CLEAN ENERGY COUNCIL MEMBER

BOUNDARY POWER

Leading the energy transition with

Stand-Alone Power Systems (SAPS)

Delivering energy solutions differently

Setting new benchmarks in Australia in the design, technology, construction, deployment and operations of SAPS solutions

Boundary Power is a joint venture between Australian energy utility, Horizon Power, and integrated electrical solutions provider, Ampcontrol Limited, bringing together significant stand-alone power system (SAPS) expertise.

Award-winning solutions

Boundary Power's range of innovative SAPS solutions are receiving significant acknowledgement within industry, including 'Energy Innovation of the Year' at the Australian Institute of Energy's 2021 WA Energy Awards.

The innovative Solar Qube® SAPS has been awarded a 2021 Good Design Award for 'Engineering Design' and a 2021 Hunter Manufacturing Award for 'Excellence in Product Design'.

About SAPS

A renewables-led energy solution

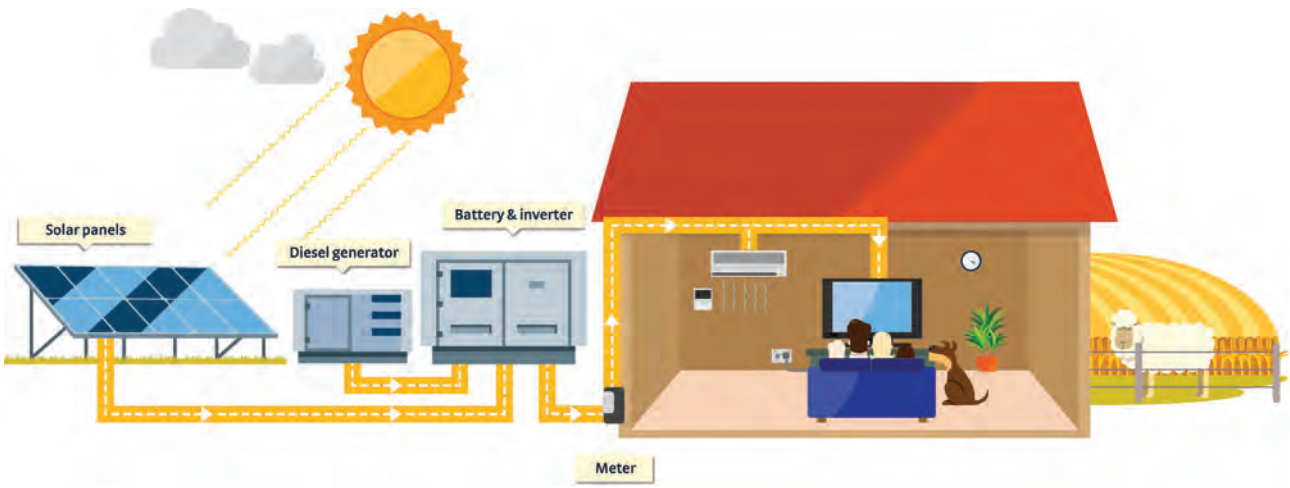
Leveraging the extensive expertise of the joint venture partnership, Boundary Power is using innovation and new technology to provide reliable, high quality, cleaner power through an off-grid solution.

Stand alone power systems (SAPS) are self-sufficient power generation systems using the latest in solar and battery technology to generate and store electricity. SAPS eliminate the need to be connected to the overhead electricity network and have been designed and engineered to:

- enable the removal of poles and wires
- be low in emissions
- use the diesel generator sparingly
- be compact in design and footprint
- be monitored and controlled remotely

How SAPS work

Using solar panels, batteries, inverters and in some instances back-up diesel generators, SAPS supply continuous power 24 hours a day, regardless of the weather and without the need to be connected to a power network.



SAPS benefits

Leading the energy transition

Boundary Power's SAPS are scalable, energy efficient solutions that are suitable for Australia's changing climate and conditions, and are highly adaptable to individual energy requirements.

