

Apartment Complex



An apartment complex in a sustainable community in Western Australia has received recognition as a pioneering development in eco-conscious living. Situated within a designated sustainable community, these apartments are developed by a prominent property group. The development features innovative two-story buildings equipped with advanced solar and battery technology, supported by governmental initiatives promoting sustainability. This project is setting new benchmarks for sustainable urban development in the region, demonstrating a model for eco-conscious living.

Aim:

To design effective governance models for deploying shared solar PV, battery, and monitoring systems in medium-density apartment complexes, our solution aims to improve energy efficiency, reduce costs, and ensure fair access to renewable energy sources.

Challenges:

- Ownership and Accountability: Defining clear ownership and accountability for shared energy resources involves diverse stakeholders.
- Technical Compatibility: Integrating varied solar PV and battery systems in shared infrastructure poses technical hurdles.
- Regulatory Frameworks: Navigating complex regulations to establish governance models for shared energy presents challenges.

Solution:

- CCR's solution includes a 50kW PV solar system, a 100kW Inverter System, and a 150kWh battery, with a focus on technical alignment for peak efficiency and compatibility.
- The no-code dashboard manages individual apartment energy and water usage data, ensuring data privacy and security with robust data management solutions.
- Real-time monitoring of energy and water consumption helps residents make sustainable choices and improve efficiency.
- The solution simplifies tenant billing and provides clear consumption and cost data, making the process easier for all stakeholders.
- Residents can save on energy costs by storing excess solar power in the battery for evening use, avoiding expensive grid purchases during peak hours.

Network:

Modbus, Bacnet, 4GLte, LoRa, LoRaWAN, Ble

Scope of Expansion:

- The future of the project involves expanding to other communities through the use of new technologies, increasing community engagement, and continuing research collaborations.
- The project also aims to support policies that promote energy independence, improve community well-being, and set a standard for sustainable living that can adapt to changing needs and inspire similar initiatives in other locations.

Success Criteria:

- Significant reductions in electricity consumption and energy bills.
- Automated and Transparent Tenant Billing
- Reduced carbon emissions.
- Achieve project objectives within time and budget constraints.
- Reduced failure rates and downtime.



 Key Outcomes	
80% Reduction in Energy Consumption*	37tonne Reduction in Carbon Emissions*
30% Saving on Electricity Bills*	70% Reduced Potable Water Consumption*

* Figures based on opportunities identified & captured to date

