BUSINESS · WEDDING VENUE & RURAL ESTATE | AVON VALLEY WA

WEDDING VENUE · SOLAR, BATTERY & BACKUP GENERATOR

Buckland Estate: power you can count on for the big day

A wedding venue can't afford a blackout. We rewired the estate and gave it solar, a battery and a 220 kVA generator, with the grid kept for emergencies, so the power stays on when it matters most.



LOCATION
Buckland, Avon Valley (near Northam), WA

CUSTOMER
Buckland Estate, a wedding venue and rural estate with a homestead, workshop, barns, a granary and silo, caravan sites and event spaces

SYSTEM
About 98.3 kW of rooftop solar (207 × 475 W panels), 200.6 kWh of battery storage and a 220 kVA Genesys/Blue Diamond GEN220CT generator with changeover. The system runs off-grid when carrying the loads, and the existing 2-phase grid connection is kept so that in an emergency the system can be isolated and grid power run through.

EQUIPMENT
Tongwei 475 W panels, 2 × SAJ CHS2 50 kW inverters with a 100.3 kWh battery each, 2 × 50 kVA inverters (about 200 kVA of inverter capacity in total), Elekeeper monitoring, 220 kVA Genesys/Blue Diamond GEN220CT generator

INSTALLED
August 2026 · monitoring handed over October 2026

THE CHALLENGE

One day to get right, and a supply that couldn't keep up

Buckland Estate is a wedding venue. When a couple has one day to get right, the lights, the music, the kitchen and the bar can't drop out halfway through the speeches. For the owner, power reliability was the top priority, for his business and for the special days his guests share at the estate.

The property didn't make that easy. It had a 2-phase grid supply that was already supply constrained, on a big rural site with a house, workshop, barns, granary and silo, caravan sites and event spaces, and more cabins and caravan sites planned. The existing switchboards also needed work to bring them up to standard.

WHAT WE DID

More than one way to keep the power on

The objective was to create a robust, reliable microgrid that used parts of the existing infrastructure, upgrading and improving it where required. The end result: three different potential sources of power, so the site has the utmost reliability. We started with a detailed site investigation and audit to understand the problems and constraints on site. With that information, we worked through several design iterations to optimise and refine the design into the best possible outcome for the client.

- **A new heart for the site:** We rewired the property from a new, central main switchboard location, and replaced and upgraded every switchboard to current standards.
- **Solar and battery:** 207 Tongwei 475 W panels (about 98.3 kW), 2 × SAJ CHS2 50 kW inverters, each with a 100.3 kWh battery (200.6 kWh of storage in total), plus 2 × 50 kVA inverters, for about 200 kVA of inverter capacity in total.
- **Off-grid, with the grid kept for emergencies:** The estate runs off-grid when the system is carrying the loads. We retained the existing 2-phase grid connection, and in an emergency the system can be isolated so grid power runs through to the site.
- **Estate works & handover:** Workshop outlets, RGB floodlighting on the workshop, silo, barn and granary, chandelier barn power and lighting, and caravan power via four pillars with 12 outlets. Elekeeper monitoring handed over in person in October 2026.
- **Three-phase underground:** New underground three-phase runs to the main house, the workshop, the new powered van sites and a pillar ready for a future cabin.
- **Solar and generator, alone or together:** A 220 kVA Genesys/Blue Diamond GEN220CT generator with changeover. The solar and generator can run independently or together, depending on the loads they need to handle. In extreme cases the two can be stacked to create extra capacity on site.
- **Built for what's next:** The infrastructure, designs and connecting infrastructure were all sized for potential future expansion without over-capitalising on labour and materials, leaving headroom for future increases and system expansion.

Delivery was scheduled and managed around the client's operating schedule. The estate kept trading throughout, with no loss of revenue while the system was being installed.

THE RESULTS

Power the venue can count on

No power bill	Generator not needed	Three power sources	Renewables first	Ready to grow
since switch-on (to date, this site)	backup generator not needed to date	solar + battery, generator, grid	designed to run mainly on solar and battery	headroom for future expansion

Results to date, this site: since switch-on the client has had no power bill, and the backup generator has not been needed to provide power to date, as reported by National Renewable in October 2026. These are not guarantees; results depend on weather, site usage and how the system is operated.

BUCKLAND ESTATE

Project package

EQUIPMENT PACKAGE

CATEGORY	EQUIPMENT	QTY	TOTAL
Solar panels	Tongwei 475 W **[TBC: model number]**	207	98.325 kW
Battery inverters	SAJ CHS2 50 kW all-in-one cabinets **[TBC: model number]**	2	100 kW
Additional inverters	SAJ R6 50 kVA inverters	2	100 kVA
Total inverter capacity	CHS2 cabinets plus additional inverters	–	about 200 kVA
Battery	100.3 kWh per CHS2 cabinet	2	200.6 kWh
Generator / backup	Genesys/Blue Diamond GEN220CT 220 kVA generator with changeover	1	220 kVA
Grid	Existing 2-phase grid supply (retained)	–	Retained; system can be isolated in an emergency so grid power runs through
Mounting	S-5! mounting on Trimdek roofs	–	–
Monitoring	Elekeeper app	–	Handed over Oct 2026

ELECTRICAL SCOPE

- Detailed site investigation and audit of problems and constraints, then several design iterations
- Property rewired from a new, central main switchboard location
- Every switchboard on the property replaced or rectified, fixing non-compliance found
- New underground three-phase runs to the main house, workshop, new powered van sites and a pillar for a future cabin
- Generator changeover: generator alone, generator with solar assisting (generator grid-forming), or both stacked for extra capacity
- Existing 2-phase grid connection retained, so in an emergency the system can be isolated and grid power run through
- Caravan power: four distribution pillars with 12 outlets, including trenching, concrete and reinstatement
- Workshop outlets, RGB floodlighting (workshop, silo, barn, granary), chandelier barn power and lighting, tree area and corner posts
- Infrastructure sized for future expansion without over-capitalising
- Commissioning, owner walkthrough and Elekeeper monitoring handover (October 2026) **[TBC: SLD and test records]**

Equipment as installed or specified for this project. No pricing shown.

BUCKLAND ESTATE

Project photos



Rooftop solar array on a Trimdek roof at sunset, with gum trees behind.



Elevated view of solar panels on two roof sections of a farm building.



Solar panels running along both sides of a long Trimdek roof ridge.



Rows of solar panels across a roof, with trees and paddocks beyond.

BUCKLAND ESTATE

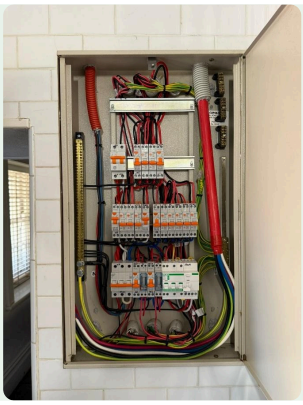
Project photos (continued)



White battery and inverter cabinet on a new concrete slab beside a metal-clad shed, with an orange enclosure and grey wall-mounted boxes.



Two white battery and inverter cabinets on a new concrete slab beside a metal-clad shed, with an old stone building behind.



Open switchboard with rows of new circuit breakers and neatly dressed cabling, set into a tiled wall.

nationalrenewable.com.au/projects/buckland-estate

Running a venue, farm or rural property?

When the power can't fail, you need more than one way to keep it on. We design systems that handle real rural loads, from workshops and lighting to caravans and events.

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