With its advanced modularity design and new technologies, Boundary Power is raising the benchmark in SAPS innovation, offering proven benefits including:

Reliable

- Design features such as a back up generator and battery storage deliver improvements in power quality, flow and reliability
- 24 hour remote system monitoring is quick to detect and resolve issues

Rapid

- Boundary Power's Solar Qube® can be deployed off the back of a truck and ready for energy export in under 90 minutes
- Emergency response teams can quickly deploy SAPS on site during a major incident to power temporary facilities

Resilient

- SAPS are designed to be resilient against the impacts of extreme climatic conditions such as storms, cyclones and floods
- SAPS keeps essential infrastructure, such as telecommunication towers, powered during critical natural disasters including bush fires

Recovery

- Rapid deployment of SAPS can support the recovery of remote communities and their economies following a natural disaster such as a bush fire

Renewables

- SAPS deliver significant reductions in carbon emissions
- Environmental impacts of installing and maintaining traditional poles and wires networks are removed
- Noisy diesel generators replaced with silent power

Returns

- SAPS significantly reduce operating and maintenance costs as a result of removing the need for traditional poles and wires
- Falling component costs make SAPS an increasingly viable alternative to traditional poles and wires

Proven track record

With a proven track record in the end-to-end deployment of SAPS solutions, Boundary Power's expertise includes the design, construction, deployment and ongoing operation and maintenance of SAPS for commercial, utility and residential purposes.

Nano SAPS

A stand-alone power solution for smaller, remote loads

Nano SAPS is the perfect small load solution designed for:

- ease of transport
- rapid deployment and redeployment
- supply of 240VAC stand-alone power without the need for a back-up diesel generator

Typical applications

The Nano SAPS suits smaller loads such as domestic and single load rural and industrial applications, including:

- Remote rail and telecommunications
- Small farming loads
- Powering small pumps
- Electric fences

Features

The Nano SAPS suits smaller loads such as domestic and single load rural and industrial applications, including:

- Small footprint - suitable for deployment in difficult terrain
- Low maintenance design with no generator, reducing the need for system maintenance or repairs
- Adaptable, including AC and DC applications that can accommodate existing power sources
- Integration into customer metering and reporting systems for remote monitoring and control
- Durable robust design for harsh climates, including a weatherproof mounting frame and enclosure

Solar Qube®

Boundary Power is leading the market with a new evolution in stand alone power systems

Boundary Power's multi-award winning Solar Qube® is leading the energy transition, making it possible to replace traditional poles and wires networks with an off-grid, clean power solution.

Incorporating innovative design and technology, the Solar Qube® is swift to deploy, has scalable growth capacity and is stackable for efficiency.

Typical applications

- Utilities
- Emergency services
- Mining
- Defence
- Farming
- Tourism
- Remote communities
- Residential dwellings

Features

- Workshop assembled, modular, folding design for quick and easy installation
- Quick to deploy - ready for energy export in just 90 minutes
- Plug and play commissioning, allowing simple component replacement in the event off-site maintenance is required
- Integrated generator, batteries and inverter ensure reliable off-grid performance
- Remote monitoring and control capability for integration into client's preferred system

GOOD DESIGN AWARD® WINNER

1

Build

- Modular Sub Components
- Standardised Interfaces
- Labour Minimisation
- Custom Minimisation
- Supply Chain Optimisation

2

Deploy

- Assembly Jigging
- Test & QA Automation
- Designed for Logistics
- Rapid Deployment
- Repair by Replacement

3

Operate

- On-site module upgrades
- Module replacement
- Customised remote alerts
- Remote control genset

R-Series SAPS

A utility grade off-grid power solution for commercial premises and small industry

The R-Series utility grade system delivers safe, reliable and continuous power for fringe-of-grid, commercial premises and small industry. Supplemented by a back-up diesel generator it is less vulnerable to the types of outage from poles and wires network, such as line maintenance, damage caused by wildlife or extreme weather events, such as bushfires, floods or storms.

