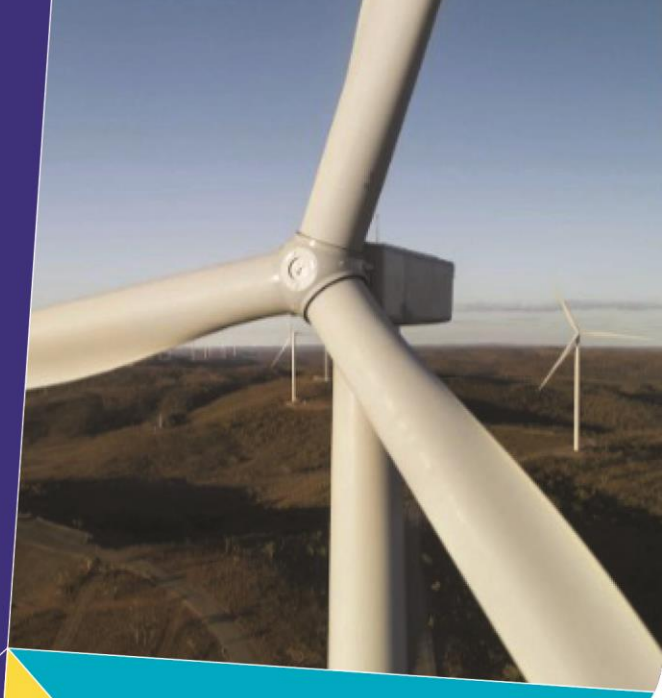
Barn Hill Wind Farm and Battery Project



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Project Fact Sheet

AGL Energy is developing the Barn Hill Wind Farm and Battery Project near Redhill in South Australia. The Project consists of a wind farm up to 360 MW, a new transmission connection and the potential inclusion of a 270 MW battery with up to 4 hours duration.

Project overview	
Wind turbines	Up to 50 wind turbines [6.1 to 7.2 MW each]. Final number is dependent on turbine manufacturer selection and constraints e.g. grid capacity, environmental and land considerations.
Wind farm Size	Up to 360 MW
Battery	Up to 270 MW – 4 hours duration
Tip height	Up to 250m
Asset life	About 35 years
Approval process	Crown Sponsorship
Target FID	Mid 2025
Construction duration	About 2 years (Construction Environmental Management Plan will be developed)
Operations	Early 2008
Job creation	About 200 at peak of construction About 12 during operations

About AGL

AGL is the largest ASX listed owner, operator and developer of renewable energy generation in Australia.

As Australia's largest energy supplier, AGL is driving the energy transition with flexible generation and storage, while maintaining reliable and affordable energy.

In September 2022 AGL announced it would aim to close its last coal-fired power station and be net zero for operated Scope 1 and 2 emissions by the end of the 2035 financial year.

To replace this retiring plant, AGL also announced an ambition to supply its customer demand with up to 12 GW of new generation and firming capacity, requiring a total investment of up to $20 billion, in place before 2036.

This includes an interim target to have up to 5 GW of new renewables and firming in place by 2030. The Barn Hill Wind Farm and Battery is one of the projects that will help AGL achieve this target.

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Where is AGL proposing to build the Barn Hill Wind Farm and Battery?

The AGL Barn Hill Wind Farm and Battery Project is located approximately 4.5 km to the south-west of the township of Redhill, South Australia. The wind farm will be located across the hilltops between the Snowtown Wind Farm and the Clements Gap Wind Farm.

Wind Turbine Generators and associated infrastructure will be located in both Port Pirie Regional Council area and the Wakefield Regional Council area.

Why is AGL developing this project?

The Project area has a very strong wind resource which is complementary to output from solar in South Australia. AGL acquired the Barn Hill Wind Farm Project in 2009 and a decision has been made to progress the project, with an expanded scope, for several reasons, including:

- Advances in wind farm technology
- The EnergyConnect interconnector from SA to NSW currently under construction
- Potential for an additional connection point option to the Brinkworth Substation
- AGL's ambition to construct or contract up to 5 GW of new generation and firming capacity by 2030
- The potential inclusion of a Battery Energy Storage System (BESS).

What are the differences between the previous Barn Hill project and the new proposed project?

Development plan consent was already in place when AGL acquired the Barn Hill Wind Farm project in 2009. Due to changes to the scope of the project AGL sought a planning variation, which was approved by the Port Pirie Regional Council and Wakefield Regional Council in 2018. AGL is now seeking changes to the project, including larger wind turbines and the potential inclusion of a BESS, and will apply for new approvals through the State Government.

Why is a Battery Energy Storage System (BESS) now being considered for inclusion?

