

# Intern Analyst Case Study

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# 1 Problem Statement

A multi-site client in the retail sector has 350 locations across New South Wales (NSW), Victoria (VIC), and Queensland (QLD). It has 160 sites in NSW, 80 in QLD and the remainder in VIC.

The client wants to sign a new long-term Power Purchase Agreement (PPA) starting from 1 July 2025 until 31 December 2030. They are also considering a rollout of on-site solar PV and wants a prefeasibility study on installing solar panels at all their retail locations.

They are looking for the best strategy in terms of cost to achieve a renewable energy percentage of either 50% or 100%.

They also wish to know how many tonnes of carbon dioxide equivalent (tCO<sub>2</sub>-e) their solar program would save per year and what that equivalent value is in Australian Carbon Credit Units?

*Submit a calculation sheet and a brief Power Point Deck showing your conclusions to be presented to the client.*

# 2 Key Considerations

- How renewable should the client be in the PPA, where they can nominate the renewable percentage within the PPA?
- What factors should the client consider when determining the best strategy for on-site solar power generation?
- How feasible is the installation of solar panels at the retail locations across different states, considering the energy consumption, solar radiation, and potential energy production?
- What is the best strategy for the client in terms of attaining 50% renewable or 100% renewable energy via the PPA and solar rollout initiative?

## 3 Load Profile Summaries

### 3.1 New South Wales (NSW)

Item	Description
Peak Hours	8:00 am to 9:00 pm (weekday)
Off-peak Hours	9:00 pm to 8:00 am (weekday), weekends
Peak Demand	100 kW
Off-peak Demand	40 kW

### 3.2 Queensland (QLD)

Item	Description
Peak Hours	10:00 am to 11:00 pm (weekday)
Off-peak Hours	11:00 pm to 10:00 am (weekday), weekends
Peak Demand	90 kW
Off-peak Demand	35 kW

### 3.3 Victoria (VIC)

Item	Description
Peak Hours	9:00 am to 10:00 pm (weekday)
Off-peak Hours	10:00 pm to 9:00 am (weekday), weekends
Peak Demand	120 kW
Off-peak Demand	80 kW