Case Study

Park Central Retail Complex

New big box retail park enhances property value with solar and storage

Park Central is Illawarra's latest and largest bulky goods retail complex, completed in 2023. The Esplanade Group Property Developers responsible for the 4,300m2 development cleverly included battery storage into the existing solar installation to tackle the complex energy demands. The commercial retail park has an embedded network and a high load profile, compounded by increasing onsite EV charging demand all sharing the same electrical infrastructure. This project featured high-performance batteries provided by Energy Renaissance, integrating with the existing solar infrastructure to enhance the energy efficiency of the property and maximise its appeal to potential tenants.

energy renaissance

GENELEC Power Solutions

The Journey

Commercial rental properties with solar and storage systems are a hot commodity on the rental market. Tenants are prepared to pay higher rent for lower power bills and a reduced carbon footprint and Property Developers are attracting and retaining higher-value tenants. To help meet corporate emissions goals and maximise the value of solar installations, Genelec Power Solutions designed in Energy Renaissance superStorage™ batteries as an integrated solar/storage solution on the same electrical infrastructure. This solution supports load, reduces emissions, and meets the rising demand for EV charging.

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> Designing and implementing the integrated solar and storage solution for Park Central was a challenge we were eager to meet. Our partnership with Energy Renaissance helped us to create a system that not only meets the complex energy demands of a commercial development like this but also emphasises safety and ease of use.
>
> **David McVernon,**
> **Genelec Power Solutions**

The Solution

Genelec faced the significant challenge of designing a safe, integrated solar/storage system that could be integrated with the existing electrical infrastructure, maximise solar economic and emissions benefits, and support a rising building and EV charging load. To this end, Genelec designed a solution incorporating indoor storage systems, secure remote management, and intelligent automation.

Battery Storage

Utilising three 53.8kWh superRack™ indoor systems, three integrated Sinexcel 30KW battery inverters and cybersecure battery and energy management systems.

Solar Power

Equipped with 100KW of rooftop solar panels and a Sungrow SG110CX inverter for efficient energy conversion.

Solar panel supplier:

YINGLI SOLAR

Additional Features

Modbus integration with existing Schneider meter and new grid protection relay implementation.

> This project demonstrates how commercial properties can benefit from renewable energy, achieving both economic and environmental goals.
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> **Daniel Hodge, Facilities Manager, Esplanade Group**

Outcomes

The design and implementation ran smoothly mainly due to Genelec's expert design and project management and the Renaissance superEMS™ system's innovative safety and simplicity features. This integrated solution efficiently managed the solar inverters, ER batteries, and EV charging demand via the shared electrical infrastructure. Businesses and tenants are increasingly prioritising sustainability practices high on their ESG agenda, as well as looking for ways to avoid the burden of rising energy costs. This solution supported The Esplanade Group in;

- Maximising cost savings
- Contributing to environmental sustainability
- Increasing property value
- Meeting market and community demand

Generates 150MWh of energy annually

Saves 120,000 kg of CO_2 yearly* The equivalent of powering 22 Australian homes^

Projected ROI 15% resulting in approximate savings of $33,000 annually

Conclusion

The Park Central Complex is a landmark in integrating renewable energy into urban developments, surpassing renewable targets, and setting a new standard for sustainability. This collaborative effort between Genelec Power Solutions and Energy Renaissance demonstrates the feasibility and economic benefits of combining solar power with battery storage, addressing complex energy demands and maximising property value for both property developers and tenants. It marks a pivotal shift towards more intelligent, cleaner energy management, serving as a model for future sustainable urban projects that make financial sense.

*Based on average 800 kg CO2 emitted for each MWh of electricity generated from a black coal power station.
^Based on average Australian household using 18.71 kWh per day.

For more information

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