Phoenix Pumped Hydro

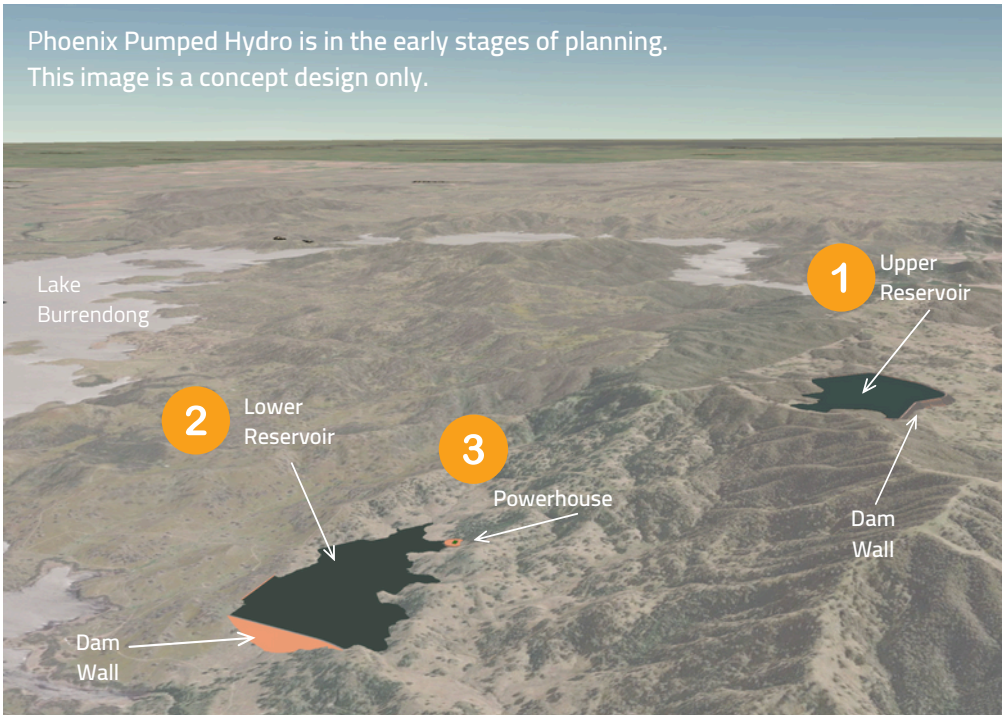
Renewable Energy from ACEN

Concept design

Phoenix Pumped Hydro is a proposed 800MW, 8.5-hour pumped hydro project 35km west of Mudgee, on both private land and land owned by WaterNSW. 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.

The project will have purpose built, off-stream, upper and lower storage reservoirs connected by a tunnel to a powerhouse containing pump-turbine units.



The project is a greenfield site with dedicated storage areas to be constructed off-stream, separate from Lake Burrendong.

During construction, the project will source water from Lake Burrendong and once operational, the project will reuse the same water over and over again, requiring only minor top-ups to replace evaporation losses over time.

The project will have minimal interaction with existing waterways and not impact camping, boating and fishing activities on Lake Burrendong. The project will also have no impact on how WaterNSW operates Lake Burrendong, or the security of water entitlements for the valley.

1 & 2 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.

3 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.

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