

Phoenix Pumped Hydro

Renewable Energy from ACEN

Feasibility design

The Phoenix Pumped Hydro project will have storage sufficient to deliver peak power of 11990 MW hour of long duration energy, with sustained power output of 800 MW for 8.5 hours and a maximum of about 15 hours generation time.

The project will have purpose built, off-stream, upper and lower storage reservoirs connected by a tunnel to a powerhouse containing pump-turbine unit. The project is within the NSW Government's Central-West Orana Renewable Energy Zone (REZ) which is made up of several proposed renewable energy generators including wind and solar that will provide a low-cost source of energy for consumers.

Phoenix Pumped Hydro will firm these renewables by providing large amounts of long-duration storage to keep the lights on even when the sun isn't shining, and the wind isn't blowing.



Reservoirs

An upper and lower storage reservoir will be constructed, each with a surface area of approximately 50ha and capable of holding up to 19,000ML of water, or 1% of Lake Burrendong.

The upper reservoir will be 350m higher than the lower reservoir.

The dedicated storage reservoirs will be off-stream, separate from Lake Burrendong.

They will be connected by a tunnel via a powerhouse containing pump-turbine units. The storage reservoirs will have minimal interaction with existing waterways.

Powerhouse

A powerhouse will be located at the lower reservoir containing the pump-turbine units and associated equipment required to pump water and generate electricity.

The powerhouse will contain multiple reversible pump-turbines, for an installed capacity of over 800MW.