Typical applications

The scalable design makes it the perfect solution to supply medium to large loads for:

- Utilities
- Commercial premises
- Mining and Resources
- Farming
- Remote communities and fringe-of-grid
- Residential dwellings

Features

- Designed and configured to location to maximise power generation.
- Load capacity to deliver larger load demands to single, split or three phase.
- Modular design can be scaled over time to meet increasing demand for power.
- Low maintenance costs through remote monitoring and control

CASE STUDY

Regional SAPS deployment

> SAPS is helping keep the remote community of Beaumont connected

Overview

The Beaumont Community Hall, some 120 kilometers east of Esperance, Western Australia, has been pivotal in keeping the remote farming community of Beaumont connected.

The community experienced weekly power outages, due to being located towards the end of a distribution spur.

The community was unable to run fridges and freezers continuously and outdoor lighting was unreliable, limiting the use of facilities, such as the tennis courts.

Benefits

In late 2019, Horizon Power installed a 10.8 kilowatt R-Series SAPS. The stand-alone power system has offered the following benefits:

- Reduction in power interruptions and outages from once a week to zero.
- Increased use of the community hall and its facilities, supporting the community to stay connected, benefitting wellbeing and mental health.
- Reliable power supply for the district fire station alongside the community hall, ensuring fire vehicle batteries remain constantly charged.

Customer:

Beaumont community
120km east of Esperance,
Western Australia

Solution:

Horizon Power, in conjunction with Boundary Power, installed a 10.8 kilowatt R-Series SAPS

"You can't underestimate how important social connection is on the mental health and wellbeing of a community. Since the SAPS was installed we have set up a men's group which is helping to get the men off their farms and providing a place for them to talk among themselves."

Lyndon Mickel

President Beaumont Community Association, Horizon Power customer, Western Australia

Kiosk SAPS

A robust, weather resistant power solution for Australia's harsh climate

The Kiosk SAPS is an all-purpose, off-grid power solution. It is Category D wind rated and resilient to Australia's extreme and harsh weather conditions. It is an off-the-shelf SAPS that can be quickly deployed anywhere in Australia.

The Kiosk SAPS is the perfect utility grade alternative power solution for large scale operations, such as agribusiness, heavy industry and mining and resources. It can also be used to transition remote communities from diesel generated power to a clean, quiet and reliable energy supply.

Typical applications

- Remote communities
- Large agri-businesses
- Heavy industry
- Mining and resources

Features

- Load flexibility and capacity (20kW-120kW+)
- Able to deliver larger load demands to single, split or three phase power
- High overload and overcurrent capacity
- Customisable to suit specific site requirements
- Low maintenance costs through remote monitoring and centralised control
- Category D wind rated and suitable for installation in harsh weather environments

SAPS services

Complementary services for SAPS products

Boundary Power offers complementary services for its SAPS products, including system design and planning, installation and ongoing operations and maintenance.

Our service offering includes:

Remote monitoring and control

- License fee arrangement offering SAPS remote monitoring and control capability providing:
  - Fleet management of small through to large fleets
  - Visibility of system performance
  - Remote troubleshooting
- Cybersecurity protections
- Integrated with utility systems such as SCADA
- Capable of more complex integrations, such as bespoke utility systems

Operations and maintenance services

- Scheduled planned maintenance inspections
- Unplanned service to respond to critical and non-critical call outs
- Technical maintenance guides and field instructions
- Generator refuelling service
- Competency and compliance requirements
- Training packages

Consultancy services

- SAPS design
- Deployment and commissioning
- Site and load assessment
- Economic analysis
- Regulatory compliance assessment

Getting started

> Boundary Power has one of the most experienced SAPS teams in Australia

With a proven track record in the design, deployment and ongoing operations and management of SAPS across a range of industries, our team will work with you to deliver a tailored SAPS solution which meets your energy needs now and in the future.

Contact us to arrange for a SAPS specialist to come and meet with you to discuss your energy needs and our custom designed solutions.

Contact

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