The BESS has the potential to improve the economics of the project by 'time shifting' low-cost wind power from when it is generated to a later time when wind farm output is low. Batteries also improve the reliability of the grid by dispatching when energy demands exceed generation and supports the security of the grid by stabilising the frequency and providing other system services.

By providing these services, batteries also help keep downward pressure on power bills.

The Torrens Island Battery, which has a similar design to what is proposed for the Barn Hill Wind Farm and Battery Project

What technology is being used for the Battery Energy Storage System and what could it look like?

In principle, the facility will be an orderly arrangement of battery cabinets, inverters and control systems including electrical and data cabling. The battery packs are enclosed in custom designed, dust and waterproof 'cabinets' made of steel. The cabinets are light coloured to reflect heat and each cabinet has its own internal thermal management system.

How will AGL manage the environment?

Flora and fauna (including birds)
The flora and fauna assessments previously undertaken to support the Barn Hill Wind Farm concluded that current species diversity was likely to be low due to degraded habitat. Impacts on any threatened species were considered unlikely to be significant. Similarly, the risk of potential negative impacts on all bird species recorded in the project area was considered to be low. AGL is currently undertaking further flora and fauna assessments to ensure management of project impacts to flora and fauna by following a general principle (in order of preference) of avoidance, minimisation, mitigation, or compensation for residual impacts through offsetting.

Fire
Specialist assessments were undertaken previously to address the topic of fire risk and similar studies will be undertaken as part of the approval process for the expanded project scope to evaluate hazards and risks related to fire. The proposed project would be designed to minimise and manage fire risk.

How will Aboriginal Cultural Heritage be protected?

Previous Aboriginal cultural heritage assessments identified that avoidance of areas of ethnographic or archaeological significance can occur through micro siting (slightly shifting) some of the wind turbines within the framework of a Construction Management Plan. Given the time that has passed since these assessments were undertaken, further archaeological risk assessment of the site and cultural heritage surveys will be done in consultation with the Traditional Owners to develop similar procedures.

How will potential impacts on neighbours and the community be managed?

Noise
Environmental noise assessments completed for previous approvals for the project found that the noise to surrounding dwellings would be compliant with all relevant environmental noise criteria and planning requirements. As part of the current approval process , further noise studies will be prepared to identify measures to achieve a similar compliance. This will include assessment of any potential impact to neighbouring properties and dwellings.

Visual
Previous visual assessments prepared for the Barn Hill Wind Farm project indicated that the introduction of wind turbines to the area would not alter the mainly pastoral nature of the landscape, nor would it impact any significant viewpoints within the contextual landscape as the wind farm will 'fill the gap' between the existing Snowtown and Clements Gap wind farms along the Barunga Range.

As part of the proposed project, a new visual assessment of the larger turbines, the BESS and the transmission line will be undertaken to identify measures to mitigate visual impacts noticeable from sensitive receptors.

Shadow flicker
Shadow flicker is the effect of the sun (low on the horizon) shining through the rotating blades of a wind turbine, casting a moving shadow over neighbouring areas. The effect is most noticeable inside buildings, where the flicker appears through a window opening. Shadow flicker assessments undertaken for the current project indicated that mitigation of shadow flicker involves manipulation of the turbine layout so that impacts are acceptably controlled. As such, micro-siting was identified to significantly change the duration of shadow flicker at some locations. Only involved dwellings with financial agreements as part of the wind farm development were identified as receptors potentially experiencing shadow flicker at a level exceeding the relevant guidelines. Shadow flicker will be reassessed as part of the approval process for the expanded project scope to identify impacts on all receptors.

How will traffic be managed?

During construction of the proposed project transportation of major plant and equipment to the site would be via the Princes Highway. Improvement of low-trafficked roads to cater for use by large heavy vehicles is anticipated. These improvements might include widening, minor realignment, strengthening of the road surface and improvements to stormwater management where necessary.

How will the Project connect to the grid?

A new transmission line will connect the wind farm to the grid via a 'cut in' to an existing transmission line, located about 7 kms East of the Project area in the vicinity of River and Perrins Roads.

How can the community and stakeholders comment on the Project?

AGL has engaged a planning consultant and intends to submit a Development Application to the State Planning Commission by mid-2024. AGL is engaging with landowners, Traditional Owner Groups, State and Federal government, Port Pirie Regional Council, Wakefield Regional Council, and the broader local community about the Project. The project team will continue to visit the site to provide updates to stakeholders and receive feedback from the community.

Once the Development Application is made, stakeholders will be able to make submissions in response to the application. Enquiries about the project can also be made by contacting AGL on 1800 039 600 | AGLCommunity@agl.com.au