



CASE STUDY SUMMARY

CLIENT: Southern Ocean Lodge

LOCATION: Kangaroo Island, South Australia

INVERTER CHARGERS: 12 x Victron Quattro 48/15000

PV INVERTERS: 7 x Fronius ECO 25 (AC Coupled)

BATTERIES: 56 x Redflow ZBM3

SOLAR MODULES: 1092 x Canadian Solar 550w Modules



INTRODUCTION

The Southern Ocean Lodge project on Kangaroo Island represents a landmark Hybrid Renewable Energy System (HRES) undertaken by MyEnergy Engineering. This case study outlines the project's scope, design, components, and implementation, highlighting MyEnergy's commitment to delivering a state-of-the-art energy solution.

PROJECT OVERVIEW

Client: Southern Ocean Lodge

Location: Kangaroo Island, a location with unique environmental and aesthetic considerations.

Project Goal: To deliver an energy solution that aligns with its commitment to sustainability and minimal environmental impact.

OBJECTIVES

To design and install a HRES that provides reliable, efficient, and sustainable energy.

Ensure the system is aesthetically pleasing and integrates seamlessly with the local environment.

Complete the project within the specified timeframe, adhering to the highest safety and quality standards.

SYSTEM DESIGN AND COMPONENTS

- Inverter Chargers:** 12 x Victron Quattro 48/15000, providing a continuous output of 180kVA and a peak of 300kVA
- System Control:** 1 x Cerbo GX for system control, remote access, and monitoring
- Charge Controllers:** 25 x Victron Smartsolar 450/200 (DC Coupled)
- PV Inverters:** 7 x Fronius ECO 25 (AC Coupled)
- Batteries:** 56 x Redflow ZBM3
- Solar Modules:** 1092 x Canadian Solar 550w Modules (CS3W-550)
- Mounting:** Clenergy STII Ground Framing
- Generators:** 2 x Caterpillar 180kVA Gensets and 1 x 350kVA Caterpillar GenSet for backup and load management
- Distribution Systems:** Comprehensive DC Distribution, Busbars, and AC Switchboards

INSTALLATION AND COMPLIANCE

Installation Team: A team of 6 electricians, experienced and skilled in HRES installations.

Compliance: All work conforms to local safety and quality standards, with a focus on 'Safety in Design'.

Aesthetics: The system's design prioritises aesthetics, ensuring a visually pleasing setup that respects the lodge's luxurious setting.

CHALLENGES AND SOLUTIONS

Environmental Sensitivity: Kangaroo Island's unique environment required a design that minimises ecological disruption.

Aesthetic Integration: The design and placement of components were carefully planned to blend with the lodge's architecture and surrounding landscape.

Logistical Constraints: The remote location posed logistical challenges, which were met through meticulous planning and resource management.

PERFORMANCE AND IMPACT

The system effectively meets the energy needs of the Southern Ocean Lodge, ensuring a consistent and reliable power supply.

It significantly reduces the lodge's carbon footprint, aligning with its commitment to sustainability.

The project serves as a model for similar high-end, environmentally conscious developments.

CONCLUSION

MyEnergy's Southern Ocean Lodge project on Kangaroo Island is a testament to their ability to deliver complex HRES solutions that are both efficient and environmentally sensitive. This project not only meets the immediate energy needs of the lodge but also sets a benchmark in sustainable energy solutions for the hospitality industry.

MyEnergy Engineering is a family-owned company delivering off-grid power solutions since 2010. Our focus is renewable energy systems, which over time, have developed a reputation nationally for our expertise and industry leadership in the design, build and installation of off-grid power systems throughout Australia.

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