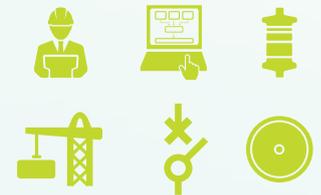




Coober Pedy Renewable Hybrid Project

Location: Coober Pedy, South Australia
Client: Energy Developments Limited
Role: Advisor, Turnkey contractor



Background

Coober Pedy is an iconic outback mining town in South Australia and, like many remote locations, relies on diesel generation to provide electricity. Existing generation is from the 3.9 MW diesel power station that typically serves 13 GWh of annual customer demand, peaking at 3 MW.

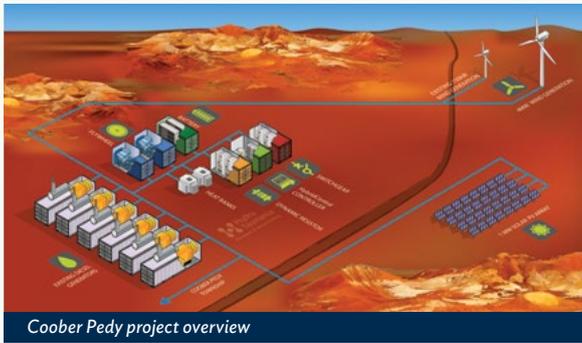
The Coober Pedy Renewable Hybrid Project will substantially increase the community's use of renewable energy, reducing its dependence upon costly fossil fuels.

The system is capable of displacing 70% of the annual diesel fuel used in Coober Pedy to generate electricity. The system is capable of diesel off operation, allowing 100% renewable penetration.

**The Coober Pedy
Renewable Hybrid Project
substantially increases
the community's use
of renewable energy,
reducing its dependence
upon costly fossil fuels.**

Hybrid Energy Solutions

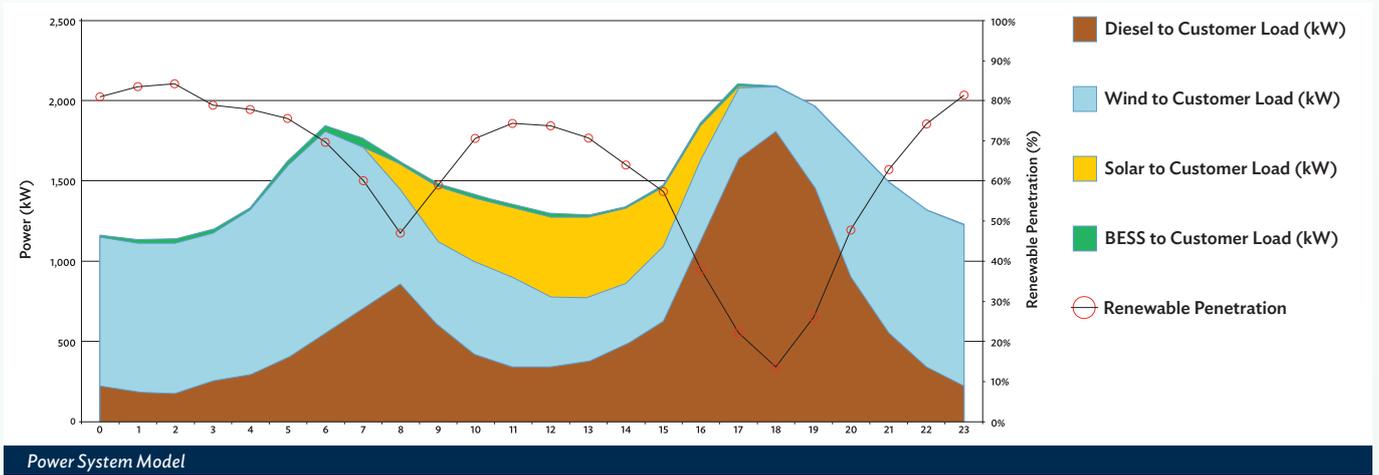
hybridenergysolutions@hydro.com.au
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Cooper Pedy project overview



Enabling technology (far right) integrated into existing Cooper Pedy Power Station



Power System Model

Solution

Hydro Tasmania was engaged as the turnkey contractor to install the hybrid enabling systems and integrate solar and wind generation into the existing power system.

This innovative project involves a hybrid combination of 4 MW wind, 1 MW solar, 1.5 MW/500 kWh battery, two 850 kVA flywheels, a 3 MW dynamic resistor and Hydro Tasmania's Hybrid control system.

The system displaces 70% of the annual diesel fuel used at Cooper Pedy to generate electricity and is capable of operating with 100 per cent renewable generation for approximately 50 per cent of the time.

Our Services

Hydro Tasmania's involvement started in the preliminary investigation phases of the project and included a study of development options, including installation of wind monitoring and undertaking a wind resource assessment.

Following this options study, Hydro Tasmania undertook preliminary system design, including wind and solar capacity optimisation, enabler selection, and assistance with business case preparation.

Post project formulation Hydro Tasmania developed specifications for tenders for wind, solar and battery energy storage and assisted our client with technical assessment of tender responses.

As turnkey contractor Hydro Tasmania has supplied the flywheels, dynamic resistor, switchgear and is controlling the performance via its Hybrid control system.

In parallel to these tasks, Hydro Tasmania is acting as owners engineer for procurement, installation and commissioning of wind, solar and battery energy storage, as well as tuning and commissioning of the final power system.

Outcome

Hydro Tasmania is assisting our client to rapidly transform the remote township of Cooper Pedy to a world leading renewable hybrid system.

The world's most advanced utility grade hybrid energy solutions



Hybrid Energy Solutions

