
Western Power tailored the approach to engaging customers and community to the specific community and their preferences (such as meeting face-to-face, communications in hard copy or online, time of the year they can most readily engage, etc.). Meeting with local depot staff helped inform the most appropriate approach to engaging with customers and the community and understand what is most important to the local community.

Customer and community engagement enabled the energy supplier to:

- understand customer needs, inform them of SPS and sign them up to the program,
- work with them to make important decisions during installation,
- assist with changing behaviours to adapt to the new technology and its supply,
- address any questions, issues or concerns.

### Information and communications needed

Most customers initially look for information online about SPS through a search engine. A key consideration is for energy providers to be visible in these searches and that all the information customers want is centralised in one place and easy to find. Some customers also mentioned using an online dashboard (after sign-up), as a good way of receiving information about SPS.
Information needs to outline the benefits of SPS and address the most common questions and concerns. Customers wanted to see stories and case studies of other similar households and

businesses using SPS to understand better what SPS looks like in practice. Customers were particularly interested in the service charge and any increases to billing, timing for installation, when poles and wires will be removed, how the energy provider was feeling about the SPS and whether it will become permanent.

Dedicated engagement officers were critical at the beginning stages of the projects to step customers through the sign-up and installation process. Once installed, customers wanted to know they could contact someone 24/7 in the event of an issue or fault and know a person would answer them, and the issue or fault would be addressed quickly.

## Customer Expectations and Satisfaction

### Managing customer expectations

Managing customer expectations is vital at all project stages, from sign-up to operations. Some of the most common expectations were associated with the following elements of the project:

- **Size and design** – the size of the SPS and its design.
- **Placement** – where the system will be placed on the customer's property.
- **Installation** – the timing of installation to prevent disruptions to lives and businesses.
- **Contractors** – consistency of information and quality of customer service provided by contractors and energy supplier.
- **Maintenance** – land access requirements and expectations of the customer in maintaining the system.
- **Performance** – ability for the system to deliver reliable electricity to meet current customer needs, and ability to expand to meet future needs.
- **Behaviour change** – energy-efficient behaviours needed to optimise the use of the SPS.

SPS installation timelines should be managed carefully, especially if there are delays. Explaining the costs is vital as some customers believed SPS was cheaper than being connected to the grid, while others believed it was more expensive. And most importantly, it was critical to follow through on any commitments made or clearly explain why there was a change.

### Behaviour change

The research showed that some customers were willing to change their behaviours to have an SPS, some customers were willing to change their behaviours to save costs on their electricity bills, and others were not prepared to change their behaviours. The success with the system depends on clear communication about the capacity of SPS and the energy efficiency and behaviour changes that may be required to optimise the use of the system. To broaden the energy efficiency and behaviour change messages and create broader scale change, a community-wide communications approach can also be taken to broaden the energy efficiency and behaviour change messages and create broader scale change.

## Sign-up and Installation

### Signing up the customer

Making sure customers are well informed during the sign-up process and having staff they can speak to that is readily available, friendly, responsive, and follows through on commitments, increases their satisfaction with the process. Customers could take advantage of this support to learn about, accept, and confidently move through the sign-up process.

### Negotiating size and location of system

Customers' buy-in to the project increased when they had a good experience with the contractor and negotiated the system's location before the installation process.

Taking the time during the installation process to visit the customer and mutually decide on the placement of the system on their property is critical. Mutual negotiation ensures that the site selected is suitable and convenient for the customer (avoiding any unforeseen issues) and increases customer satisfaction. Given that the generator's noise can be of concern to customers, explaining the potential noise and considering this during the site selection process would help avoid this issue where possible. These negotiations must be undertaken collectively with the energy provider, contractor, and customer to prevent differences of opinion and miscommunication.

A small number of customers reported insufficient or inconsistent supply to power their household and business needs, such as flickering lights and appliances, surging and power loss. Customer would like any issues with their supply to be rectified to ensure they can run all their appliances and equipment.

### Contractor relationships with the organisation and customers

Customers experience of the contractors and suppliers impacted their perception of the energy supplier and their satisfaction with SPS. Energy providers should select professional, friendly contractors and understand the importance of working with customers and the provider to achieve positive results.

Energy suppliers and contractors should work together to streamline processes before installation to ensure that customers receive consistent messages, excellent customer service and adhere to all safety standards.

## Operations and Maintenance

### Roles and responsibilities

Being clear about the roles and responsibilities of the energy provider and the customer in operating and maintaining the SPS is crucial to managing customer expectations and satisfaction with SPS. Customers need to understand how often access will be required to maintain the system, while the energy supplier and contractors need to understand land access requirements to minimise disruptions to the customer’s homes and businesses. Customers main concerns with contractors accessing their properties more often than they would like, not being informed when these visits will

occur, and on a small number of occasional gates being left open (resulting in loss or escape of livestock).

Communicate to customers who is responsible for refuelling the generators (the customer or the energy supplier). If the customer needs to refuel the generators, provide them with out-of-pocket expenses (including the expected amount of diesel consumption, the cost of diesel and the distance participants would need to travel to get the diesel) using an easy-to-use claims process.

### Issues and faults

Customers would like to call a customer service line 24/7 and receive high-quality customer service to resolve any issues or concerns they may have. Knowing this service was or would be available made customers more comfortable signing up and trialling the new technology. Customers would like to speak with someone directly and have their issue or fault attended to as quickly as possible, within a reasonable timeframe. Customers' satisfaction with SPS is directly impacted by how an issue or fault is handled.

## Change Management

### Legal and liability considerations

Clearly articulate the liability and other legal/contractual issues for customers and service providers. For example, who is liable should the SPS be damaged through either an accident or vandalism. Legal and liability issues as well as warranty information, needs to be documented in agreements then clearly explained to customers during the sign-up process.

Organisations may also encounter legislative barriers that are expensive and time consuming to address. For example, one provider could not sell, store, or deliver diesel and had to get a third-party provider involved. Legislative changes may be needed to deliver SPS while maintaining the customers’ safety and protecting the energy provider.

### Organisational readiness

The project's success is driven by motivated team members and strong top-down support. If SPS is a new technology for the energy supplier, internal processes may struggle to adapt and navigate. Internal awareness and change management will help gain buy-in to the technology and create the system changes needed to enable efficient project delivery.

To prepare for an SPS roll-out, organisations should streamline pre-installation processes to achieve installation quicker while maintaining safety standards, consider legal and regulatory barriers to roll-out and gain high-level support for the project to assist with navigating through potential challenges.

# Conclusion

Western Power has undertaken extensive customer research to inform the roll-out and implementation of SPS to best meet customer needs. The research has been used on an ongoing basis to feed into the decisions made about how to roll-out each phase of the program and every iteration of the program. It is Western Power's hope that the customer research helps to shape the approach to delivering SPS in a way that best meets or exceeds customer needs and expectations, especially as SPS scales up and becomes a standard technology offering to provide customers with electricity.

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