BOUNDARY POWER

CASE STUDY

Location

Beaumont, 120 kilometres east of Esperance, Western Australia

Remote Community: Keeping a community connected

Customer

Beaumont Community Association - Horizon Power customer

Situation

The Beaumont Community Association (BCA) was formed more than 30 years ago by 23 farming families in the Beaumont district, and the Beaumont Community Hall has been pivotal to keeping the community connected.

Being located towards the end of a distribution spur line meant power outages were common. This had an impact on the use of the community hall's facilities. Equipment such as the fridges and freezers were not able to be left on, and outdoor lighting, including the tennis court lighting was unreliable – limiting the use of the community facilities in the evenings.

Reliability of power to the district fire station located beside the community hall was also an ongoing concern. Being a remote community surrounded by thousands of hectares of farmland and some distance from major emergency services, having reliable power to keep fire vehicle batteries charged is very important.

Solution

Design and deploy a customised Stand-alone Power System (SAPS) combining solar photovoltaic panels, advanced battery storage technology and back-up generation to power:

- Community hall lighting and equipment
- Outdoor lighting, including tennis courts
- District fire station

Specifications: R-Series SAPS

10.8 kW of solar panels

25.2 kWh of battery storage

15 kVA of back-up diesel generation

Design Considerations

- Providing safe reliable power that met or exceeded the utility's obligations under its charter.
- Analysing the load profile, demands and usage requirements, including concentrated demand when activities were being held at the community hall.
- Mitigating the impact of a power outage by sizing the battery to be capable of providing 4 – 5 hours of back-up power, allowing the utility time to rectify an issue.
- Locality considerations, including:
  - Ease of access for deployment and servicing
  - Ability to supply reliable power to the community hall as well as the district fire station located next door

Customer Benefits

The deployment of the SAPS in late 2019 has resulted in a range of benefits to the Beaumont community including:

- Reduction in power interruptions and outages from once a week prior to the SAPS installation, to zero outages.
- An increase in the use of the community hall and its facilities which is supporting the community in staying connected, contributing to their overall wellbeing and mental health.
- A weekly calendar of regular activities including a mother's group and a men's shed.
- Reliable lighting for night events and sporting facilities, including tennis courts.
- Continuous running of fridges and freezers for safe storage of perishables.
- Supporting the community's safety by delivering reliable power to the district fire station to keep vehicle batteries constantly charged.

"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

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