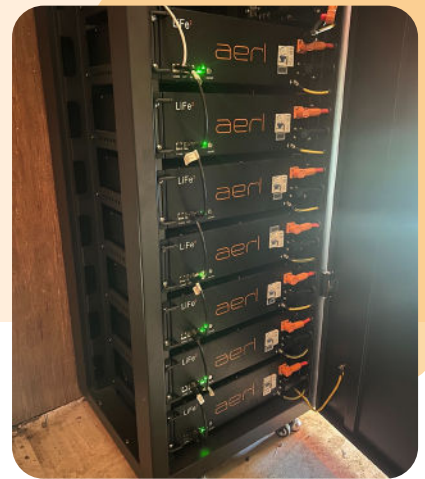


CASE STUDY



Off-Grid AERL Lithium Upgrade in Yeppoon, QLD



Client: Lindsay

Location: Off-grid property near Yeppoon, QLD

Installer: Andrew, Sue, and Team Climate Care Electrical (climatecareelectrical.com.au)

System Upgrade:

- **Previous:** Failing flooded lead-acid battery bank
- **New:** 7 x AERL LiFe2-5120S 48V 5.12kWh modules (35.8kWh total)
- **Existing equipment:** Selectronic SP Pro 7.5kW inverter/charger, AC-coupled ABB PV array

Installation Notes:

1. Fully managed configuration implemented via CAN bus comms with the Selectronic SP Pro.
2. Automatic fallback to self-managed mode if comms are lost, ensuring system resilience.
3. Pre-wired 10 Way Cabinet allowed for seamless transition from old to new batteries without extended downtime.

Performance Improvements:

1. **Increased usable capacity:** Utilising LiFePO4 chemistry's deeper DoD compared to lead-acid.
2. **Higher C-rates:** 1C continuous, 2C peak allowed for better handling of surge loads.
3. **Improved efficiency:** >96% round-trip efficiency vs. typical 70-80% for lead-acid.

Client Feedback:

Lindsay was thrilled with the upgrade and reported being able to:

- Run air conditioning completely throughout the night.
- Use the microwave/oven for over 10 minutes (RIP Popcorn).
- Even do a cheeky load of laundry after the sun was down.

Installation Insights:

The AERL LiFe2 kept things very simple. The pre-wired cabinet option made it a breeze - just remember to remove the bus bar access panel locking screw before you try and remove the panel. The automatic fallback to self-managed mode provides an additional layer of system resilience, particularly valuable for off-grid applications where consistent communications might be challenging.

Conclusion:

This upgrade demonstrates the substantial benefits of transitioning from legacy lead-acid to a modern LiFePO4 battery system like the AERL LiFe2 in off-grid applications. The AERL LiFe2's advanced features, including active battery management and self managed fallback capabilities, make them particularly well-suited for remote installations where reliability and performance are critical.