

Renewable energy programs

Start of pre-feasibility studies | March 2025

WaterNSW is starting pre-feasibility studies to identify which of WaterNSW's 41 dams across the state are best suited for further investigation by private developers for potential long duration pumped hydro energy storage projects. This builds on the success of projects already underway as part of the Renewable Energy and Storage Program.

Pre-feasibility work underway

From March 2025, WaterNSW is carrying out pre-feasibility studies of its land and assets to explore other opportunities to bring to market pumped hydro energy storage projects. The studies will assess key technical and environmental factors, including:

- **Grid capacity** – Checking existing infrastructure and connection points.
- **Access & terrain** – Assessing site accessibility, land constraints, and construction challenges.
- **Geotechnical suitability** – Evaluating ground conditions for pumped hydro.
- **Functional design** – Outlining early design needs and best practices.

Benefits of future pumped hydro energy storage projects

- reduce energy emissions
- align with state and federal priorities
- grow and diversify regional economies
- deliver energy security via local supply
- put downward pressure on costs for WaterNSW customers.



Burrendong Dam

Building on the success of the Renewable Energy and Storage Program

Any new opportunity identified as part of these pre-feasibility studies will build on the success of WaterNSW's Renewable Energy and Storage Program. The program has provided private sector developers with access to agreed WaterNSW land, following a competitive tender process, to complete studies and support the planning assessment of their projects.

WaterNSW sites currently being investigated by private developers are at Glennies Creek and Glenbawn dams in the Hunter Valley, Burrendong Dam in the Central West, and Lake Burragorang in Western Sydney.

Frequently asked questions

What sites are already in development?

As part of the Renewable Energy and Storage Program, WaterNSW has already partnered with three developers, granting them access to key land for on-site studies and to support the planning phase of their projects. Current projects include:

- **Phoenix Pumped Hydro Project** (Burrundong Dam) – Led by ACEN Australia
- **Glenbawn and Glennies Creek Dam Projects** – Led by Upper Hunter Hydro
- **Western Sydney Pumped Hydro Project** (Lake Burragorang) – Led by ZEN Energy.

Have any other sites with potential been finalised as part of these pre-feasibility studies?

Not yet. WaterNSW hasn't selected any new sites beyond the ones listed above. The 2025 pre-feasibility studies will assess key factors like site constraints, topography, grid connectivity and others before any decisions are made.

Who will develop and deliver the projects if these studies identify other viable sites?

If viable, private sector developers will fund, build, and operate the projects much like the existing projects at Burrundong, Glennies Creek, Glenbawn, and Lake Burragorang. WaterNSW will run a competitive tender process to select qualified developers.

How will environmental impacts be considered, and how will communities be consulted?

Firstly, pumped hydro energy storage systems recycle water between reservoirs. They may only need an initial fill and possible top-ups for evaporation and operations. As such, they don't necessarily need a water access licence, but must comply with the *Water Management Act 2000*. Like all water users, renewable energy projects must ensure their water use does not affect existing licence holders or exceed sustainable diversion limits.

Before they progress to construction, all projects would include detailed environmental studies, starting with a thorough environmental impact statement (EIS) that assesses potential impacts on ecosystems, land use, and local communities.

As state significant infrastructure, the projects will follow a robust EIS process, which includes meaningful community consultation. This ensures local stakeholders have the opportunity to provide feedback.

What is pumped hydro and how does it work?

Pumped hydro energy storage is an efficient method of storing and generating renewable energy. Water is pumped from a lower to an upper reservoir using renewable energy, then released to generate power via turbines. The system is closed-loop, meaning no water is lost.

Stay informed

For more information, visit waterNSW.com.au/RenewableEnergy.

For any questions, contact us by phone on 1300 662 077 or email engagement@waterNSW.com.au.