AUSTCO POLAR COLD STORAGE

Cold Storage

Cost Reduction and Energy Security

AT A GLANCE

THE CHALLENGE

- Faced with high energy costs
- High demand charges
- High costs from supply outages

THE SOLUTION

- 450kW ground mounted solar system
- 545 kVA grid synchronised bio-diesel generator
- Acacia Generation Services

THE IMPACT

Energy savings of 67% through

- Displacing grid sourced energy
- Avoiding peak demand charges
- Creating new revenue streams

THE CHALLENGE

Through our highly consultative and detailed analysis of Austco Polar Cold Storage's operations, Acacia Energy identified the key opportunities to deploy a renewable energy solution that would reduce electricity charges as well as generate new revenue streams that deliver faster payback of the initial investment and ongoing electricity cost offsets.

Our analysis identified that Austco Polar Cold Storage's high electricity charges could be substantially reduced by:

1. Deploying a behind the meter solar system to displace grid-sourced electricity
2. Deploying a diesel generator to mitigate network peak demand
3. Selling the output from the embedded generator into the NEM wholesale market.

The solution is configured for aggregation of the demand reduction available from the embedded generator to support Slow FCAS participation. This additional revenue stream will be enabled in the future.

Acacia Energy

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THE SOLUTION

Using 12 months of interval meter data and electricity market data, Acacia Energy developed a detailed model of Austco Polar Cold Storage's electricity costs. The model demonstrated the savings available to Austco Polar Cold Storage from a variety of difference renewable energy solutions, allowing Austco Polar Cold Storage to make an informed decision on the renewable energy solution best suited to their operational and commercial needs. The solution included:

- A 400kW rooftop solar system comprising;
- A Wilson 700 kVA backup generator fitted with Commapp controllers and configured as an embedded generator
- A new 630 AMP Main Switchboard with protection and control equipment that allows non-synchronised genset operations.

Austco Polar Cold Storage were already contracted for their electricity retail supply so elected to engage Acacia Energy's Generation Services to derive ongoing value from the investment in the renewable energy solution.

THE IMPACT

Under the Generation Services agreement Acacia Energy will use its cloud based OBE software to autonomously monitor and control the renewable energy solution to achieve the lowest cost of energy in every (5 minute) trading interval in the National Electricity Market. This optimisation takes into consideration the cost of purchasing energy from the grid, the cost of critical peak demand, the energy available from the solar array, the revenue that can be achieved by running the generator and from providing FCAS services. The combination of grid energy displacement and new revenue streams delivers a total electricity cost reduction of 67%.

Acacia Energy